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

April 2013

Army

Justification Book

Research, Development, Test & Evaluation, Army

RDT&E - Volume III, Budget Activity 7

Department of the Army

Exhibit R-1

FY 2014 RDT&E Program

President's Budget 2014

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

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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

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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

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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 MISSLE 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

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			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

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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

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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

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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

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Budget Activity 07: Operational Systems Development
Appropriation 2040: Research, Development, Test & Evaluation, Army

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157	07	0607141A	Logistics Automation	34
158	07	0607665A	Biometrics Enterprise	46
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160	07	0102419A	Aerostat Joint Project Office	66
161	07	0203726A	Adv Field Artillery Tactical Data System	80
162	07	0203735A	Combat Vehicle Improvement Programs	103
163	07	0203740A	Maneuver Control System	120
164	07	0203744A	Aircraft Modifications/Product Improvement Programs	130
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166	07	0203758A	Digitization	165
167	07	0203801A	Missile/Air Defense Product Improvement Program	174
168	07	0203802A	Other Missile Product Improvement Programs	188
169	07	0203808A	TRACTOR CARD	194
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Budget Activity 07: Operational Systems Development
Appropriation 2040: Research, Development, Test & Evaluation, Army

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173	07	0303028A	Security and Intelligence Activities	213
174	07	0303140A	Information Systems Security Program	217
175	07	0303141A	Global Combat Support System	247
176	07	0303142A	SATCOM Ground Environment (SPACE)	267
177	07	0303150A	WWMCCS/Global Command and Control System	285
178	07	0305204A	Tactical Unmanned Aerial Vehicles	295
179	07	0305208A	Distributed Common Ground/Surface Systems	315
180	07	0305219A	MQ-1 Gray Eagle - Army UAV (MIP)	330
181	07	0305232A	RQ-11 Raven	341
182	07	0305233A	RQ-7 Shadow UAV	348
183	07	0305235A	UAS Modifications/Product Improvement Program	358
184	07	0307665A	Biometrics Enabled Intelligence	364
185	07	0708045A	End Item Industrial Preparedness Activities	375

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Program Element Title	Program Element Number	Line Item	Budget Activity	Page
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Aircraft Engine Component Improvement Program	0203752A	165	07	156
Aircraft Modifications/Product Improvement Programs	0203744A	164	07	130
Biometrics Enabled Intelligence	0307665A	184	07	364
Biometrics Enterprise	0607665A	158	07	46
Combat Vehicle Improvement Programs	0203735A	162	07	103
Digitization	0203758A	166	07	165
Distributed Common Ground/Surface Systems	0305208A	179	07	315
End Item Industrial Preparedness Activities	0708045A	185	07	375
Global Combat Support System	0303141A	175	07	247
Information Systems Security Program	0303140A	174	07	217
Joint High Speed Vessel (JHSV)	0208058A	171	07	207
Joint Tactical Ground System	0208053A	170	07	198
Logistics Automation	0607141A	157	07	34
MLRS PRODUCT IMPROVEMENT PROGRAM	0603778A	156	07	1
MQ-1 Gray Eagle - Army UAV (MIP)	0305219A	180	07	330

Program Element Title	Program Element Number	Line Item	Budget Activity	Page
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Missile/Air Defense Product Improvement Program	0203801A	167	07	174
Other Missile Product Improvement Programs	0203802A	168	07	188
Patriot Product Improvement	0607865A	159	07	58
RQ-11 Raven	0305232A	181	07	341
RQ-7 Shadow UAV	0305233A	182	07	348
SATCOM Ground Environment (SPACE)	0303142A	176	07	267
SPECIAL ARMY PROGRAM	0301359A	172	07	212
Security and Intelligence Activities	0303028A	173	07	213
TRACTOR CARD	0203808A	169	07	194
Tactical Unmanned Aerial Vehicles	0305204A	178	07	295
UAS Modifications/Product Improvement Program	0305235A	183	07	358
WWMCCS/Global Command and Control System	0303150A	177	07	285

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*

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	-	64.609	143.005	110.576	-	110.576	90.607	102.974	69.876	107.489	Continuing	Continuing
090: *MLRS HIMARS*	-	5.945	3.158	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
093: *Multi-Launch Rocket System (MLRS)*	-	15.397	72.503	40.028	-	40.028	30.914	2.468	1.022	1.034	Continuing	Continuing
784: *Guided Mlrs*	-	2.469	10.295	15.317	-	15.317	21.515	9.086	7.000	6.900	Continuing	Continuing
78G: *Gmlrs Alternative Warheads*	-	40.798	57.049	53.973	-	53.973	33.898	18.319	0.000	0.000	Continuing	Continuing
DX8: *HIMARS Product Improvement Program*	-	0.000	0.000	1.258	-	1.258	4.280	4.101	3.318	3.310	Continuing	Continuing
DZ8: *GMLR Increment 4*	-	0.000	0.000	0.000	-	0.000	0.000	69.000	58.536	96.245	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

Adjustments for FY14: Funding adjusted to reflect fact-of-life changes to planned FY14 activities.

A. Mission Description and Budget Item Justification

Projects 090/DX8. The M142 High Mobility Artillery Rocket System (HIMARS) is a full spectrum, combat proven, all weather, 24/7 lethal and responsive, precision strike weapon system that fully supports more deployable, affordable and lethal, Brigade Combat Teams (BCT), Fires Brigades, Modular Forces, and Joint Expeditionary Forces. The HIMARS launcher is a C-130 transportable, wheeled, indirect fire, rocket/missile launcher capable of firing all rockets and missiles in the current and future Multiple Launch Rocket System (MLRS) Family of Munitions (MFOM) and Army Tactical Missile System (ATACMS) Family of Munitions (AFOM) engaging targets with precision out to ranges of 300 kilometers. HIMARS satisfies the Army's digitization requirements by interfacing with the Advanced Field Artillery Tactical Data System (AFATDS) fire support command and control system. The HIMARS product improvement program provides funding for research, development test, and integration efforts necessary for incorporation of advanced automotive, armor, armament, life cycle enhancements, system hardware and software technologies, including Common Operating Environment (COE) and Network Integrated Evaluation (NIE), obsolescence mitigation, reliability improvements and decreasing the logistics footprint. This effort includes performing technical assessments, concept studies, and risk reduction efforts for incorporation of future requirements. The HIMARS product improvement program maintains compliance with Intra-Army Interoperability and Digital Communications. HIMARS has been deployed to Operation Iraqi Freedom (OIF) and is still supporting Operation Enduring Freedom (OEF) with great success by both US Army and Marine Corps units.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*

MLRS is a full spectrum, combat proven, all weather, 24/7 lethal and responsive, Precision Strike weapon system that is organic/assigned to Fires Brigades supporting BCT. The MLRS launcher provides critical missile precision strike, operational shaping fires, counterfire, and close support destructive and suppressive fires. The launcher is complimented by the MFOM to include the Guided Multiple Launch Rocket System (GMLRS), and the AFOM, capable of engaging targets up to a range of 300 kilometers (km). The MLRS product improvement program provides funding for research, development, test and integration efforts necessary for incorporation of advanced automotive, armament and system hardware and software technologies, including COE and NIE, obsolesence mitigation, realiability improvements, and decreasing the logistics footprint. This effort includes performing technical assessments, concept studies, and risk reduction efforts for incorporation of future requirements. The MLRS product improvement program maintains compliance with intra-army interoperability and digital communications via joint variable message format.

GMLRS rockets are surface-to-surface artillery rockets fired from the MLRS and HIMARS launchers. GMLRS rockets provide 24/7, all-weather precision fires to engage both area and point targets at short, medium, and long ranges.

The GMLRS Program consists of four separate increments: GMLRS Dual Purpose Improved Conventional Munition (DPICM) cluster munition to engage area or imprecisely located targets; GMLRS Unitary that utilizes a 200 lb high explosive warhead to engage point targets with limited collateral damage; and GMLRS Alternative Warhead (AW) that is being developed as a non-cluster munition to replace GMLRS DPICM. GMLRS DPICM Production was terminated in response to the June 2008 Department of Defense (DoD) Cluster Munitions Policy. GMLRS Unitary is currently in full rate production. GMLRS AW is currently in the Engineering and Manufacturing Development (EMD) Phase and scheduled to enter full rate production in FY15. The GMLRS AW rocket is 90% common with the Unitary variant.

GMLRS Increment IV is being developed to replace expiring Army Tactical Missile System (ATACMS) missiles and ATACMS cluster munitions that are prohibited from use by the DoD Cluster Munitions Policy after 31 Dec 2018. It is intended to address the same targets with similar capabilities. The program is currently in the pre-Materiel Development Decision (MDD) Phase. The MDD is anticipated to occur in 1Q FY2014 with a tentative Milestone A scheduled for 1Q FY16.

The United States (U.S.) Army funds GMLRS Research, Development, Test and Evaluation (RDT&E) activities from three program codes under the MLRS Product Improvement Program (0603778A) program element; 784-Guided MLRS includes common GMLRS RDT&E activities, 78G-GMLRS Alternative Warhead for GMLRS AW EMD activities, and DZ8-GMLRS Increment 4 for the Technology Demonstration (TD) activities.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	66.641	143.005	122.008	-	122.008
Current President's Budget	64.609	143.005	110.576	-	110.576
Total Adjustments	-2.032	0.000	-11.432	-	-11.432
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-2.032	-			
• Adjustments to Budget Years	-	-	-11.432	-	-11.432

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	PROJECT 090: *MLRS HIMARS*

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
090: *MLRS HIMARS*	-	5.945	3.158	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

Funds realigned to new PE DX8 HIMARS Product Improvement Program.

A. Mission Description and Budget Item Justification

The M142 High Mobility Artillery Rocket System (HIMARS) is a full spectrum, combat proven, all weather, 24/7 lethal and responsive, precision strike weapon system that fully supports more deployable, affordable and lethal, Brigade Combat Teams, Fires Brigades, Modular Forces, and Joint Expeditionary Forces. The HIMARS launcher is a C-130 transportable, wheeled, indirect fire, rocket/missile launcher capable of firing all rockets and missiles in the current and future Multiple Launch Rocket System (MLRS) Family of Munitions (MFOM) and Army Tactical Missile System (ATACMS) Family of Munitions (AFOM) engaging targets with precision out to ranges of 300 kilometers. HIMARS satisfies the Army's digitization requirements by interfacing with the Advanced Field Artillery Tactical Data System (AFATDS) fire support command and control system. The HIMARS product improvement program provides funding for research, development, test and integration efforts necessary for sustainment, obsolescence mitigation, reliability improvements, incorporation of advanced automotive, armor, armament and system hardware and software technologies including Contemporary Operating Environment (COE) and Network Integrated Evaluation (NIE) and decreasing the logistics footprint. This effort includes performing technical assessments, concept studies, and risk reduction efforts for incorporation of future requirements. The HIMARS product improvement program maintains compliance with intra-Army interoperability and digital communications. HIMARS has been deployed to Operation Iraqi Freedom (OIF) and is still supporting Operation Enduring Freedom (OEF) with great success by both US Army and Marine Corps units.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: MLRS Production Improvement Program-HIMARS	5.945	3.158	0.000
Articles:	0	0	
Description: Improve system design and develop hardware and software integration with upcoming command and control initiatives to include the COE and the NIE. Perform technical assessments, concept studies, cost reduction, risk reduction, field issue resolution and required documentation concerning upgrades to enhanced command and control (C2), improved initialization, hardware and software obsolescence mitigation, tactical fire control, embedded training, launcher loader module electric drive, diagnostics/prognostics, alternate coupling, situational awareness, long range communication, automotive chassis life cycle enhancements and future munitions integration.			
FY 2012 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	**PROJECT** 090: *MLRS HIMARS*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Executed development activities for additional improved crew protection against emerging threats and enhancements to communications and battle command. Continued effort to maintain Command, Control, Communications, Computers and Intelligence (C4I)/interoperability certification and network interoperability certification. Conducted technical assessments and concept studies in the areas of automotive chassis life cycle enhancements, hardware/software technologies and improved transportability options to support evolving mission requirements, technology insertion, and continued obsolescence mitigation. ***FY 2013 Plans:*** The focus of the FY2013 program is execution of enhancements to the fire control system and associated trainer updates as well as communications and battle command systems. Continued effort will be required to maintain C4I/interoperability certification and network interoperability certification. Continue technical assessments and concept studies in the areas of automotive chassis life cycle enhancements, hardware/software technologies and improved transportability to support evolving mission requirements, technology insertion planning and obsolescence mitigation. Improve system design and develop hardware and software integration with upcoming command and control initiatives to include the COE and the NIE.			
Accomplishments/Planned Programs Subtotals	5.945	3.158	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
• C03000000: *HIMARS Launcher*	31.674	12.051								0.000	43.725
• C67501000: *HIMARS Modifications*	11.670	6.068	6.105		6.105	6.073	6.318	6.335	6.411	Continuing	Continuing
• CA028800: *Initial Spares, HIMARS*	0.937									0.000	0.937
• 0603778A-DX8: *HIMARS Product Improvement Program*			1.258		1.258	4.280	4.101	3.318	3.310	Continuing	Continuing

Remarks

D. Acquisition Strategy

HIMARS follow-on horizontal technology insertion efforts include automotive chassis life cycle enhancements, increased crew protection, enhanced C2, improved initialization, long range communications, fire control system obsolescence mitigation and associated enhancements to training devices.

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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	**PROJECT** 090: *MLRS HIMARS*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Program Management	Various	PFRMS Project Office:Redstone Arsenal, Alabama	9.271	0.199	Oct 2011	0.102	Oct 2012	-		-		-	0.000	9.572	0.000
		Subtotal	9.271	0.199		0.102		0.000		0.000		0.000	0.000	9.572	0.000

Remarks

PFRMS - Precision Fires Rocket and Missile Systems

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Battle Command	SS/CPFF	CECOM, PEO STRI, AMRDEC, Techrizon, LMMFC:Various	15.741	4.888	Feb 2012	2.418	Feb 2013	-		-		-	0.000	23.047	0.000
Other Government Agencies (OGA)	Various	AMCOM, GSA, RSA:Various	17.565	0.337	Feb 2012	0.206	Feb 2013	-		-		-	0.000	18.108	0.000
		Subtotal	33.306	5.225		2.624		0.000		0.000		0.000	0.000	41.155	0.000

Remarks

SS - Sole Source; CPFF - Cost Plus Fixed Fee; CECOM - US Army Communications Electronics Command; PEO STRI - Program Executive Office for Simulation, Training and Instrumentation; AMRDEC - Aviation and Missile Research, Development and Engineering Center; LMMFC - Lockheed Martin Missiles and Fire Control; AMCOM - US Army Aviation & Missile Life Cycle Management Command; GSA - General Services Administration; RSA - Redstone Arsenal Alabama

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Support Contract	C/CPFF	Camber Research, S3, TMI:Various	3.833	0.311	Feb 2012	0.158	Feb 2013	-		-		-	0.000	4.302	0.000
		Subtotal	3.833	0.311		0.158		0.000		0.000		0.000	0.000	4.302	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	**PROJECT** 090: *MLRS HIMARS*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract

Remarks

C/CPFF - Competitive Cost-Plus Fixed-Fee, S3 - Systems, Studies, Simulation, Incorporated; TMI - Tec Masters, Incorporated

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Support	Various	Fort Hood TX, ATEC, APG MD, WSMR, RTC RSA.:Various	43.567	0.210	Feb 2012	0.274	Feb 2013	-		-		-	0.000	44.051	0.000
		Subtotal	43.567	0.210		0.274		0.000		0.000		0.000	0.000	44.051	0.000

Remarks

ATEC - US Army Test and Evaluation Command; APG MD - Aberdeen Proving Grounds, Maryland; WSMR - White Sands Missile Range; RTC RSA - Redstone Test Center, Redstone Arsenal, Alabama

	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	89.977	5.945		3.158		0.000		0.000		0.000	0.000	99.080	0.000

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	PROJECT 093: *Multi-Launch Rocket System (MLRS)*	

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
093: *Multi-Launch Rocket System (MLRS)*	-	15.397	72.503	40.028	-	40.028	30.914	2.468	1.022	1.034	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 Multiple Launch Rocket System (MLRS) is a full spectrum, combat proven, all weather, 24/7 lethal and responsive, Precision strike weapon system that is organic/ assigned to Fires Brigades supporting Brigade Combat Teams. The MLRS launcher provides critical missile precision strike, operational shaping fires, counterfire, and close support destructive and suppressive fires. The launcher is complemented by the MLRS Family of Munitions (MFOM) to include the Guided Multiple Launch Rocket System (GMLRS), and the Army Tactical Missile System (ATACMS) Family of Munitions (AFOM), capable of engaging targets up to a range of 300 kilometers. The MLRS product improvement program provides funding for research, development, test, and integration efforts necessary for incorporation of advanced automotive armament, and system hardware and software technologies, including Common Operating Environment (COE) and Network Integrated Evaluation (NIE), obsolescence mitigation, reliability improvements, and decreasing the logistics footprint. This effort includes performing technical assessments, concept studies, and risk reduction efforts for incorporation of future requirements. The MLRS product improvement program maintains compliance with intra-army interoperability and digital communications via joint variable message format.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: MLRS Product Improvement Program	15.397	72.503	40.028
Articles:	0	0	

Description: The MLRS product improvement program ensures compliance as defined in the Department of Defense (DoD) Information Technology Standards. Funding is provided to several government agency laboratories each fiscal year in support of this program. Support efforts also include Enhanced Command and Control (C2), interoperability certifications, obsolescence mitigation, increased crew protection, automotive updates and hardware/software enhancements, and information assurance compliance. All efforts are directed toward preservation of platform viability and readiness to accept technology insertion as capability enhancements and obsolescence mitigations are developed.

Perform Command, Control, Communications, Computers, and Intelligence (C4I)/interoperability certification tests, improve operational timeline, and conduct network Interoperability testing/certification. Perform technical assessments, concept studies, obsolescence mitigation, crew protection, automotive and hardware/software enhancements, and risk reduction.

FY 2012 Accomplishments:

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	**PROJECT** 093: *Multi-Launch Rocket System (MLRS)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Executed development activities to improve crew protection with a new cab and enhanced chassis blast protection that included design activities leading to formal Preliminary Design Review (PDR). Maintained C4I/interoperability certification and network interoperability certification. Conducted technical assessments and concept studies in the areas of automotive and hardware/software technologies to support evolving mission requirements, planned for technology insertion, and continued obsolescence mitigation. ***FY 2013 Plans:*** Continue execution of Improved Armored Cab (IAC) for crew protection effort through Critical Design Review (CDR). Initiate modification to fire control system to alleviate obsolescence issues, including PDR of modified design. Continue to maintain C4I/interoperability certification and network interoperability certification. Continue to conduct technical assessments and concept studies in the areas of automotive and hardware/software technologies to support evolving mission requirements, planning for technology insertion, and continued obsolescence mitigation. Improve system design and develop hardware and software integration with upcoming C2 initiatives to include the (COE) and the (NIE). ***FY 2014 Plans:*** Increase crew protection and Fire Control System Update(FCS-U). Continue execution of development and qualification of the IAC for crew protection and blast protection. Conduct CDR and continue development and begin qualification test activities for the Fire Control System - Update (FCS-U) effort to mitigate obsolescence. Additional activities include the continuation to maintain C4I/interoperability certification and network interoperability certification. Continue to improve system design and development hardware and software integration with upcoming C2 initiatives to include the COE and the NIE.			
Accomplishments/Planned Programs Subtotals	15.397	72.503	40.028

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
• C67500000: *MLRS Mods*	8.236	2.466	11.571		11.571	86.333	62.024	10.705		Continuing	Continuing
• CA0265000: *MLRS Mod Initial Spares (CA0265)*	1.031	1.064	1.083		1.083	1.087	1.076	1.095		Continuing	Continuing

Remarks

D. Acquisition Strategy

The MLRS product improvement program conducts concept studies to support obsolescence mitigation, automotive updates, and hardware/software enhancements. Development efforts underway include Enhanced C2 and efforts supporting interoperability certifications, information assurance compliance,increased crew protection IAC, and mitigating obsolescence of the Fire Control System through the FCS-U effort. The IAC effort, begun in FY 12, fulfills a M270A1 system requirement that

enhances the level of crew protection. A contract was awarded following a competitive bid process (full and open competition) to ensure best value for the government. The FCS-U is driven by the need to mitigate obsolete electronic components that are being sustained through life of type purchases. These purchased components will be exhausted, thus requiring an update to the design. This update to the design will preserve current capability of firing the complete set of MLRS family of munitions per the Operational Requirements Document (ORD). Obsolescence mitigation activities in FY12 included trade studies to determine the most appropriate architecture for the FCS-U. The FCS-U effort began in FY13, utilizing the industrial Engineering Services contract that was previously sole source awarded. Contract efforts includes finalizing design, testing, and qualification of the FCS-U with scheduled completion in FY15. PDR will occur in FY13 and CDR 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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	**PROJECT** 093: *Multi-Launch Rocket System (MLRS)*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Program Management	Various	PFRMS Proj Ofc, Redstone Arsenal, Alabama:Redstone Arsenal, Alabama	6.241	0.340	Dec 2011	1.143	Oct 2012	1.163	Oct 2013	-		1.163	Continuing	Continuing	Continuing
		Subtotal	6.241	0.340		1.143		1.163		0.000		1.163			

Remarks

PFRMS - Precision Fires Rocket and Missile Systems

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Other Government Agencies OGA	MIPR	FT SILL OK, CECOM-NJ AMRDEC-RSA AL,:various	15.745	0.500	Feb 2012	-		-		-		-	Continuing	Continuing	Continuing
MLRS IAC	C/CPFF	Lockheed Martin:Grand Praire, TX	0.000	13.950	May 2012	12.689	Nov 2012	5.676	Nov 2013	-		5.676	Continuing	Continuing	Continuing
MLRS FCS Development	SS/CR	Lockheed Martin:Grand Praire, TX	0.000	-		54.571	Mar 2013	26.509	Feb 2014	-		26.509	Continuing	Continuing	Continuing
		Subtotal	15.745	14.450		67.260		32.185		0.000		32.185			

Remarks

C CPFF - Competitive Cost-Plus Fixed-Fee
SS CR - Sole Source Cost
AMRDEC - United States Army Aviation and Missile Research, Development, and Engineering Center
RSA AL - Redstone Arsenal, Alabama Ft Sill OK - Oklahoma
CECOM - United States Army Communication - Electronics Command
MIPR - Military Interdepartmental Purchase Request
LM - Lockheed Martin, Grand Praire, Texas

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	**PROJECT** 093: *Multi-Launch Rocket System (MLRS)*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Support Contract	Various	Multiple:Multiple	3.553	0.457	Dec 2011	-		0.130	Dec 2013	-		0.130	Continuing	Continuing	Continuing
		Subtotal	3.553	0.457		0.000		0.130		0.000		0.130			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Support, Joint Interoperability Test Certificate	MIPR	CTSF, Ft. Hood:Texas	2.237	0.150	Dec 2011	4.100	Dec 2012	6.550	Dec 2013	-		6.550	Continuing	Continuing	Continuing
		Subtotal	2.237	0.150		4.100		6.550		0.000		6.550			

Remarks

CTSF - Central Technical Support Facility
MIPR - Military Interdepartmental Purchase Request

	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	27.776	15.397		72.503		40.028		0.000		40.028			

Remarks

Exhibit R-4, **RDT&E Schedule Profile:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	**PROJECT** 093: *Multi-Launch Rocket System (MLRS)*

Exhibit R-4A, **RDT&E Schedule Details:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	**PROJECT** 093: *Multi-Launch Rocket System (MLRS)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Improved Armored Cab Development Award 3Q FY12; Testing 1-4Q FY14	3	2012	4	2014
Fire Control System Upgrade Production - Award 2Q FY15; 1st Del/install 2Q/FY16	3	2015	4	2017
Fire Control System Upgrade Development - Award 3Q FY13; Testing 1-4Q FY15	3	2013	2	2015
Improved Armored Cab Production - 1st Delivery/Install 2Q FY15	2	2015	4	2017

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	PROJECT 784: *Guided Mlrs*	

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
784: *Guided Mlrs*	-	2.469	10.295	15.317	-	15.317	21.515	9.086	7.000	6.900	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 United States (U.S.) Army continues to explore ways to enhance Guided Multiple Launch Rocket System (GMLRS) Unitary rockets and common components and to mitigate obsolescence issues under the 784-Guided MLRS project code. The Army is requesting funding for the following 784 GMLRS Research, Development, Test and Evaluation (RDT&E) activities: (1) evaluation of enhanced operational capabilities to provide more flexibility across the target set to include increased range and flight performance; (2) investigation of potential life cycle cost savings through obsolescence initiatives; (3) development of enhancements to the Multiple Launch Rocket System (MLRS) common test equipment; and (4) evaluation of potential technologies to enhance Insensitive Munitions (IM) compliance and survivability.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: Assess and improve GMLRS rockets.	1.452	1.549	2.165
Articles:	0	0	
Description: Funding is provided for the following effort ***FY 2012 Accomplishments:*** Assessed and improved GMLRS rockets. ***FY 2013 Plans:*** Continue to assess and improve GMLRS rockets. ***FY 2014 Plans:*** Continue to seek improvements in rocket reliability, collateral damage, and effectiveness.			
Title: Conduct development engineering for IM program.	0.381	7.792	8.841
Articles:	0	0	
Description: Funding is provided for the following effort ***FY 2012 Accomplishments:*** Investigated IM improvements investigation. ***FY 2013 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	**PROJECT** 784: *Guided Mlrs*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Continue IM improvements investigation and procure items for initial test. ***FY 2014 Plans:*** Continue to procure test articles to qualify improvements to satisfy JCIDS requirements.			
Title: Investigate obsolescence/cost reduction opportunities/second source suppliers.	0.636	0.954	1.049
Articles:	0	0	
Description: Funding is provided for the following effort ***FY 2012 Accomplishments:*** Continued engineering development; performed integration of multi-mode fuzes and potential alternate warhead solutions while assessing the industry to mitigate obsolescence and investigate cost reductions through alternate sources of procurement. ***FY 2013 Plans:*** Continue the development engineering; performing integration of multi-mode fuzes and potential alternate warhead solutions while assessing the industry to mitigate obsolescence and investigate cost reductions through alternate sources of procurement. ***FY 2014 Plans:*** Continue to design and integrate enhanced operational capability and flexibility across the target set, as well as investigate obsolescence issues and cost reduction initiatives.			
Title: Conduct System Test and Evaluation activities.	0.000	0.000	3.262
Description: Funding is provided for the following effort: ***FY 2014 Plans:*** Conduct IM System testing.			
Accomplishments/Planned Programs Subtotals	2.469	10.295	15.317

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
• GMLRS: *GMLRS*	333.167	239.232	237.216		237.216	250.039	256.922	333.965	399.201	Continuing	Continuing
• 78G: *GMLRS Alternative Warhead*	42.083	57.049	53.973		53.973	33.898	18.319			Continuing	Continuing
• DZ8: *GMLRS Increment 4*							69.000	58.536	96.245	0.000	223.781

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	**PROJECT** 784: *Guided Mlrs*

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

Remarks

GMLRS Procurement funding includes C65404 and C65406.

D. Acquisition Strategy

Project 784 is intended to support, investigate, and develop alternative material changes to improve the GMLRS family of munitions as they are identified by the material developer or combat developer. This project also supports IM activities to improve the overall posture of the system all the way down to component level. Future initiatives could include a missile modernization program to extend the shelf life of the GMLRS rocket.

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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	**PROJECT** 784: *Guided Mlrs*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Program Management	TBD	PFRMS Project Office,:RSA	27.696	-		-		0.128	Oct 2013	-		0.128	Continuing	Continuing	Continuing
		Subtotal	27.696	0.000		0.000		0.128		0.000		0.128			

Remarks

TBD-To Be Determined; Cont.-Continuing; PFRMS - Precision Fires Rocket and Missile Systems; RSA-Redstone Arsenal, Alabama

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Unitary Contracts/Multiple	SS/CPFF	LMMFCS:Dallas, TX	276.027	2.435	Apr 2012	9.862	Dec 2012	14.859	Dec 2013	-		14.859	Continuing	Continuing	Continuing
Other Government Agencies	TBD	AMCOM/ AMRDEC,:RSA	77.986	-		0.265	Dec 2012	-		-		-	Continuing	Continuing	Continuing
		Subtotal	354.013	2.435		10.127		14.859		0.000		14.859			

Remarks

SS/CPFF-Sole Source/Cost Plus Fixed Fee; Cont.-Continuing; LMMFCS - Lockheed Martin Missile and Fire Control System; TX - Texas; AMCOM-Aviation and Missile Command; TBD-To Be Determined; AMRDEC - U.S. Army Research, Development and Engineering Command; RSA - Redstone Arsenal, Alabama

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Support Contract	C/CPFF	Camber Research/ S3/TMI,:Alabama	20.684	-		-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	20.684	0.000		0.000		0.000		0.000		0.000			

Remarks

C/CPFF-Cost/Cost Plus Fixed Fee; Cont.-Continuing; S3-Systems Studies Simulation, Inc.; TMI-Tec Masters, Inc.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	**PROJECT** 784: *Guided Mlrs*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Support	TBD	WSMR,:NM	107.957	0.034	Dec 2011	0.168	Dec 2012	0.330	Dec 2013	-		0.330	Continuing	Continuing	Continuing
		Subtotal	107.957	0.034		0.168		0.330		0.000		0.330			

Remarks

TBD-To Be Determined; Cont.-Continuing; WSMR, NM - White Sands Missile Range, New Mexico

	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	510.350	2.469		10.295		15.317		0.000		15.317			

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	PROJECT 78G: *Gmlrs Alternative Warheads*	

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
78G: *Gmlrs Alternative Warheads*	-	40.798	57.049	53.973	-	53.973	33.898	18.319	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 at this time.

A. Mission Description and Budget Item Justification

The United States (U.S.) Army is funding the development of the Guided Mulitple Launch Rocket System (GMLRS) Alternative Warhead (AW) increment under the 78G-GMLRS AW project code. GMLRS AW is being developed as a non-cluster munition to replace GMLRS Dual Purpose Improved Conventional Munitions (DPICM) and service the same area and imprecisely-located targets. GMLRS DPICM Production was terminated in response to the June 2008 Department of Defense (DoD) Cluster Munitions Policy.

The GMLRS AW increment completed Milestone B (MS B) on February 19, 2012 and is currently in the Engineering and Manufacturing Development (EMD) Phase. The three-year EMD contract was awarded on March 30, 2012. Funding is requested in FY2013 for the second year of the EMD contract and for other government and contracted EMD activities to include engineering developmental testing and the Critical Design Review (CDR). GMLRS AW is scheduled for a combined Milestone C (MS C) and Full Rate Production (FRP) Decision in FY2015 and Initial Operational Capability (IOC) in FY2016.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: Conduct Development Engineering, Design Component Testing, and Performance Analysis.	20.302	26.519	25.090
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2012 Accomplishments: Conducted design optimization and analysis, System Readiness Review (SRR) and Initial Design Review (IDR) in EMD Phase.			
FY 2013 Plans: Continue design optimization and analysis, Critical Design Review (CDR) in EMD Phase, procure test articles and conduct engineering testing.			
FY 2014 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	**PROJECT** 78G: *Gmlrs Alternative Warheads*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Perform design optimization trade studies, qualification of manufacturing procedures, conduct Development Test/Operational testing.			
Title: Perform technical assessments and concept studies.	6.214	14.271	13.500
Articles:	0	0	
Description: Funding is provided for the following effort ***FY 2012 Accomplishments:*** Evaluated SRR and IDR in EMD. ***FY 2013 Plans:*** Evaluate CDR. ***FY 2014 Plans:*** Perform system integration trade studies, assessment of Manufacturing Readiness Levels (MRL).			
Title: Prepare Milestone Documentation, Risk Reduction, and Program Reviews.	1.657	2.486	2.353
Articles:	0	0	
Description: Funding is provided for the following effort ***FY 2012 Accomplishments:*** Evaluated SRR. ***FY 2013 Plans:*** IDR and CDR support. ***FY 2014 Plans:*** Assess EMD testing.			
Title: Conduct System Test and Evaluation Activities.	12.625	13.773	13.030
Articles:	0	0	
Description: Funding is provided for the following effort ***FY 2012 Accomplishments:*** Performed test planning in support of MS C. ***FY 2013 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	**PROJECT** 78G: *Gmlrs Alternative Warheads*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Engineering Development Testing (EDT). ***FY 2014 Plans:*** Engineering Production Qualification Testing (PQT) , Development Test/Operational Test (DT/OT), ground testing, and system Insensitive Munitions (IM) testing.			
Accomplishments/Planned Programs Subtotals	40.798	57.049	53.973

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Not applicable for this item.

D. Acquisition Strategy

The GMLRS AW rocket is a product improved version of the current GMLRS DPICM rocket. During EMD, GMLRS AW will undergo further development, integration, and testing under a Firm Fixed Price (FFP) 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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	**PROJECT** 78G: *Gmlrs Alternative Warheads*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Program Management	TBD	PFRMS Project Office,:RSA	1.724	5.025	Oct 2011	3.265	Oct 2012	5.779	Oct 2013	-		5.779	Continuing	Continuing	Continuing
		Subtotal	1.724	5.025		3.265		5.779		0.000		5.779			

Remarks

TBD-To Be Determined; Cont.-Continuing; PFRMS-Precision Fires Rocket and Missile Systems; RSA-Redstone Arsenal, Alabama

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AWP Contracts (Multiple)	Various	ATK (Plymouth, MN):LMMFCS (Dallas, TX), Systems Integrator	3.784	28.742	Apr 2012	35.088	Dec 2012	30.697	Dec 2013	-		30.697	Continuing	Continuing	Continuing
Other Government Agencies	TBD	AMCOM/ AMRDEC,:RSA	10.767	3.399	Dec 2011	5.939	Dec 2012	3.678	Dec 2013	-		3.678	Continuing	Continuing	Continuing
		Subtotal	14.551	32.141		41.027		34.375		0.000		34.375			

Remarks

AWP-Alternative Warhead Program; Various-Competitive/Firm Fixed Price/Sole Source/Cost Plus Fixed Fee; TBD-To Be Determined; Cont.-Continuing; AMCOM-Army Materiel Command; AMRDEC-U.S. Army Research, Development and Engineering Command; RSA-Redstone Arsenal, Alabama; ATK-Alliant Techsystems, Inc.; MN-Minnesota; LMMFCS-Lockheed Martin Missile and Fire Control System; TX-Texas

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Support Contract	C/CPFF	Camber Research/ S3/TMI,:Alabama	0.323	0.223	Dec 2011	0.227	Dec 2012	0.231	Dec 2013	-		0.231	Continuing	Continuing	Continuing
		Subtotal	0.323	0.223		0.227		0.231		0.000		0.231			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	**PROJECT** 78G: *Gmlrs Alternative Warheads*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract

Remarks

C/CPFF-Competitive/Cost Plus Fixed Fee; Cont.-Continuing; S3-Systems Studies Simulation, Inc.; TMI-Tec Master, Inc.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Support	TBD	WSMR,:NM	7.390	3.409	Dec 2011	12.530	Dec 2012	13.588	Dec 2013	-		13.588	Continuing	Continuing	0.000
		Subtotal	7.390	3.409		12.530		13.588		0.000		13.588			0.000

Remarks

TBD-To Be Determined; Cont.-Continuing; WSMR,NM-White Sands Missile Range, New Mexico

	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	23.988	40.798		57.049		53.973		0.000		53.973			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	**PROJECT** 78G: *Gmlrs Alternative Warheads*

Exhibit R-4A, **RDT&E Schedule Details:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	**PROJECT** 78G: *Gmlrs Alternative Warheads*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Milestone B	2	2012	2	2012
Engineering Development Testing (EDT)	2	2013	4	2013
Critical Design Review (CDR)	4	2013	4	2013
Production Qualification Testing (PQT)	4	2013	3	2014
Milestone C	3	2015	3	2015
Initial Operational Test (IOT)	1	2015	1	2015
Full Rate Production (FRP)	3	2015	3	2015

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	**PROJECT** DX8: *HIMARS Product Improvement Program*

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
DX8: *HIMARS Product Improvement Program*	-	0.000	0.000	1.258	-	1.258	4.280	4.101	3.318	3.310	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 DX8 HIMARS Product Improvement Program previously funded on Project 090 MLRS HIMARS.

A. Mission Description and Budget Item Justification

The M142 High Mobility Artillery Rocket System (HIMARS) is a full spectrum, combat proven, all weather, 24/7 lethal and responsive, precision strike weapon system that fully supports more deployable, affordable and lethal, Brigade Combat Teams, Fires Brigades, Modular Forces, and Joint Expeditionary Forces. The HIMARS launcher is a C-130 transportable, wheeled, indirect fire, rocket/missile launcher capable of firing all rockets and missiles in the current and future Multiple Launch Rocket System (MLRS) Family of Munitions (MFOM) and Army Tactical Missile System (ATACMS) Family of Munitions (AFOM) engaging targets with precision out to ranges of 300 kilometers. HIMARS satisfies the Army's digitization requirements by interfacing with the Advanced Field Artillery Tactical Data System (AFATDS) fire support command and control system. The HIMARS product improvement program provides funding for research, development, test and integration efforts necessary for incorporation of advanced automotive, armor, armament, life cycle enhancements, system hardware and software technologies, including Common Operating Environment (COE) and Network Integrated Evaluation (NIE), obsolescence mitigation, reliability improvements, and decreasing the logistics footprint. This effort includes performing technical assessments, concept studies, and risk reduction efforts for incorporation of future requirements. The HIMARS product improvement program maintains compliance with intra-army interoperability and digital communications. HIMARS has been deployed to Operation Iraqi Freedom (OIF) and is still supporting Operation Enduring Freedom (OEF) with great success by both US Army and Marine Corps units.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: MLRS Production Improvement Program (PIP)-HIMARS PIP	0.000	0.000	1.258
Description: Improve system design and develop hardware and software integration with upcoming command and control initiatives to include the COE and the NIE. Perform technical assessments, concept studies, cost reduction, risk reduction, field issue resolution and required documentation concerning upgrades to enhanced command and control (C2), improved initialization, hardware and software obsolescence mitigation, tactical fire control, embedded training, launcher loader module electric drive, diagnostics/prognostics, alternate coupling, situational awareness, long range communication, automotive chassis life cycle enhancements and future munitions integration.			
FY 2014 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	**PROJECT** DX8: *HIMARS Product Improvement Program*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
The focus of the FY2014 program is continued obsolescence mitigation through initial integration execution to the COE and the continuance of developing enhancements to the fire control system. This will mitigate hardware and software obsolescence through associated trainer updates and integration to new or improved battle command systems. Technical assessments and concept studies in the areas of automotive chassis life cycle enhancements, hardware/software technologies and improved transportability will be conducted to support evolving mission requirements and improve vehicle reliability. Improve system design and develop hardware and software integration with upcoming command and control initiatives to the COE and the NIE to include Command, Control, Communications, Computers and Intelligence (C4I)/interoperability certification and network interoperability certification actions.			
Accomplishments/Planned Programs Subtotals	0.000	0.000	1.258

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
• C03000000: *HIMARS Launcher*	31.674	12.051								0.000	43.725
• C67501000: *HIMARS Modifications*	11.670	6.068	6.105		6.105	6.073	6.318	6.335	6.411	Continuing	Continuing
• CA028800: *Initial Spares, HIMARS*	0.937									0.000	0.937
• 0603778A-090: *MLRS HIMARS*	5.945									0.000	5.945

Remarks

D. Acquisition Strategy

The HIMARS product improvement program conducts concept studies to support obsolescence mitigation, automotive updates, and hardware/software enhancements. Development efforts underway include Enhanced C2 and efforts supporting interoperability certifications, information assurance compliance, and mitigating obsolescence of the fire control system through the integration of the FCS-U effort on the M142 HIMARS. The FCS-U is driven by the need to mitigate obsolete electronic components that are being sustained through life of type purchases. These purchased components will be exhausted, thus requiring an update to the design. This update to the design will preserve current capability of firing the complete set of MFOM per the Operational Requirements Document (ORD). Obsolescence mitigation activities in FY14 include trade studies to determine the most appropriate architecture for the FCS-U. The FCS-U effort which began in FY13 for the M270A1 system, will be integrated on the HIMARS system starting in FY15. Contract efforts include integration, testing, and qualification of the FCS-U with scheduled completion in FY16. Preliminary Design Review (PDR) and Critical Design Review (CDR) will occur in FY15 with qualified design in FY16. HIMARS follow-on technology insertion efforts include automotive chassis life cycle enhancements, fire control system obsolescence mitigation and associated enhancements to training devices as improvements when applicable.

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	**PROJECT** DX8: *HIMARS Product Improvement Program*

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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	**PROJECT** DX8: *HIMARS Product Improvement Program*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Program Management	C/Various	PFRMS Project Office, Redstone Arsenal, Alabama:Various	0.000	-		-		0.051		-		0.051	0.000	0.051	0.000
		Subtotal	0.000	0.000		0.000		0.051		0.000		0.051	0.000	0.051	0.000

Remarks

PFRMS - Precision Fires Rocket and Missile System

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Other Government Agencies (OGA)	C/Various	AMCOM, GSA, RSA:Various	0.000	-		-		0.075		-		0.075	0.000	0.075	0.000
Battle Command	SS/CPFF	CECOM, PEO STRI, AMRDEC, Techrizon, LMMFC Various:Various	0.000	-		-		0.956	Feb 2014	-		0.956	0.000	0.956	0.000
		Subtotal	0.000	0.000		0.000		1.031		0.000		1.031	0.000	1.031	0.000

Remarks

SS - Sole Source; CPFF - Cost Plus Fixed Fee; CECOM - US Army Communications Electronics Command; PEO STRI - Program Executive Office for Simulation, Training and Instrumentation; AMRDEC - Aviation and Missile Research, Development and Engineering Center; LMMFC - Lockheed Martin Missiles and Fire Control; AMCOM - US Army Aviation & Missile Life Cycle Management Command; GSA - General Services Administration; RSA - Redstone Arsenal Alabama

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Support Contract	C/Various	Camber Research, S3, TMI:Various	0.000	-		-		0.063		-		0.063	0.000	0.063	0.000
		Subtotal	0.000	0.000		0.000		0.063		0.000		0.063	0.000	0.063	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	**PROJECT** DX8: *HIMARS Product Improvement Program*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract

Remarks

C/CPFF - Competitive Cost-Plus Fixed-Fee, S3 - Systems, Studies, Simulation, Incorporated; TMI - Tec Masters, Incorporated

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Support	C/Various	Ft Hood, TX, ATEC, APG, MD, WSMR, RTC, RSA:Various	0.000	-		-		0.113		-		0.113	0.000	0.113	0.000
		Subtotal	0.000	0.000		0.000		0.113		0.000		0.113	0.000	0.113	0.000

Remarks

ATEC - US Army Test and Evaluation Command; APG MD - Aberdeen Proving Grounds, Maryland; WSMR - White Sands Missile Range; RTC RSA - Redstone Test Center, Redstone Arsenal, Alabama

	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		1.258		0.000		1.258	0.000	1.258	0.000

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	PROJECT DZ8: *GMLR Increment 4*	

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
DZ8: *GMLR Increment 4*	-	0.000	0.000	0.000	-	0.000	0.000	69.000	58.536	96.245	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 United States Army is funding the development of the Guided Multiple Launch Rocket System (GMLRS) Increment IV under the DZ8-GMLRS Increment IV project code. GMLRS Increment IV is being developed as a non-cluster munition to provide Joint Force Command with a 24/7 all weather 250 kilometer long-range fires capability to attack high-payoffs, time-sensitive targets without placing aircraft and crews at risk.

The GMLRS Increment IV currently has a Material Development Decision (MDD) scheduled for 1QFY14 with a tentative Milestone (MS) A scheduled for 1QFY16. Funding is being requested for in FY2016 to award Technology Demonstration Phase contracts. GMLRS Increment IV will be developed via full and open competition carrying two or more contractors through the TD Phase. GMLRS Increment IV is scheduled for a Milestone B in FY2018 and Milestone C in FY2021.

B. Accomplishments/Planned Programs ($ in Millions)

N/A

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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	**PROJECT** DZ8: *GMLR Increment 4*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
NA	Various	NA:NA	0.000	-		-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	0.000	0.000		0.000		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	0.000	0.000		0.000		0.000		0.000		0.000			

Remarks

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0607141A: *Logistics Automation*

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	3.717	-	3.717	3.717	3.717	3.717	3.717	Continuing	Continuing
DY1: *Logistics Information Warehouse (LIW)*	-	0.000	0.000	1.504	-	1.504	1.504	1.504	1.504	1.504	Continuing	Continuing
DY2: *Lead Material Integrator (LMI) (DST)*	-	0.000	0.000	2.213	-	2.213	2.213	2.213	2.213	2.213	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

Previously, these efforts were programmed and funded within the OSD PE 0303141 Global Combat Support System-Army (GCSS-A). In an effort to reflect only those funds supporting GCSS-A in that OSD PE, this OSD PE was established.

A. Mission Description and Budget Item Justification

The Logistics Information Warehouse (LIW) has been designated by the Secretary of the Army as the primary system for the accessing, acquiring, and delivery of materiel data. This includes data from all sources designated as Authoritative, as well as, system derived data and appropriate reference data. This data will be used in support of materiel sourcing and distribution and other Materiel Enterprise missions. It enables Command visibility of business intelligence and resulting metrics for critical logistics components enabling enterprise-level analytics to be performed in support of the equipping mission within the Army's Force Generation (ARFORGEN) processes. LOGSA and its LIW suite of products and services provide the Army community with vital logistics data necessary for the planning, conducting and sustainment of war fighting capability worldwide. The LMI-DST directly supports Army Force Generation (ARFORGEN) by linking available equipment to the Generated Force model. Specifically, LMI-DST synchronizes an Army authoritative Demand Signal for manning, equipping,services & infrastructure and authoritative resourcing (money) information, resulting in an accurate prediction of a ready and properly equipped force.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0607141A: *Logistics Automation*

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	3.717	-	3.717
Total Adjustments	0.000	0.000	3.717	-	3.717
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	3.717	-	3.717

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0607141A: *Logistics Automation*	PROJECT DY1: *Logistics Information Warehouse (LIW)*	

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
DY1: *Logistics Information Warehouse (LIW)*	-	0.000	0.000	1.504	-	1.504	1.504	1.504	1.504	1.504	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.

A. Mission Description and Budget Item Justification

The Logistics Information Warehouse (LIW) is designated as the Army's authoritative materiel data repository. BENEFITS: As chartered by the Secretary of The Army, LIW will provide enterprise-accepted and trusted information for analysis, aggregation, and reuse in support of the Lead Materiel Integrator (LMI) mission. As an Army enterprise-level repository and retrieval system to facilitate accurate choices and rapid decision making. Specifically, LIW will provide all required data structured in a way that allows for querying and reporting; e.g., equipment authorizations, equipment on-hand, new procurement schedules, RESET production schedules and in-transit visibility from origin and distribution to final destination, in support of the information needs of the Army Materiel Command (AMC) and other command logistics managers. This includes data from all sources designated as authoritative, as well as system derived data and appropriate reference data. This data will be used in support of materiel sourcing and distribution and other Materiel Enterprise missions. LIW enables visibility of business intelligence and resulting metrics for critical logistics components enabling enterprise-level analytics to be performed in support of the equipping mission within the Army's ARFORGEN processes. LIW supports the tenants of Mission Command by logistically empowering the Commander to successfully integrate and synchronize logistics information with warfighter functions in time and space to maximize potential for mission success.ADDITIONAL CAPABILITIES: LIW provides the data and custom business intelligence environment to enable Command-specific analysis and presentation of business intelligence displays to satisy unique command management requirements.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: LIW ***Description:*** Execution of tasks to create Army Logistics Repository. ***FY 2014 Plans:*** Execute Priority Group 3 Sprint, continue Best of Breed.	0.000	0.000	1.504
Accomplishments/Planned Programs Subtotals	0.000	0.000	1.504

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0607141A: *Logistics Automation*	**PROJECT** DY1: *Logistics Information Warehouse (LIW)*

C. Other Program Funding Summary ($ in Millions)

Remarks

D. Acquisition Strategy

Utilize contract services available through LiTES contract vehicle in CHESS.

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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0607141A: *Logistics Automation*	**PROJECT** DY1: *Logistics Information Warehouse (LIW)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Priority Group 3 Sprint, continue Best of Breed	TBD	TBD - Recompete:Huntsville, AL	0.000	-		-		1.504	Sep 2013	-		1.504	0.000	1.504	0.000
		Subtotal	0.000	0.000		0.000		1.504		0.000		1.504	0.000	1.504	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		1.504		0.000		1.504	0.000	1.504	0.000

Remarks

Exhibit R-4, **RDT&E Schedule Profile:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0607141A: *Logistics Automation*	**PROJECT** DY1: *Logistics Information Warehouse (LIW)*

	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
Priority Group 3 Sprint, Best of Breed																												

Exhibit R-4A, **RDT&E Schedule Details:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0607141A: *Logistics Automation*	**PROJECT** DY1: *Logistics Information Warehouse (LIW)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Priority Group 3 Sprint, Best of Breed	1	2014	4	2014

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0607141A: *Logistics Automation*	PROJECT DY2: *Lead Material Integrator (LMI) (DST)*	

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
DY2: *Lead Material Integrator (LMI) (DST)*	-	0.000	0.000	2.213	-	2.213	2.213	2.213	2.213	2.213	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.

A. Mission Description and Budget Item Justification

The Lead Materiel Integrator Decision Support Tool (LMI DST) is a software solution, resident within the Logistics Information Warehouse, that supports the Army Materiel Command in its mission as the Army Lead Materiel Integrator as well as materiel managers at Army Commands, Army Service Component Commands, Direct Reporting Units, Corps and Divisions with making informed equipping decisions. The LMI DST directly supports Army Forces Generation (ARFORGEN) by linking available equipment to the Generated Force model. Specifically, development will synchronize an Army authoritative Demand Signal with equipping information for accurate prediction of a ready and properly equipped force.

FY 2014 Base funding supports development of LMI DST Version 5, as codified in the Army Materiel Command Requirements document.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: LMI/DST ***Description:*** The Lead Materiel Integrator Decision Support Tool (LMI DST) is a software solution, resident within the Logistics Information Warehouse. ***FY 2014 Plans:*** Development of LMI DST Version 5.	0.000	0.000	2.213
Accomplishments/Planned Programs Subtotals	0.000	0.000	2.213

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0607141A: *Logistics Automation*	**PROJECT** DY2: *Lead Material Integrator (LMI) (DST)*

D. Acquisition Strategy

The LMI DST is a development effort to meet the Secretary of the Army's intent in designating the Army Materiel Command as the Lead Materiel Integrator and the Logistics Information Warehouse (LIW) as the authoritative repository of Army logistics domain data. The LMI DST integrates logistics domain data from the LIW with materiel demand requirements from the Readiness Enterprise to enable automated decision support for equippers throughout the Army. In August 2011, a sole-source contract was awarded to ProModel Corporation to leverage their COTS modeling and simulation capability, the ProModel Application Framework to develop the Lead Materiel Integrator Decision Support Tool, which is a GOTS product. This is an agile development process, where major versions are released on a six-month cycle. Version 1 was released December 2011 and Version 2 released June 2012. Version 2 is currently in production and in use by the Army Sustainment Command, with user training underway for Army Commands and other materiel stakeholders. The first option year was awarded August 2012, and development of Version 3 is underway. FY2014 base year funding supports Version 5.

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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0607141A: *Logistics Automation*	**PROJECT** DY2: *Lead Material Integrator (LMI) (DST)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development of LMI DST Version 5	TBD	Pro Model Corporation:Huntsville, AL	0.000	-		-		2.213	Aug 2013	-		2.213	0.000	2.213	0.000
		Subtotal	0.000	0.000		0.000		2.213		0.000		2.213	0.000	2.213	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		2.213		0.000		2.213	0.000	2.213	0.000

Remarks

Exhibit R-4, **RDT&E Schedule Profile:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0607141A: *Logistics Automation*	**PROJECT** DY2: *Lead Material Integrator (LMI) (DST)*

	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
Development of LMI DST Version 5																												

Exhibit R-4A, **RDT&E Schedule Details:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0607141A: *Logistics Automation*	**PROJECT** DY2: *Lead Material Integrator (LMI) (DST)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Development of LMI DST Version 5	4	2012	4	2014

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0607665A: *Biometrics Enterprise*

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	-	44.155	0.000	0.000	-	0.000	7.173	6.270	4.473	4.472	Continuing	Continuing
DT2: *Non-MIP Biometrics*	-	36.341	0.000	0.000	-	0.000	4.773	4.170	2.973	2.972	Continuing	Continuing
DU2: *Management Agency*	-	7.814	0.000	0.000	-	0.000	2.400	2.100	1.500	1.500	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

Biometrics Enterprise is comprised of two parts: Biometrics Identity Management Agency and the enterprise data repository called Biometrics Enabling Capability.

Biometrics Center of Excellence: DoDD 8521.01E directs the BCoE to conduct biometrics S&T research and engineering for the DoD and other USG sponsors in support of the DoD S&T Roadmap. The BCoE will conduct biometrics test and evaluation activities to include standards conformance testing (which include evaluations and assessments of biometric-enabled IT devices and systems that interoperate with the authoritative biometric database); support DoD acquisition organizations in developmental testing, systems integration, and independent verification and validation; support operational test and evaluation activities that determine system operational effectiveness and suitability; and acquire and conduct COTS and GOTS testing to identify functionality, performance, and conformance to DoD standards.

The Biometrics Enabling Capability (BEC) is the Department of Defense's (DoD) authoritative biometric enterprise database repository. The current operational capability is the Next Generation Automated Biometrics Identification System (NG-ABIS aka DoD-ABIS); it will transition to the BEC Increment 0 Program of Record (POR) at the Full Deployment Decision (FDD). NG-ABIS receives multi-modal biometric submissions from collection devices allowing the Warfighter to distinguish friend from foe and enabling near real-time retention, capture or release decisions. The system has a direct impact on the availability of critical intelligence information that is of vital interest to DoD and other government agencies in efforts to capture, detain, question and deny access to known and emerging threats to our National Security. Latent fingerprint matching allows the Warfighter to accurately identify and detain those responsible for Improvised Explosive Devices (IEDs), weapons trafficking, and other terrorist attacks against US and partner nation's assets across the globe. NG-ABIS stores, processes, shares and matches four different biometric modalities (fingerprint, facial images, palm-prints and iris patterns) against over 9.5 million records as it searches for known and suspected terrorists, enemies and persons of interest. The system uses advanced algorithms to combine partial matches of multiple biometric modalities in order to increase the frequency of conclusive and automated matches; thereby, decreasing the amount of required manpower.

BEC Increment 1 will build upon the success of NG-ABIS/BEC Increment 0 and will include a web-based interface and cross-domain security capabilities across the SECRET and UNCLASSIFIED security domains. It will also build upon the current capability with increased matching throughput (number of records that can be processed within 24 hours), increased storage capacity and the ability to process bulk biometric submissions. BEC Inc 1 will have an automated, customizable Biometric Enabled Watch List (BEWL) that will be electronically input into the system and link an individual's record to the watchlist. This will facilitate on-demand access and development of watchlist data and provide match alerts to the collector through their collection system as well as to the intelligence community. This future system will also streamline interoperability and data sharing with government agencies and stakeholders including the Department of Justice (DOJ), Federal

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0607665A: *Biometrics Enterprise*

Bureau of Investigation (FBI), Department of Homeland Security (DHS), National Ground Intelligence Center (NGIC), Department of State (DOS), United States Central Command (CENTCOM), United States Special Operations Command (SOCOM) and other DoD and Federal agencies as required and in accordance with Homeland Security Presidential Directive 24/National Security Presidential Directive 59.

BEC Increment 1 is currently conducting Pre-Milestone B acquisition activities to support a Pre-EMD and Milestone B decision reviews planned for FY2014.

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	45.511	0.000	0.000	-	0.000
Current President's Budget	44.155	0.000	0.000	-	0.000
Total Adjustments	-1.356	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 1	-1.356	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army												DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*					R-1 ITEM NOMENCLATURE PE 0607665A: *Biometrics Enterprise*				PROJECT DT2: *Non-MIP Biometrics*			
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**
DT2: *Non-MIP Biometrics*	-	36.341	0.000	0.000	-	0.000	4.773	4.170	2.973	2.972	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 Biometrics Enabling Capability (BEC) is the Department of Defense's (DoD) authoritative biometric enterprise database repository. The current operational capability is the Next Generation Automated Biometrics Identification System (NG-ABIS aka DoD-ABIS), it will transition to the BEC Increment 0 Program of Record (POR) at the Full Deployment Decision (FDD). NG-ABIS receives multi-modal biometric submissions from collection devices allowing the Warfighter to distinguish friend from foe and enabling near real-time retention, capture or release decisions. The system has a direct impact on the availability of critical intelligence information that is of vital interest to DoD and other government agencies in efforts to capture, detain, question and deny access to known and emerging threats to our National Security. Latent fingerprint matching allows the Warfighter to accurately identify and detain those responsible for Improvised Explosive Devices (IEDs), weapons trafficking, and other terrorist attacks against US and partner nations' assets across the globe. NG-ABIS stores, processes, shares and matches four different biometric modalities (fingerprint, facial images, palm-prints and iris patterns) against over 9.500 million records as it searches for known and suspected terrorists, enemies and persons of interest. The system uses advanced algorithms to combine partial matches of multiple biometric modalities in order to increase the frequency of conclusive and automated matches; thereby, decreasing the amount of required manpower.

BEC Increment 1 will build upon the success of NG-ABIS/BEC Increment 0 and will include a web-based interface and cross-domain security capabilities across the SECRET and UNCLASSIFIED security domains. It will also build upon the current capability with increased matching throughput (number of records that can be processed within 24 hours), increased storage capacity and the ability to process bulk biometric submissions. BEC Inc 1 will have an automated, customizable Biometric Enabled Watch List (BEWL) that will be electronically input into the system and link an individual's record to the watchlist. This will facilitate on-demand access and development of watchlist data and provide match alerts to the collector through their collection system as well as to the intelligence community. This future system will also streamline interoperability and data sharing with government agencies and stakeholders including the Department of Justice (DOJ), Federal Bureau of Investigation (FBI), Department of Homeland Security (DHS), National Ground Intelligence Center (NGIC), Department of State (DOS), United States Central Command (CENTCOM), United States Special Operations Command (SOCOM) and other DoD and Federal agencies as required and in accordance with Homeland Security Presidential Directive 24/National Security Presidential Directive 59.

BEC Increment 1 is currently conducting Pre-Milestone B acquisition activities to support a Pre-EMD and Milestone B decision reviews planned for FY2014.

JUSTIFICATION: N/A, not programmed to receive OCO or BASE RDT&E funding FY2014.

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0607665A: *Biometrics Enterprise*	**PROJECT** DT2: *Non-MIP Biometrics*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: PM DoD Biometrics - Non-MIP for BEC	36.341	0.000	0.000
Articles:	0		
Description: BEC ***FY 2012 Accomplishments:*** Funds provided for government civilian labor and operational support activities including travel, training, supplies, infrastructure and facility costs. Federally Funded Research & Development Center (FFRDC) and Government Matrix funds were used to support engineering, information assurance and logistics functions. Biometrics Enabling Capability (BEC) test and evaluation activities were scoped to support development of test plans, conducting preliminary system testing, production of test reports and support of technical reviews. PM contractor labor was funded to plan, develop and prepare Army and Office of the Secretary of Defense (OSD) level documentation consistent with DoD Instruction 5000.02 and the Defense Acquisition System. Further, these funds ensured compliance with existing statutory and regulatory policies for a Full Deployment Decision (FDD) in support of BEC Increment 0 and a Milestone B decision in support of BEC Increment 1.			
Accomplishments/Planned Programs Subtotals	36.341	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
• B01301: *Other Procurement, Army Base- Biometrics Enterprise*	57.057		3.800		3.800	3.800	3.800	3.800	3.800	Continuing	Continuing
• 432144: *Operations and Maintenance, Army Base- Biometrics OMA*	1.682		7.250		7.250	6.611	6.745	6.639	6.838	Continuing	Continuing

Remarks

D. Acquisition Strategy

The Army published an Analysis of Alternatives (AoA) report on 30 April 2010 that recommended an enhanced status quo acquisition approach for BEC. The approach begins with establishing the current quick reaction capability as BEC Increment 0 at a Full Deployment Decision. On 13 May 2011, an ADM designated the Program Executive Office Enterprise Information Systems (PEO EIS) as the Full Deployment Decision (FDD) Milestone Decision Authority (MDA), as delegated by the Army Acquisition Executive (AAE). The Capability Production Document that supports BEC Increment 0 was approved on 14 February 2012. BEC Increment 0 is planned to be succeeded by BEC Increment 1, which will enter the Engineering and Manufacturing Development (EMD) Phase of acquisition with Pre-EMD and Milestone B reviews planned for FY2014, based on a Joint Requirements Oversight Council (JROC) approved CDD being approved in 2QFY2013. BEC Increment 1 will

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0607665A: *Biometrics Enterprise*	**PROJECT** DT2: *Non-MIP Biometrics*

provide new capability beyond the current Next Generation Automated Biometrics Identification System (NG-ABIS). PM DoD Biometrics is preparing a forward-looking Acquisition Strategy for the BEC Increment 1 Program that is compliant with the Department of Defense Instruction (DoDI) 5000.0 process.

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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0607665A: *Biometrics Enterprise*	**PROJECT** DT2: *Non-MIP Biometrics*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PM Management Services	C/FFP	Alexandria:Virginia	10.079	5.750	Dec 2011	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	10.079	5.750		0.000		0.000		0.000		0.000			

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Development	C/CPFF	Various:various	52.544	28.805		-		-		-		-	0.000	81.349	0.000
		Subtotal	52.544	28.805		0.000		0.000		0.000		0.000	0.000	81.349	0.000

Remarks

test

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PM Civilian Personnel	TBD	Alexandria:Virginia	2.090	1.268		-		-		-		-	Continuing	Continuing	0.000
Other Support Costs (Travel, Supplies, Facility, Cell Phones)	TBD	Alexandria:Virginia	0.494	0.300		-		-		-		-	Continuing	Continuing	0.000
		Subtotal	2.584	1.568		0.000		0.000		0.000		0.000			0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation (Government Developmental and Operational Testing)	MIPR	Army Test and Evaluation (ATEC); Joint Interoperability Test	0.574	0.218		-		-		-		-	0.000	0.792	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0607665A: *Biometrics Enterprise*	**PROJECT** DT2: *Non-MIP Biometrics*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Command:Various Locations													
		Subtotal	0.574	0.218		0.000		0.000		0.000		0.000	0.000	0.792	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	65.781	36.341		0.000		0.000		0.000		0.000			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0607665A: *Biometrics Enterprise*	**PROJECT** DT2: *Non-MIP Biometrics*

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0607665A: *Biometrics Enterprise*	**PROJECT** DT2: *Non-MIP Biometrics*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
BEC Inc 1 Milestone B Preparation	2	2012	3	2014
BEC Inc 1 CDD Approval	2	2013	2	2013
BEC Inc 1 Pre-EMD	1	2014	1	2014
BEC Inc 1 Engineering and Manufacturing (EMD) Functional Requirements Document (	2	2014	2	2014
BEC Inc 1 System Requirements Review (SRR) / System Functional Review (SFR)	3	2013	3	2013
BEC Inc 1 Milestone B	3	2014	3	2014
BEC Inc 1 Preliminary Design Review (PDR)	2	2015	2	2015
BEC Inc 1 Engineering and Manufacturing (EMD)	4	2014	1	2017
BEC Inc 1 Engineering and Manufacturing (EMD) Contract	4	2014	3	2017
BEC Inc 1 Critical Design Review (CDR)	4	2015	4	2015
BEC Inc 1 Developmental Test & Evaluation	1	2016	1	2016
BEC Inc 1 Initial Operational Test & Evaluation (IOT&E)	2	2016	3	2016
BEC Inc 1 Capability Production Document (CPD) Approval	4	2016	4	2016
BEC Inc 1 Milestone C Initial Operational Capability (IOC)	1	2017	1	2017
BEC Inc 1 Full Deployment Decision (FDD) / Full Operational Capability (FOC)	1	2018	1	2018

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0607665A: *Biometrics Enterprise*	PROJECT DU2: *Management Agency*	

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
DU2: *Management Agency*	-	7.814	0.000	0.000	-	0.000	2.400	2.100	1.500	1.500	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

Biometrics Center of Excellence: DoDD 8521.01E directs the BCoE to conduct biometrics S&T research and engineering for the DoD and other USG sponsors in support of the DoD S&T Roadmap. The BCoE will conduct biometrics test and evaluation activities to include standards conformance testing (which include evaluations and assessments of biometric-enabled IT devices and systems that interoperate with the authoritative biometric database); support DoD acquisition organizations in developmental testing, systems integration, and independent verification and validation; support operational test and evaluation activities that determine system operational effectiveness and suitability; and acquire and conduct COTS and GOTS testing to identify functionality, performance, and conformance to DoD standards.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: BIMA	7.814	0.000	0.000
Articles:	0		
Description: Biometrics Identity Management Agency ***FY 2012 Accomplishments:*** BIMA utilized the Joint Interoperability Test Command to test biometric technologies and provided certification that biometric equipment was interoperable and can be utilized by all branches of the armed services and government. BIMA used RDTE contract labor to directly impact the efficiency and operation of the Automated Biometric Identification System. BIMA conducted biometrics test and evaluation activities to include standards conformance testing (which include evaluations and assessments of biometric-enabled IT devices and systems that interoperate with the authoritative biometric database). BIMA acquired and conducted COTS and GOTS testing to identify functionality, performance, and conformance to DoD standards.			
Accomplishments/Planned Programs Subtotals	7.814	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0607665A: *Biometrics Enterprise*	**PROJECT** DU2: *Management Agency*

D. Acquisition Strategy

C. Acquisition Strategy Support DoD Acquisition organizations in developmental testing, systems integration, and/or independent verification and validation of biometric 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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0607665A: *Biometrics Enterprise*	**PROJECT** DU2: *Management Agency*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
BIMA RDTE efforts	MIPR	Various Activities:Various locations	0.000	7.814		-		-		-		-	0.000	7.814	0.000
		Subtotal	0.000	7.814		0.000		0.000		0.000		0.000	0.000	7.814	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	7.814		0.000		0.000		0.000		0.000	0.000	7.814	0.000

Remarks

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0607865A: *Patriot Product Improvement*

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	109.978	70.053	-	70.053	47.264	61.100	51.919	54.858	Continuing	Continuing
DV8: *PATRIOT PRODUCT IMPROVEMENT*	-	0.000	109.978	70.053	-	70.053	47.264	61.100	51.919	54.858	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 in base dollars in FY14 addresses SIPRNet/NIPRNet Access Point/Troposcatter (SNAP/TROPO) efforts for PATRIOT Product Improvement Program (PIP).

A. Mission Description and Budget Item Justification

PATRIOT is an advanced Surface-to-Air guided missile system with a high probability of kill capable of operation in the presence of Electronic Countermeasures (ECM) and able to conduct multiple simultaneous engagements against high performance air breathing targets and ballistic missiles likely to be encountered by US Forces. The PATRIOT Product Improvement Program provides for the upgrade of the PATRIOT System through individual materiel changes. The PATRIOT Product Improvement Program upgrades the PATRIOT system to address operational lessons learned, enhancements to joint force interoperability, and other system performance improvements to provide overmatch capability with the emerging threat. Efforts will be made to expedite PATRIOT materiel solutions (e.g. Radar Digital Processor, Communications Upgrades, Radars on the Net) to both enhance capability and facilitate integration into the IAMD architecture.

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	109.978	60.392	-	60.392
Current President's Budget	0.000	109.978	70.053	-	70.053
Total Adjustments	0.000	0.000	9.661	-	9.661
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	9.661	-	9.661

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0607865A: *Patriot Product Improvement*	PROJECT DV8: *PATRIOT PRODUCT IMPROVEMENT*	

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
DV8: *PATRIOT PRODUCT IMPROVEMENT*	-	0.000	109.978	70.053	-	70.053	47.264	61.100	51.919	54.858	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 not a new start - continues effort funded in PE 0203801A (Project 036).

A. Mission Description and Budget Item Justification

Software Improvement for Threat Evolution: Performs necessary analysis and development efforts to maintain PATRIOT system effectiveness against evolving threat technologies and specific threat capabilities. This effort identifies evolving threats and threat characteristics that might present a challenge to PATRIOT's current capabilities and develops initial concepts to maintain system effectiveness relative to these threats.

Radar Digital Processor Development: Incorporates improvements to mitigate radar hardware obsolescence, improve Reliability, Maintainability, and Availability (RAM) and improve performance of the PATRIOT Radar Set against evolving threat sets. This program includes the implementation of Identification Friend or Foe (IFF) Mode 5 Level 1 / Level 2, and a Non-Cooperative Target Recognition (NCTR) Combat ID technique to mitigate potential fratricide risk, and the development of CONOPS to incorporate the new Combat ID capabilities into system operation. The RDP also provides the necessary radar processing capability to support follow-on EDP Tasks 6 and 7 to counter emerging threats and provide data necessary to support migration to IAMD. The RDP is a pre-requisite for migration to an IAMD Netted Sensor.

SIPRNet/NIPRNet Access Point/Troposcatter (SNAP/TROPO): Provides hardware interfaces to support extended range communications within the battalion (TROPO) and Force Operations interfaces to satellite for access to SIPR/NIPR worldwide communication networks.

THAAD PATRIOT Interoperability: Implements improvements to THAAD/PATRIOT Interoperability and addresses Joint Defense Network (JDN) deficiencies that impact Tactical Ballistic Missile (TBM) battle management and force/engagement operations. Efforts will be concentrated on joint, collaborative force operations (defense design and planning) and enhanced Tactical Digital Information Link - Joint (TADIL J) interoperability.

Advanced Electronic Counter Measures (AECM): This task investigates the implications of advanced technology (DRFM) available on airborne platforms that enables new ECM techniques which could adversely affect Air and Missile Defense System effectiveness.

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0607865A: *Patriot Product Improvement*	**PROJECT** DV8: *PATRIOT PRODUCT IMPROVEMENT*

Internet Protocol Commo Phase 1 Force Modernization: Replacement of the current KG-194A encryptors in PATRIOT requires redesign of the basic PATRIOT shelter communications architecture to incorporate new hardware which interfaces the existing IDOCS to new KIV-7M encryptors and provides an IP base backbone for range extension and over the air IP communications tunneling for Force Operations message traffic without impacting the Engagement Operations traffic.

Evolutionary Development Program (EDP): Provides an integrated approach to maintain and update system capabilities against the evolving threat. Develops and implements a comprehensive strategy to leverage modernization and upgrade efforts.

Task 2: Implements improved ground system and interceptor capabilities (PAC-2/GEM, PAC-3, and MSE) to counter stressing TBM threats.

Task 6: Improves discrimination of higher altitude TBM RVs from associated objects to support the full engagement capabilities of the interceptor. Longer-range detection and track, and improved high-altitude discrimination are required to achieve the required lethality performance against the RV and to mitigate missile wastage against separation debris. This task leverages the signal processing capabilities of the RDP, and supports the high altitude engagements required by the PAC-3 and PAC-3 Missile Segment Enhancement missiles.

Upper Tier Debris Mitigation (UTDM): Implements algorithms to mitigate system impacts of debris from Upper Tier intercepts associated with operating in the BMDS environment. Debris from Upper Tier intercepts can cause significant radar loading effects and the potential for erroneous engagements and missile wastage on debris.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: PATRIOT Product Improvement	0.000	109.978	70.053
Articles:		0	
Description: Software Improvement for Threat Evolution			
FY 2013 Plans: Continues Software Improvement for Threat Evolution. Radar Digital Processor continues development efforts to support U.S. FY 2016 fielding, providing the field with additional capability and growth potential to counter stressing threats. Increase addresses Evolutionary Development Program (EDP) efforts and Electronic Counter Measures (ECM).			
FY 2014 Plans: Continues Software Improvement for Threat Evolution. Radar Digital Processor continues development efforts to support U.S. FY 2016 fielding, providing the field with additional capability and growth potential to counter stressing threats. Continues Evolutionary Development Program (EDP) efforts and Electronic Counter Measures (ECM). Increase addresses SNAP/TROPO.			
Accomplishments/Planned Programs Subtotals	0.000	109.978	70.053

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0607865A: *Patriot Product Improvement*	**PROJECT** DV8: *PATRIOT PRODUCT IMPROVEMENT*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

The design objective of the PATRIOT system was to provide a baseline system capable of modification to cope with continuing threat evolution. This program minimizes technological risks and provides a means of enhancing system capability through planned upgrades of deployed systems. The PATRIOT Product Improvement program upgrades the PATRIOT system to address operational lessons learned, enhancements to joint force interoperability and communications, and other system performance improvements to provide overmatch capability against the emerging threat. Upgrades are implemented through individual hardware and software materiel changes and fielded incrementally. This program encompasses several changes which will require the use of a variety of acquisition methods to develop, test, procure and field.

E. Performance Metrics

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

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0607865A: *Patriot Product Improvement*	**PROJECT** DV8: *PATRIOT PRODUCT IMPROVEMENT*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Program Management	Various	RSA:Various	0.000	-		0.538	Oct 2012	0.259	Oct 2013	-		0.259	Continuing	Continuing	0.000
U.S. Contracts	C/FFP	Intuitive Research and Technology Corp. (IRTC):Huntsville, AL	0.000	-		0.361	Jan 2013	0.250	Jan 2014	-		0.250	Continuing	Continuing	0.000
		Subtotal	0.000	0.000		0.899		0.509		0.000		0.509			0.000

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Improvement for Threat Evolution	Various	Multiple:Multiple	0.000	-		9.986	Jan 2013	10.375	Jan 2014	-		10.375	Continuing	Continuing	0.000
Radar Digital Processor (RDP) Development	SS/ Various	Raytheon:Massachusetts	0.000	-		32.200	Jan 2013	14.829	Jan 2014	-		14.829	0.000	47.029	0.000
SNAP/TROPO	SS/ Various	Raytheon:Massachusetts	0.000	-		-		9.923	Jan 2014	-		9.923	0.000	9.923	0.000
THAAD PATRIOT Interoperability	SS/ Various	Raytheon:Massachusetts	0.000	-		6.800	Jan 2013	2.133	Jan 2014	-		2.133	0.000	8.933	0.000
Advanced Electronic Counter Measures (ECM)	SS/ Various	Raytheon:Massachusetts	0.000	-		16.000	Jan 2013	13.339	Jan 2014	-		13.339	Continuing	Continuing	Continuing
Internet Protocol Commo Phase 1 Force Modernization	SS/ Various	Raytheon:Massachusetts	0.000	-		3.181	Jan 2013	-		-		-	0.000	3.181	0.000
Evolutionary Development Program (EDP)	SS/ Various	Raytheon:Massachusetts	0.000	-		35.700	Jan 2013	5.263	Jan 2014	-		5.263	Continuing	Continuing	0.000
Task 2	SS/ Various	Raytheon:Massachusetts	0.000	-		-		6.917	Jan 2014	-		6.917	Continuing	Continuing	Continuing
Task 6	SS/ Various	Raytheon:Massachusetts	0.000	-		-		6.397	Jan 2014	-		6.397	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0607865A: *Patriot Product Improvement*	**PROJECT** DV8: *PATRIOT PRODUCT IMPROVEMENT*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Upper Tier Debris Mitigation (UTDM)	SS/ Various	Raytheon:Massachusetts	0.000	-		4.800	Jan 2013	-		-		-	0.000	4.800	0.000
		Subtotal	0.000	0.000		108.667		69.176		0.000		69.176			

Remarks

The contract method type Sole Source/Various is Fixed Price Level of Effort which includes Cost Plus Fixed Fee for material, ODC, and travel.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
RDEC and Other Govt Agencies	Various	RSA:Various	0.000	-		0.412	Jan 2013	0.368	Jan 2014	-		0.368	Continuing	Continuing	0.000
		Subtotal	0.000	0.000		0.412		0.368		0.000		0.368			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		109.978		70.053		0.000		70.053			

Remarks

Exhibit R-4, **RDT&E Schedule Profile:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0607865A: *Patriot Product Improvement*	**PROJECT** DV8: *PATRIOT PRODUCT IMPROVEMENT*

	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) IOC																												
PDB 8 (RDP) IOC																												

Exhibit R-4A, **RDT&E Schedule Details:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0607865A: *Patriot Product Improvement*	**PROJECT** DV8: *PATRIOT PRODUCT IMPROVEMENT*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
PDB 7 Fielding (Modernized Adjunct Processor) IOC	3	2013	3	2013
PDB 8 (RDP) IOC	3	2016	3	2016

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0102419A: *Aerostat Joint Project Office*

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	-	317.382	190.422	98.450	-	98.450	46.600	47.450	37.830	2.600	Continuing	Continuing
E55: *Jnt Land Atk Msl Def Elevated Netted Sensor-JLENS*	-	317.382	190.422	98.450	-	98.450	46.600	47.450	37.830	2.600	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

Joint Land Attack Cruise Missile Defense Elevated Netted Sensor System (JLENS) is a supporting program of the Army and Joint Integrated Air and Missile Defense, providing persistent, over the horizon surveillance and fire control quality data on Army and Joint networks enabling protection of the U.S. and coalition forces as well as geopolitical assets from Cruise Missiles, Aircraft, Unmanned Air Vehicles, Tactical Ballistic Missiles, Large Caliber Rockets, and Surface Moving Targets.

A JLENS Orbit consists of two systems: a fire control radar system and a wide-area surveillance radar system. Each radar system employs a separate 74-meter tethered aerostat, mobile mooring station, radar and communications payload, processing station, and associated ground support equipment. The systems are designed to work together, but can operate independently. The JLENS Orbit is transportable by road, rail, sea and air.

JLENS uses advanced sensor and networking technologies to provide persistent, 360-degree, wide-area surveillance and precision tracking of Land Attack Cruise Missiles and other types of Air Breathing Threats. This information is distributed via joint service networks and provides fire control quality data to Surface to Air missile systems such as Army Patriot and Navy Aegis, increasing the weapons' capabilities by allowing systems to engage targets normally below, outside or beyond surface based weapons' field of view. JLENS also provides fire control quality data to fighter aircraft allowing them to engage hostile threats from extended ranges, and contributes to the development of a single integrated air picture.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army					DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*		**R-1 ITEM NOMENCLATURE** PE 0102419A: *Aerostat Joint Project Office*			
B. Program Change Summary ($ in Millions)	**FY 2012**	**FY 2013**	**FY 2014 Base**	**FY 2014 OCO**	**FY 2014 Total**
Previous President's Budget	327.338	190.422	95.515	-	95.515
Current President's Budget	317.382	190.422	98.450	-	98.450
Total Adjustments	-9.956	0.000	2.935	-	2.935
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-9.956	-			
• Adjustments to Budget Years	-	-	2.935	-	2.935

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0102419A: *Aerostat Joint Project Office*	PROJECT E55: *Jnt Land Atk Msl Def Elevated Netted Sensor-JLENS*	

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
E55: *Jnt Land Atk Msl Def Elevated Netted Sensor-JLENS*	-	317.382	190.422	98.450	-	98.450	46.600	47.450	37.830	2.600	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

Joint Land Attack Cruise Missile Defense Elevated Netted Sensor System (JLENS) is a supporting program of the Army and Joint Integrated Air and Missile Defense, providing persistent, over the horizon surveillance and fire control quality data on Army and Joint networks enabling protection of the U.S. and coalition forces as well as geopolitical assets from Cruise Missiles, Aircraft, Unmanned Air Vehicles, Tactical Ballistic Missiles, Large Caliber Rockets, and Surface Moving Targets.

A JLENS Orbit consists of two systems: a fire control radar system and a wide-area surveillance radar system. Each radar system employs a separate 74-meter tethered aerostat, mobile mooring station, radar and communications payload, processing station, and associated ground support equipment. The systems are designed to work together, but can operate independently. The JLENS Orbit is transportable by road, rail, sea and air.

JLENS uses advanced sensor and networking technologies to provide persistent, 360-degree, wide-area surveillance and precision tracking of Land Attack Cruise Missiles and other types of Air Breathing Threats. This information is distributed via joint service networks and provides fire control quality data to Surface to Air missile systems such as Army Patriot and Navy Aegis, increasing the weapons' capabilities by allowing systems to engage targets normally below, outside or beyond surface based weapons' field of view. JLENS also provides fire control quality data to fighter aircraft allowing them to engage hostile threats from extended ranges, and contributes to the development of a single integrated air picture.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: Engineering and Manufacturing Development (EMD) phase contract activity	197.789	87.795	0.000
Articles:	0	0	
Description: Continue EMD phase contract activities.			
FY 2012 Accomplishments: Completed software development, integration and test, initiated Developmental Testing (DT), conducted user training, executed Integrated Fire Control (IFC) shot with Patriot. Conducted Navy Integrated Fire Control-Counter Air (NIFC-CA) tracking test and			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0102419A: *Aerostat Joint Project Office*	**PROJECT** E55: *Jnt Land Atk Msl Def Elevated Netted Sensor-JLENS*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
conducted NIFC-CA Live Fire demonstration. Initiated planning and preparation for the Secretary of Defense directed Combatant Command (COCOM) Exercise extended test program. ***FY 2013 Plans:*** Completed Early User Test (EUT). Complete Developmental Testing (DT), Limited User Test (LUT), implement corrective actions, verification of contract requirements and initiate EMD contract closeout.			
Title: Government System Test and Evaluation (STE)	49.742	21.451	0.000
Articles:	0	0	
Description: Government STE program in support of Engineering and Manufacturing Development (EMD). ***FY 2012 Accomplishments:*** Initiated DT, conducted user training and executed Integrated Fire Control (IFC) shot with Patriot. Conducted Navy Integrated Fire Control-Counter Air (NIFC-CA) tracking test and conduct NIFC-CA Live Fire demonstration. ***FY 2013 Plans:*** Completed EUT. Complete DT, LUT, and verify corrective actions.			
Title: Engineering and Manufacturing Development (EMD) Phase Other Contractor/Other Government Agencies (OGAs) Support	39.877	44.370	20.239
Articles:	0	0	
Description: Other contracts and OGAs support of EMD phase activities. Perform technical assessments, concept studies, cost reduction, risk reduction and required documentation. ***FY 2012 Accomplishments:*** Supported EMD activities. Supported the completion of software development and orbit integration and test. Supported initialization of DT and user training. Supported planning for the Secretary of Defense directed Combatant Command (COCOM) Exercise extended test program. Performed technical assessments, concept studies, cost reduction, risk reduction and required documentation. ***FY 2013 Plans:*** Completed EUT. Continue to support EMD activities. Continue to support DT and LUT. Continue engineering support, soldier training, live fire tests, and support National Intelligence Estimate (NIE) integration. Support implementation of corrective actions, verification of contract requirements and initiation of contract closeout. Perform technical assessments, studies, cost reduction, risk reduction and required documentation. ***FY 2014 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Continue to support EMD activities. Perform technical assessments, studies, cost reduction, risk reduction and required documentation.			
Title: Software Maintenance and Engineering Support ***Description:*** Contract and Government support for software maintenance and upgrades and engineering support. ***FY 2014 Plans:*** Contract and Government support for software maintenance, tech refresh/upgrades, reliability improvements, and engineering support after conclusion of the Engineering and Manufacturing Development (EMD) contract and transition to Combatant Command (COCOM) Exercise extended test program.	0.000	0.000	37.318
Title: Government Program Management (PM) Support	3.729	2.929	2.443
Articles:	0	0	
Description: Provide Government PM support of EMD activities. ***FY 2012 Accomplishments:*** Continued Government PM support of EMD activities. Managed completion of software development and orbit integration and test. Provided management oversight of Developmental Testing (DT), conducted user training, executed Integrated Fire Control (IFC) shot with Patriot. Provided management oversight of conduct of Navy Integrated Fire Control-Counter Air (NIFC-CA) tracking test and conduct of NIFC-CA Live Fire demonstration. Provided PM oversight of the planning and preparation for the Secretary of Defense directed COCOM Exercise extended test program. ***FY 2013 Plans:*** Completed Early User Test (EUT). Continue Government PM support of EMD activities. Continue management of DT, and Limited User Test (LUT). Manage implementation of corrective actions, verification of contract requirements and initiation of contract closeout. ***FY 2014 Plans:*** Provide PM oversight of the contract and government software maintenance, upgrades, and engineering support activities after conclusion of EMD program and transition to COCOM Exercise extended test program.			
Title: Government Furnished Equipment (GFE) Integration	7.595	3.455	0.000
Articles:	0	0	
Description: The GFE will be provided to the Prime Contractor for hardware and system integration. ***FY 2012 Accomplishments:***			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
The GFE was provided to the Prime Contractor for hardware and system integration. ***FY 2013 Plans:*** The GFE will continue to be provided to the Prime Contractor for hardware and system integration.			
Title: Organizational Support Equipment (OSE)	18.650	0.000	0.000
Articles:	0		
Description: The acquisition of OSE required for testing and operation of EMD Orbit 1. ***FY 2012 Accomplishments:*** Acquired the OSE required for testing and operation of EMD Orbit 1.			
Title: Combatant Command (COCOM) Exercise	0.000	30.422	38.450
Articles:		0	
Description: Planning and execution of the Secretary of Defense directed COCOM Exercise extended test program. ***FY 2013 Plans:*** Complete planning and begin execution of COCOM Exercise extended test program. ***FY 2014 Plans:*** Execute emplacement, checkout and operations of the COCOM Exercise extended test program.			
Accomplishments/Planned Programs Subtotals	317.382	190.422	98.450

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, Proj M06: *Proj M06, Patriot/MEADS Combined Aggregate Program (CAP)*	377.610	400.861								0.000	778.471
• PE 0605456A, Proj PA3: *Proj PA3, PAC-3/MSE Missile*	86.139	69.029	68.843		68.843	129.627	63.506	65.179	65.734	Continuing	Continuing
• SSN C53101: *MSE Missile*	74.953	12.850	540.401		540.401	540.520	559.623	566.757	655.184	Continuing	Continuing
• PE 0605455A, Proj S35: *Proj, S35, SLAMRAAM*	1.186									0.000	1.186

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
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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 0604319A Proj DU3: *Proj DU3, IFPC2 (FY 20011/2012 PE0603305A IFPC II-Intercept)*	8.834	76.039	79.232		79.232	107.587	146.463	151.769	159.700	Continuing	Continuing
• PE 0605457A, Proj S40: *Proj S40, Army Integrated Air and Missile Defense (AIAMD)*	262.032	262.211	364.649		364.649	382.869	221.306	141.908	79.338	Continuing	Continuing
• SSN ZBZ5075: *Army IAMD Battle Command System (IBCS)*			21.200		21.200	100.700	315.370	482.640	446.130	Continuing	Continuing
• PE 0604820A, Proj E10: *Proj E10, SENTINEL*	3.093	3.486	1.549		1.549	5.264	5.911	6.307	6.053	Continuing	Continuing
• PE 0604741A, Proj 126, 146, 149: *Air Defense C2I Eng Dev*	57.050	73.333	18.294		18.294	20.898	20.557	18.009	11.015	Continuing	Continuing

Remarks

This is a supporting program of the Army Integrated Air and Missile Defense (IAMD) architecture.

D. Acquisition Strategy

The JLENS Operational Requirements Document (ORD) calls for initial fielding to Block I requirements (tethered aerostat platforms for Fire Control and Surveillance radars), followed by fielding of Block II (untethered platforms for Fire Control and Surveillance radars), and Block III (both radars on a single untethered platform). There is currently no funding beyond Block I.

On 28 Jun 05, the Defense Acquisition Board (DAB) approved the JLENS program for entry into Engineering and Manufacturing Development (EMD) as recommended by the Army Acquisition Executive. The DAB elected to maintain oversight of JLENS as an Acquisition Category (ACAT) 1D program as stated in the Acquisition Decision Memorandum signed on August 5, 2005.

On 24 May 2012, the Acting Defense Acquisition Executive (DAE) signed the JLENS Nunn-McCurdy (NM) Acquisition Decision Memorandum (ADM) certifying the restructured JLENS Program, and signed a memorandum rescinding the Milestone B approval for the JLENS program, granted on August 5, 2005. The ADM directs the Army to restructure the JLENS program to consist of two EMD orbits; complete scheduled EMD test and evaluation to include the Naval Integrated Fire Control-Counter Air demonstration, Limited User Test, Developmental Test 2, and Developmental Test 3 that concludes in 4th Quarter Fiscal Year 2013 (4QFY2013); and to assist in site selection and planning for the employment of one JLENS orbit in support an operational Continental United States based exercise when a location is determined and orders are approved by the National Command Authority. Letters were provided to Congress notifying them that the NM review was complete and program was certified and restructured as detailed above.

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
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The Joint Requirements Oversight Council (JROC) reviewed the results of the Army's 60 Day Deep-Dive employment assessment of JLENS for Homeland Defense. The JROC concurs with the proposed JLENS employment to Aberdeen Proving Ground, MD for an operational exercise duration Fiscal Year 2014-2017.

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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0102419A: *Aerostat Joint Project Office*	**PROJECT** E55: *Jnt Land Atk Msl Def Elevated Netted Sensor-JLENS*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Program Management	Various	PEO Missiles and Space:Various	19.106	3.729		2.929	Dec 2012	2.443		-		2.443	0.000	28.207	0.000
		Subtotal	19.106	3.729		2.929		2.443		0.000		2.443	0.000	28.207	0.000

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Technology Development (TD) Phase Contracts and Government	Various	Various:Multiple	301.083	-		-		-		-		-	0.000	301.083	0.000
Contractor Engineering and Manufacturing Development (EMD) Hardware/Software	SS/CPIF	Raytheon Systems Co.:Andover, MA	1,449.929	158.887		62.588	Dec 2012	-		-		-	0.000	1,671.404	1,688.627
EMD Other Government Agency System Engineering/Logistics	Various	Multiple:Various	36.488	12.212		15.872	Dec 2012	9.877		-		9.877	0.000	74.449	0.000
Lightweight X-Band Radar Antenna	Various	Various:Various	7.811	-		-		-		-		-	0.000	7.811	0.000
EMD System Engineering/ Logistics Contracts	Various	Multiple:Various	123.135	27.665		28.498	Dec 2012	10.362		-		10.362	0.000	189.660	0.000
EMD Government Furnished Equipment (GFE) Various	Various	Multiple:Various	22.518	0.928		1.455	Dec 2012	-		-		-	0.000	24.901	0.000
EMD GFE - Cooperative Engagement Transmission Processing Set (CETPS)	Various	Multiple:Various	34.955	6.667		2.000		-		-		-	0.000	43.622	0.000
EMD Organizational Support Equipment	Various	Multiple:Various	0.000	18.650	Dec 2011	-		-		-		-	0.000	18.650	0.000
Software maintenance and upgrades and engineering	Various	Multiple:Various	0.000	-		-		37.318		-		37.318	0.000	37.318	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0102419A: *Aerostat Joint Project Office*	**PROJECT** E55: *Jnt Land Atk Msl Def Elevated Netted Sensor-JLENS*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
support - Contracts and Government															
		Subtotal	1,975.919	225.009		110.413		57.557		0.000		57.557	0.000	2,368.898	1,688.627

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TD Phase Miscellaneous Support	Various	Various:Multiple	2.084	-		-		-		-		-	0.000	2.084	0.000
		Subtotal	2.084	0.000		0.000		0.000		0.000		0.000	0.000	2.084	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Technology Development (TD) Phase Test Bed Maintenance	SS/CPFF	Clark and Stender (CAS), Inc.:TX/NM	3.056	-		-		-		-		-	0.000	3.056	3.056
Engineering and Manufacturing Development (EMD) Contractor System Test and Evaluation	SS/CPIF	Raytheon Systems Co.:MA/CA/FL/TX	66.217	38.902	Feb 2012	25.207		-		-		-	0.000	130.326	141.100
EMD Government System Test and Evaluation	Various	Multiple:Various	69.284	49.742	Dec 2011	21.451	Dec 2012	-		-		-	0.000	140.477	0.000
Combatant Command (COCOM)Exercise-Contractor	Various	Multiple:Various	36.315	-		26.163		29.944	Jan 2014	-		29.944	120.075	212.497	0.000
COCOM Exercise-Government	Various	Multiple:Various	4.035	-		4.259		8.506		-		8.506	14.405	31.205	0.000
		Subtotal	178.907	88.644		77.080		38.450		0.000		38.450	134.480	517.561	144.156

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
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	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	2,176.016	317.382		190.422		98.450		0.000		98.450	134.480	2,916.750	1,832.783

Remarks

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

Exhibit R-4A, **RDT&E Schedule Details:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0102419A: *Aerostat Joint Project Office*	**PROJECT** E55: *Jnt Land Atk Msl Def Elevated Netted Sensor-JLENS*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Nunn-McCurdy (NM) Certification	3	2012	3	2012
Defense Acquisition Board (DAB) In-Process Review (IPR)	3	2013	3	2013
Electromagnetic Environmental Effects (E3) Test	3	2012	4	2013
Integrated Fire Control (IFC) Test	3	2012	3	2012
Surface Moving Target (SMT) Test	3	2012	4	2012
Navy Integrated Fire Control-Counter Air (NIFC-CA) Demonstration	3	2012	1	2013
Developmental Test 2	4	2012	4	2012
Radar Transportation and Mobility (T&M) Test	1	2013	4	2013
Climatic Tests	2	2013	4	2013
Lightning and High-Altitude Electromagnetic Pulse (HEMP) Tests	3	2013	4	2013
Logistics Demonstration	4	2013	4	2013
Early User Test (EUT)	1	2013	1	2013
Limited User Test (LUT)	2	2013	3	2013
Corrective Actions, Verification of Contract Requirements, Initiate Closeout	3	2013	4	2013
Software (S/W) Maintenance and Engineering Support	1	2014	4	2014
Combatant Command (COCOM) Exercise	4	2012	1	2018
Overwater Tests against Drones	1	2015	4	2016
Overwater Tests against Surface Moving Targets (SMTs)	1	2015	4	2016
Overwater Integration Tests with Navy Aegis	1	2015	4	2016
Enduring Operations Decision Point	3	2016	3	2016

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
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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	-	28.649	32.556	30.940	-	30.940	35.314	32.365	30.236	30.075	Continuing	Continuing
322: *Adv Field Artillery Tactical Data System(AFA)*	-	17.511	23.961	12.237	-	12.237	5.425	0.000	0.000	0.000	Continuing	Continuing
DU5: *AFATDS Increment II*	-	0.000	0.000	12.140	-	12.140	16.910	21.104	20.853	24.148	Continuing	Continuing
F19: *JADOCS*	-	11.138	8.595	6.563	-	6.563	12.979	11.261	9.383	5.927	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 decrease in FY 2012 funding of $0.851 million is to fund the Army's higher priority items in FY2012.

The increase in FY 2014 funding of $2.289 million is to fund emerging requirements for Advanced Field Artillery Tactical Data System (AFATDS) Capability Development Document (CDD) for the Increment 2, including the Common Operating Environment (COE) architecture. The program office is expecting to start the Increment 2 development in 4Q FY2014. The decrease in FY 2014 funding of $4.363 million is to fund the Army's higher priority items in FY2014.

A. Mission Description and Budget Item Justification

There are two developmental efforts that are being executed concurrently. They are Advanced Field Artillery Tactical Data System (AFATDS) Increment 1 and Joint Automated Deep Operations Coordination System (JADOCS). In FY14, the program office will initiate the execution of the AFATDS Increment 2 requirements.

AFATDS provides the Army, Navy, and Marine Corps automated fire support command, control and communications and functions as the land component's automated Fire Support Command and Control (FSC2) system. AFATDS is used in the Fires Warfighting Function to plan, execute, and deliver lethal and non-lethal effects within the overall Mission Command and Control (MC2) enterprise. Additionally, the system interoperates and integrates with over 80 different battlefield systems, to include Navy and Air Force command and control weapon systems; and the German, French, Turkish, and Italian fire support systems.

AFATDS fuses the essential situational awareness (SA) data, intelligence information and targeting data, in near real time, in order to effectively manage target selection and target engagement in accordance with the Maneuver Commanders guidance and priorities. Additionally, the system will pair targets to weapons to provide optimum use of fire support assets and timely execution of fire missions. Also, the system automates the planning, coordinating, and controlling of all fire support assets (field artillery, mortars, close air support, naval gunfire, attack helicopters, offensive electronic warfare, fire support meteorological systems, forward observers, and fire support radars). Furthermore, the system will automatically implement detailed commander's guidance in the automation of operational planning, movement control, targeting, target value analysis, and fire support planning. Currently, the system interoperates with the other Army mission command systems, and is being used in operations in Afghanistan. The program office is currently fielding non-developmental, rugged common hardware, running the Windows Operating System. The total force will be fielded a Windows based platform by fiscal year 2013. Currently, AFATDS Version 6.8 and 6.8.X are being developed and expect to

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
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achieve Full Materiel Releases (FMR) in 2Q FY2013 and 2Q FY2015. With the completion of AFATDS Version 6.8.X, the program office will complete the AFATDS Increment 1 requirements and will start the Increment 2 development in 4Q FY2014.

JADOCS is a Joint, Interagency, Intergovernmental and Multinational (JIIM) Targeting, Mission Management, and Common Operational Picture (COP) Windows-based software suite which functions as a complementary system to the Advanced Field Artillery Tactical Data System (AFATDS). JADOCS provides integration and synergy between multiple Command & Control (C2) systems of the uniformed services, and joint and combined elements involved in the targeting process and performs coordination and calculates collateral damage. JADOCS Mission Managers support this coordination amongst Warfighter functional areas to rapidly execute critical missions. JADOCS enables coordination and de-confliction of conventional and asymmetric war-fighting missions. JADOCS is fielded to Air Force, Navy, Marine Corps, and Army units involved in the targeting process at Division, Corps and Echelons Above Corps. JADOCS provides the Combatant Commands with the capability to plan and direct theater counter-fire and precision strike operations through the real time synchronization of US and Coalition assets. The application provides the Warfighter with a combination of tools, services and Mission Managers for rapid "system of systems" integration, visualization, coordination and deconfliction of critical mission information. It not only enhances Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) systems in the areas of strike planning but also in SA, joint and combined interoperability and force transition in war.

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	29.500	32.556	33.014	-	33.014
Current President's Budget	28.649	32.556	30.940	-	30.940
Total Adjustments	-0.851	0.000	-2.074	-	-2.074
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 1	-0.851	-	-	-	-
• Other Adjustments 2	-	-	2.289	-	2.289
• Other Adjustments 3	-	-	-4.363	-	-4.363

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
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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
322: *Adv Field Artillery Tactical Data System(AFA)*	-	17.511	23.961	12.237	-	12.237	5.425	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

Advanced Field Artillery Tactical Data System (AFATDS) Increment 2 project code (DU5) was created in this budget cycle and has been added to the program element 0203726A. Funds were transferred from AFATDS (project code 322).

A. Mission Description and Budget Item Justification

There are two developmental efforts that are being executed concurrently on this budget item. They are Advanced Field Artillery Tactical Data System (AFATDS) and Global Positioning System (GPS) based Precision Guided Munitions (PGMs).

AFATDS provides the Army, Navy, and Marine Corps automated fire support command, control and communications and functions as the land component's automated Fire Support Command and Control (FSC2) system. AFATDS is used in the Fires Warfighting Function to plan, execute, and deliver lethal and non-lethal effects within the overall Mission Command and Control (MC2) enterprise. Additionally, the system interoperates and integrates with over 80 different battlefield systems, to include Navy and Air Force command and control weapon systems; and the German, French, Turkish, and Italian fire support systems.

AFATDS fuses the essential situational awareness (SA) data, intelligence information and targeting data, in near real time, in order to effectively manage target selection and target engagement in accordance with the Maneuver Commanders guidance and priorities. Additionally, the system will pair targets to weapons to provide optimum use of fire support assets and timely execution of fire missions. Also, the system automates the planning, coordinating, and controlling of all fire support assets (field artillery, mortars, close air support, naval gunfire, attack helicopters, offensive electronic warfare, fire support meteorological systems, forward observers, and fire support radars). Furthermore, the system will automatically implement detailed commander's guidance in the automation of operational planning, movement control, targeting, target value analysis, and fire support planning. Currently, the system interoperates with the other Army mission command systems, and is being used in operations in Afghanistan. The program office is currently fielding non-developmental, rugged common hardware, running the Windows Operating System. The total force will be fielded a Windows based platform by fiscal year 2013. Currently, AFATDS Version 6.8 and 6.8.X are being developed and expect to achieve Full Materiel Releases (FMR) in 2Q FY2013 and 2Q FY2015. With the completion of AFATDS Version 6.8.X, the program office will complete the AFATDS Increment 1 requirements and will start the Increment 2 development in 4Q FY2014.

GPS-based PGMs require pre-launch loading of sufficient GPS Satellite related data down at the Weapon Platform level to enable delivery of Precision Capable Fires. This hot start capability allows for rapid post-launch time-to-first-fix of GPS signal and maximum utilization of PGM maneuver authority to ensure required target

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
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engagement performance. This is especially critical for short flight times and steer-early solutions such as Mortar and Cannon based PGMs. Local GPS Satellite visibility challenges due to vertical terrain/complex environment issues during normal combat operations can prohibit Precision Capable Fires when using GPS Satellite data generated exclusively at the Firing Weapon Platform. A system-of-systems Network Assisted GPS capability will be developed, integrated, and validated to overcome local GPS Satellite masking problems through the sharing of sufficient timely required GPS Satellite data via Wide-Area Network (WAN) and Local-Area Network (LAN) based materiel solutions that effectively and efficiently leverage mature Technologies and taxpayer investments of existing acquisition programs.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: Program Support Costs for AFATDS software development	0.905	0.919	0.715
Articles:	0	0	
Description: Provide program support for AFATDS software development efforts for Versions 6.8 and 6.8.X ***FY 2012 Accomplishments:*** Program support for AFATDS Increment 1 software development efforts ***FY 2013 Plans:*** Program support for AFATDS Increment 1 software development efforts ***FY 2014 Plans:*** Program support for AFATDS Increment 1 software development efforts			
Title: AFATDS software development efforts cost	13.956	15.167	5.907
Articles:	0	0	
Description: Development of AFATDS Increment 1 requirements - including Version 6.8 and 6.8.X ***FY 2012 Accomplishments:*** Complete development of AFATDS Version 6.8 and initiate development of AFATDS Version of 6.8.X ***FY 2013 Plans:*** Continue development of AFATDS Version 6.8.X ***FY 2014 Plans:*** Complete development of AFATDS Version 6.8.X			
Title: Network Assisted GPS for Precision Fires	0.000	5.000	3.000
Articles:		0	
Description: Define system architecture and standardize tactical GPS Satellite data exchange solutions. Initiate WAN and LAN based system-of-systems Network Assisted GPS capability for PGMs.			

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
FY 2013 Plans: Initiate development of Network Assisted GPS for Precision Fires. ***FY 2014 Plans:*** Continue development of Network Assisted GPS for Precision Fires.			
Title: Testing	2.650	2.875	2.615
Articles:	0	0	
Description: Conduct and support test activities for AFATDS development of Increment 1 requirements ***FY 2012 Accomplishments:*** Conduct and support test activities for AFATDS Increment 1 software. ***FY 2013 Plans:*** Conduct and support test activities for AFATDS Increment 1 software. ***FY 2014 Plans:*** Conduct and support test activities for AFATDS Increment 1 software.			
Accomplishments/Planned Programs Subtotals	17.511	23.961	12.237

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
• B28600: *ADV FA TAC DATA SYS*	6.119									0.000	6.119
• B28620: *MOD OF IN-SVC EQUIP, AFATDS*	34.556	41.816	17.702		17.702	10.310	10.206			0.000	114.590

Remarks

D. Acquisition Strategy

AFATDS began fielding in FY1996, with the original AFATDS Version 96. It has been updated with subsequent releases reflecting the Spiral development strategy of the program. Currently, AFATDS Version 6.8 and 6.8.X are being developed and expect to achieve Full Materiel Releases (FMR) in 2Q FY2013 and 2Q FY2015, respectively. With the completion of AFATDS Version 6.8.X, AFATDS Increment 1 will have achieved Full Operational Capability (FOC).

E. Performance Metrics

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

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Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management for Increment 1 Support	SS/BA	PM Mission Command (MC):APG, MD	16.274	0.825	Dec 2011	0.829	Dec 2012	0.560	Dec 2013	-		0.560	0.350	18.838	18.838
		Subtotal	16.274	0.825		0.829		0.560		0.000		0.560	0.350	18.838	18.838

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development of AFATDS Increment 1 Requirements	SS/CPAF	Raytheon Systems Corp.:Ft. Wayne, IN	311.020	-		-		-		-		-	0.000	311.020	0.000
Software Development of AFATDS Version 6.8	SS/CPAF	Raytheon Systems Corp.:Ft. Wayne, IN	33.134	5.342	Mar 2012	-		-		-		-	0.000	38.476	310.361
Software Development of AFATDS Version 6.8.X	C/CPFF	Raytheon Systems Corp.:Ft. Wayne, IN	0.000	8.614	May 2012	15.167	Feb 2013	5.907	Apr 2014	-		5.907	2.500	32.188	33.188
Network Assisted GPS for Precision Fires Development	C/Various	PM Joint Battle Command Platform, PM Mission Command, and various Army agencies:Various Locations	0.000	-		5.000	Mar 2013	3.000	Mar 2014	-		3.000	1.000	9.000	0.000
		Subtotal	344.154	13.956		20.167		8.907		0.000		8.907	3.500	390.684	343.549

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Information Assurance and Engineering Support for AFATDS Increment 1 requirements	C/T&M	CSC:Eatontown, NJ	0.340	0.080	Feb 2012	-		-		-		-	0.000	0.420	0.375

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
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Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Information Assurance and Engineering Support for AFATDS Increment 1 requirements	C/CPFF	CSC:Aberdeen, MD	0.000	-		0.090	Nov 2013	0.155	Apr 2014	-		0.155	0.160	0.405	0.405
		Subtotal	0.340	0.080		0.090		0.155		0.000		0.155	0.160	0.825	0.780

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Support for AFATDS Increment 1 requirements	C/T&M	Titan and various contractors:Various Locations	3.418	0.745	Dec 2011	-		-		-		-	0.000	4.163	5.055
Test Support for AFATDS Increment 1 requirements	C/CPFF	Engility and various:Various Locations	0.000	0.730	Sep 2012	1.575	May 2013	1.350	Apr 2014	-		1.350	1.025	4.680	5.030
Limited User Test/ Government Confidence Demo for AFATDS Increment I and II requirements	SS/BA	Army Test & Evaluation Command (ATEC)/Fires Test Directorate (FTD):Various Locations	13.102	1.175	Feb 2012	1.300	Jan 2013	1.265	Jan 2014	-		1.265	0.390	17.232	17.232
		Subtotal	16.520	2.650		2.875		2.615		0.000		2.615	1.415	26.075	27.317

	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	377.288	17.511		23.961		12.237		0.000		12.237	5.425	436.422	390.484

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203726A: *Adv Field Artillery Tactical Data System*	**PROJECT** 322: *Adv Field Artillery Tactical Data System(AFA)*

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203726A: *Adv Field Artillery Tactical Data System*	**PROJECT** 322: *Adv Field Artillery Tactical Data System(AFA)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Materiel Release V6.8	2	2013	2	2013
Fielding V6.8	2	2013	3	2013
Development and Testing V6.8.X	3	2012	2	2015
Materiel Release V6.8.X	2	2015	2	2015
Fielding V6.8.X	2	2015	3	2015
Development /Testing Network Assisted GPS for Precision Fires	1	2013	2	2015
Materiel Release Network Assisted GPS for Precision Fires	2	2015	2	2015
Fielding Network Assisted GPS for Precision Fires	2	2015	3	2015

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203726A: *Adv Field Artillery Tactical Data System*	PROJECT DU5: *AFATDS Increment II*	

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
DU5: *AFATDS Increment II*	-	0.000	0.000	12.140	-	12.140	16.910	21.104	20.853	24.148	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

Advanced Field Artillery Tactical Data System (AFATDS) Increment 2 project code (DU5) was created in this budget cycle and has been added to the program element 0203726A. Funds were transferred from AFATDS (project code 322). Will start AFATDS Increment 2 development in FY2014.

A. Mission Description and Budget Item Justification

AFATDS Increment 2 will continue as the automated C2 system for the Fires War Fighting Function. Increment 2 will permit the management and targetability of the collective and coordinated target acquisition data, effective selection of munitions-target pairing from indirect fire weapons (land and sea based), as well as fixed and rotary wing aircraft against targets located throughout an area of operations. AFATDS Increment 2 will be used to actively plan offensive information operations and exploit electronic attack weapon systems through the use of planning tools for effects and the status and readiness of the systems that can best support the commander's intent. AFATDS Increment 2, through a network of Fires assets, can assist the commander to accomplish these tasks using it at the operational and tactical levels of war from the Soldier, Sailor, and Marine fighting the tactical fight to the operational staff preparing for the future fight. AFATDS Increment 2 will provide the supported maneuver commander the capability to plan, coordinate, rehearse, and execute integrated networked fires. Networked fires will include lethal and non-lethal effects producing weapon platforms and the empowerment of knowing, within seconds, the lethal status and availability of the fires platforms within the commander's area of influence, which include air, sea, and land-based weapon platforms. Net-centricity will enable the Brigade Combat Team (BCT) commander to view targets that adjacent BCTs have encountered or engaged in their area of operations. This capability enables the commander to: exploit under-tasked air support assets, view/task weapons platforms based on coordinated command-supported relationships, and search target data files and repositories. Using the web-based tools, the BCT commander can access higher command centers via search wizards over Warfighter Information Network Tactical (WIN-T) portals and internet gateways to the Global Information Grid (GIG). There is an operational need to provide Fires data to a central database repository within the BCT. That repository will be accessible through network addressing or web-enabled search wizards to locate information relative to a certain maneuver element, within a BCT or adjacent BCTs, thus supporting unified battle command. AFATDS Increment 2 will provide three distinct applications that interface via Local Area Network/Tactical Communications Protocol/Internet Protocol/User Datagram Protocol(LAN/TCP/IP/UDP) addressing with a common core database and core system functions/management that resides on a remote battle command server. The three applications–Fire Support, Fire Control, and Fire Direction–will support role-based functionality and provide a less complicated AFATDS package to the Warfighter.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Program Support Costs for AFATDS software development	0.000	0.000	0.720

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203726A: *Adv Field Artillery Tactical Data System*	**PROJECT** DU5: *AFATDS Increment II*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Description: Provide program support for AFATDS software development efforts for Version 6.9 ***FY 2014 Plans:*** Program support for AFATDS Increment 2 software development efforts			
Title: AFATDS software development efforts cost ***Description:*** Development of AFATDS Increment 2 requirements - Version 6.9 ***FY 2014 Plans:*** Initiate development of AFATDS Version of 6.9	0.000	0.000	10.100
Title: Testing ***Description:*** Conduct and support test activities for AFATDS development of Increment 2 requirements ***FY 2014 Plans:*** Conduct and support test activities for AFATDS development of Version 6.9	0.000	0.000	1.320
Accomplishments/Planned Programs Subtotals	0.000	0.000	12.140

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Increment 2 Procurement funding line has not been identified.

D. Acquisition Strategy

AFATDS began fielding in FY1996, with the original AFATDS Version 96. It has been updated with subsequent releases reflecting the Spiral development strategy of the program. With the completion of AFATDS Version 6.8.X in 2Q FY2015, AFATDS Increment 1 will have achieved Full Operational Capability (FOC).

The Joint Requirements Oversight Council (JROC) issued a memorandum in June 2011 approving the Capability Development Document (CDD) for AFATDS Increment 2. Additionally in the memorandum, the JROC validated the Key Performance Parameters, assigned oversight authority to the Fires Center of Excellences Fire Support Command and Control Tactical Software Governance Board, and set a funding ceiling. These actions support the use of the emerging DoD 5000 systems acquisition approach for Information Technology (IT) (IT Box model). AFATDS Increment 2 development will follow the IT Box Model for systems acquisition. AFATDS Increment 2 will be developed using an incremental approach that will employ fielded and emerging digital platforms, communications systems technology and architecture, and spaced-based systems, to virtually interconnect via web-enabled networks to exploit the capabilities of Fires platforms and precision munitions. Increment 2 will provide a surface-to-surface Joint Fires asset manager building on the existing capabilities and functions of the current fielded AFATDS. It will provide

additional targeting and decision aids, Situational Awareness (SA), Battlefield Visualization, Information Operations (IO) management aids, and control/coordination and synchronization capabilities for all types of Fires assets to include electronic attack. The AFATDS Increment 2, unlike the current increment of AFATDS, will be based on a net-centric application with open modular service oriented architecture and a decentralized processing approach, which will make it effective, flexible, survivable, mobile, user friendly, and simple to maintain. This increment will also be developed to enable the establishment of detached or decentralized work platforms and applications when network services or connections are not available. Using the current AFATDS Increment 1 software and functionality as a basis, AFATDS Increment 2 will provide three distinct software applications – Fire Direction, Fire Control, and Fire Support - that will provide a less complicated AFATDS package to the Warfighter that will simplify training and support ease of use. The fire direction application will provide the battery and platoon FDC's the functionality to perform mission processing and reporting. The fire control application will permit the user to analyze the systems in his command supported relationship and supporting units. The Fire Support application will be used for coordination of fires assets within his area of influence primarily at Fire Support Elements (FSEs) and Fire Support Coordination Cells (FSCCs.). AFATDS Increment 2 capabilities will be developed over three distinct software versions - Versions 6.9, 7.0 and 7.1. It is planned to award AFATDS Version 6.9 via full and open competition. The acquisition strategy for the award of the follow on versions of AFATDS software will be determined after the award of the Version 6.9 software Preliminary Design Review.

AFATDS v6.9 will modernize and re-architect the AFATDS software to align with the requirements of the Inc 2 CDD.

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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203726A: *Adv Field Artillery Tactical Data System*	**PROJECT** DU5: *AFATDS Increment II*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management for Increment 2 Support	SS/BA	PM Mission Command (MC):APG, MD	0.000	-		-		0.565	Oct 2013	-		0.565	Continuing	Continuing	Continuing
		Subtotal	0.000	0.000		0.000		0.565		0.000		0.565			

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development of AFATDS Version 6.9	C/TBD	TBD:TBD	0.000	-		-		10.100	May 2014	-		10.100	Continuing	Continuing	Continuing
		Subtotal	0.000	0.000		0.000		10.100		0.000		10.100			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Information Assurance and Engineering Support for AFATDS Version 6.9	C/TBD	TBD:TBD	0.000	-		-		0.155	May 2014	-		0.155	Continuing	Continuing	Continuing
		Subtotal	0.000	0.000		0.000		0.155		0.000		0.155			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Support for AFATDS Version 6.9	C/TBD	TBD:TBD	0.000	-		-		0.875	May 2014	-		0.875	Continuing	Continuing	Continuing
Limited User Test/ Government Confidence	SS/BA	Army Test & Evaluation Command	0.000	-		-		0.445	May 2014	-		0.445	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203726A: *Adv Field Artillery Tactical Data System*	**PROJECT** DU5: *AFATDS Increment II*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Demo for AFATDS Version 6.9		(ATEC)/Fires Test Directorate (FTD):Various Locations													
		Subtotal	0.000	0.000		0.000		1.320		0.000		1.320			

	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		12.140		0.000		12.140			

Remarks

Exhibit R-4, **RDT&E Schedule Profile:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203726A: *Adv Field Artillery Tactical Data System*	**PROJECT** DU5: *AFATDS Increment II*

Exhibit R-4A, **RDT&E Schedule Details:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203726A: *Adv Field Artillery Tactical Data System*	**PROJECT** DU5: *AFATDS Increment II*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Materiel Development Decision (MDD)	3	2013	3	2013
Build Decision (Milestone)	4	2014	4	2014
Implementation & Deployment for V.6.9	4	2014	1	2018
Fielding V.6.9	2	2018	2	2018

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203726A: *Adv Field Artillery Tactical Data System*	PROJECT F19: *JADOCS*	

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
F19: *JADOCS*	-	11.138	8.595	6.563	-	6.563	12.979	11.261	9.383	5.927	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

JADOCS software provides joint and organic fire support management, and Common Operational Picture (COP) capabilities. JADOCS complies with DoD and previously identified JFCOM guidance, and complements the Mission Command architecture with joint and collaborative capabilities that can be employed and tailored based on unit mission and operational situation. JADOCS software supports integration between multiple Joint Command and Control (C2) systems of the uniformed Services involved in the targeting process at United States Air Force (USAF) Air Operations Centers (AOCs), United States Navy (USN) Fleet Maritime Operations Centers (MOCs), United States Marine Corps (USMC) Combat Operations Centers (COCs), staff sections at the regional Combatant Commands (CCMDs), United States Special Operations Command (USSOCOM) and Army Battlefield Coordination Detachments (BCDs) and Army Service Component Command (ASCC) at Division and higher.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: JADOCS Software Development Efforts costs.	10.037	6.810	5.148
Articles:	0	0	
Description: Complete development version 1.0.5.2 (Phase 1 and 2), Initiate development of version 1.0.5.3 (COE version 2). ***FY 2012 Accomplishments:*** Supported operational requirements (maintenance of existing capabilities). ***FY 2013 Plans:*** Complete support of operational requirements (maintenance of existing capability) and fielding of version 1.0.5.2 (Phase 1) and complete support of operational requirements (maintenance of existing capability) and fielding of version 1.0.5.2 (Phase 2). ***FY 2014 Plans:*** Modernize the JADOCS software and develop JADOCS widgets.			
Title: Program Support Costs for JADOCS Software Development Efforts	0.060	0.065	1.140
Articles:	0	0	
Description: Program support for JADOCS software development efforts for version 1.0.5.2 (Phase 1 and 2), and version 1.0.5.3 Common Operating Environment (COE) version 2.			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203726A: *Adv Field Artillery Tactical Data System*	**PROJECT** F19: *JADOCS*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
FY 2012 Accomplishments: Supported program costs for JADOCS software development efforts. ***FY 2013 Plans:*** Continues the program support for JADOCS software development efforts. ***FY 2014 Plans:*** Future program support for JADOCS software development.			
Title: Testing	0.110	0.420	0.275
Articles:	0	0	
Description: Conduct and Support Army and Joint Testing Activities. ***FY 2012 Accomplishments:*** Conducted and supported Army and Joint testing activities. ***FY 2013 Plans:*** Continued support of Army and Joint testing activities. ***FY 2014 Plans:*** Future support of Army and Joint testing activities.			
Title: Contractor Management Services and Support.	0.931	1.300	0.000
Articles:	0	0	
Description: Funds the System Engineering and Technical Assistance received by Liason Officers and JADOCS training managers. ***FY 2012 Accomplishments:*** Funded program support for JADOCS training activities. ***FY 2013 Plans:*** Continues program support for JADOCS training activities.			
Accomplishments/Planned Programs Subtotals	11.138	8.595	6.563

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203726A: *Adv Field Artillery Tactical Data System*	**PROJECT** F19: *JADOCS*

C. Other Program Funding Summary ($ in Millions)

Remarks

D. Acquisition Strategy

JADOCS began as a Defense Advanced Research Projects Agency technology demonstration, and has evolved through a series of Army-led Joint Advanced Concept Technology Demonstrations (ACTDs), culminating in a joint and combined deployed operational capability. The Vice Chief of Staff of the Army approved JADOCS for acquisition program status under the Capabilities Development for Rapid Transition (CDRT) process. The approved JADOCS Capability Production Document (CPD) dated 16 April 2012, documents the current JADOCS threshold capabilities that are in the field today. As the lead agency for managing JADOCS capabilities within the Department of Defense, the Fires Center of Excellence, tailored the JADOCS CPD to incorporate Field Artillery tasks not included in the currently fielded version (v 1.0.5.1) of the software. JADOCS retirement will occur when system capabilities are individually or collectively incorporated into Army, Service, or Joint programs or are no longer needed as determined by its multi-Service users. JADOCS Increment 1 will be managed as an Information Technology (IT) program under the IT Box Construct with periodic software updates. JADOCS Increment 1 will support any software refinements / modifications to enable enhancements identified by the Warfighter. Future increments of JADOCS will address operational lessons learned, changes in the Joint Operation Centers (JOCs) and the Joint Information Center (JIC), integrated architectures and optimizing the use of the Global Information Grid (GIG) with web based applications.

The JADOCS program strategy is to capture and sustain JADOCS capabilities IAW the approved JADOCS CPD dated 16 April 2012. All JADOCS Targeting and Fires capabilities required by the US Army and US Marine Corps, not already in AFATDS, will be captured in the AFATDS Increment 1 product, along with any appropriate interoperability, architecture modernization and web application modernizations that may be needed. All other capabilities will be captured in other Army, Service or Joint programs or otherwise sustained, updated, and enhanced as specified by the Warfighter in future increments of JADOCS (until no longer needed as determined by its multi-Service users). An objective of the Increment 1 effort will be to modernize the JADOCS software and develop JADOCS widgets and provide inter- widget communications in accordance with TCM Fires Cells requirements and the requirements of COE. These widgets will support the Warfighting Function (WFF) for the sharing of data and collaboration between unit Commanders and their Staff sections.

A draft JADOCS Acquisition Decision Memorandum (ADM) has been prepared and is currently under review by the HQDA staff. This ADM will be presented to the Army Acquisition Executive (AAE) for review and signature. It is expected that the AAE will sign the ADM in April 2013. Under the provisions of the ADM, JADOCS will be established as a formal Army Acquisition Program with milestone decision authority (MDA) delegated to the Program Executive Office, Command, Control and Communications-Tactical (PEO C3T) and entry into the acquisition life cycle at Milestone C. It is projected that the Milestone C Decision Review will be held in 2QFY14.

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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203726A: *Adv Field Artillery Tactical Data System*	**PROJECT** F19: *JADOCS*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Business/Technical Services	Various	Chenega Federal Systems:Various	2.323	0.931	Jan 2012	1.300	Jan 2012	-		-		-	Continuing	Continuing	Continuing
		Subtotal	2.323	0.931		1.300		0.000		0.000		0.000			

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development & Test	C/CPFF	Oberon Associates INC.:Manassas, Virginia	2.995	10.037	Jul 2012	6.810	Mar 2013	-		-		-	Continuing	Continuing	Continuing
Software Development & Test	C/CPFF	TBD:TBD	0.000	-		-		5.148	Mar 2014	-		5.148	0.000	5.148	0.000
		Subtotal	2.995	10.037		6.810		5.148		0.000		5.148			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management - Government	Various	PM Mission Command (MC):APG, MD	0.695	0.060		0.065	Jan 2013	1.140	Jan 2014	-		1.140	Continuing	Continuing	Continuing
		Subtotal	0.695	0.060		0.065		1.140		0.000		1.140			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Army and Joint Test Support	Various	Joint Service Testing:Various	2.587	0.110	Jun 2012	0.420	Dec 2012	0.275	Dec 2013	-		0.275	Continuing	Continuing	Continuing
		Subtotal	2.587	0.110		0.420		0.275		0.000		0.275			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203726A: *Adv Field Artillery Tactical Data System*	**PROJECT** F19: *JADOCS*

	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	8.600	11.138		8.595		6.563		0.000		6.563			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203726A: *Adv Field Artillery Tactical Data System*	**PROJECT** F19: *JADOCS*

Exhibit R-4A, **RDT&E Schedule Details:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203726A: *Adv Field Artillery Tactical Data System*	**PROJECT** F19: *JADOCS*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Acquisition Decision Memorandum (ADM) signed by Army Acquisition Executive	3	2013	3	2013
Software Development and Testing - V1.0.5.2 (CS 11-12)	4	2012	2	2014
MIDB Tech Testing - V1.0.5.2 (CS 11-12)	4	2012	4	2012
Government Confidence Demonstration (GCD) V1.0.5.2 (CS 11-12)	1	2013	1	2013
Final Integration Test - V1.0.5.2 (CS 11-12)	3	2013	4	2013
Army Interoperability Certification - V1.0.5.2 (CS 11-12)	1	2014	1	2014
Materiel Release - V1.0.5.2, (CS 11-12)	2	2014	2	2014
Fielding - V1.0.5.2, (CS 11-12)	2	2014	3	2014
Milestone C	2	2014	2	2014
Draft for Comment RFP - JADOCS Maintenance and Widgets.	3	2014	3	2014
Software Development and Testing - JADOCS Maintenance and Widgets.	3	2015	1	2018
Materiel Release - JADOCS Maintenance and Widgets.	1	2018	1	2018
Fielding - JADOCS Maintenance and Widgets.	2	2018	2	2018

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203735A: *Combat Vehicle Improvement Programs*

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	-	35.046	253.959	177.532	-	177.532	219.937	169.927	130.581	34.115	Continuing	Continuing
330: *Abrams Tank Improve Prog*	-	9.347	97.278	101.319	-	101.319	135.228	110.917	90.042	34.115	Continuing	Continuing
371: *Bradley Improve Prog*	-	11.858	82.586	76.213	-	76.213	84.709	59.010	40.539	0.000	Continuing	Continuing
DS5: *Armored Multi Purpose Vehicle*	-	13.841	74.095	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 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 project element is 0605028A, Project EB5, Armored Multi Purpose Vehicle (AMPV).

A. Mission Description and Budget Item Justification

The Army has approved engineering change proposals for the Abrams and Bradley programs to restore lost platform capability and host inbound technologies.

This Program Element (PE) corrects vehicle deficiencies identified in Army operations; continues technical system upgrades to include the integration of applicable technologies on ground systems; addresses needed evolutionary enhancements to tracked combat vehicles; and develops technology improvements which have application to or insertion opportunities across multiple Ground Combat Systems vehicles. This PE provides combat effectiveness and Operating and Support (O&S) cost reduction enhancements for the Abrams tanks and Bradley Fighting Vehicles through a series of product improvements.

The strategy for Abrams and Bradley will focus on incrementally delivering capability to the warfighter to meet both near-term limitations as well as mitigating gaps and maintaining combat overmatch in the future. This effort was approved by the Army Acquisition Executive in 3Q FY 2011.

The Abrams M1A2 SEP V2 and M2/M3A3 Bradley Fighting Vehicles are at or exceeds Space, Weight, and Power-Cooling (SWaP-C) limitations. In order to host and restore lost platform capability, the Abrams Tank and Bradley Fighting Vehicle programs will execute a series of Engineering Change Proposals (ECPs) to support the current embedded systems and to facilitate integration of technologies currently in development under other existing Programs of Record. The ECPs are not intended to exceed the operational capability outlined in current system requirements documents, but rather to ensure that the existing system performance is not further degraded and that Army mission equipment packages can be integrated on the Abrams and Bradley Platforms.

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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203735A: *Combat Vehicle Improvement Programs*

The Armored Multi Purpose Vehicle Program is submitted under Program Element 0605028A, Project EB5 for the FY 2014 President's Budget.

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	36.150	253.959	293.007	-	293.007
Current President's Budget	35.046	253.959	177.532	-	177.532
Total Adjustments	-1.104	0.000	-115.475	-	-115.475
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 1	-1.104	-	0.823	-	0.823
• Other Adjustments 2	-	-	-116.298	-	-116.298

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203735A: *Combat Vehicle Improvement Programs*	PROJECT 330: *Abrams Tank Improve Prog*	

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
330: *Abrams Tank Improve Prog*	-	9.347	97.278	101.319	-	101.319	135.228	110.917	90.042	34.115	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

The Army has approved engineering change proposals for the Abrams program to restore lost platform capability and host inbound technologies.The strategy for Abrams will focus on incrementally delivering capability to the warfighter to meet both near-term limitations as well as mitigating gaps and maintaining combat overmatch in the future. This effort was approved by the Army Acquisition Executive in 3Q FY 2011.

The Abrams M1A2 SEP V2 vehicle is at or exceeds Space, Weight, and Power-Cooling (SWaP-C) limitations. In order to host and restore lost platform capability, the Abrams Tank will execute a series of Engineering Change Proposals (ECPs) to support the current embedded systems and to facilitate integration of technologies currently in development under other existing Programs of Record. The ECPs are not intended to exceed the operational capability outlined in current system requirements documents, but rather to ensure that the existing system performance is not further degraded and that Army mission equipment packages can be integrated on the Abrams Platform.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: Abrams Engineering Change Proposal (ECP) 1	0.818	79.355	83.900
Articles:	0	0	

Description: The M1A2 SEPv2 improvements implemented through the Abrams ECP 1 Program will restore lost power generation and distribution while incorporating inbound technologies currently under development under other existing Programs.

FY 2012 Accomplishments:
Design and integration of ECP 1 technologies

FY 2013 Plans:
The largest portion of sub-system integration will be executed in FY 2013 with the confirmation of the preliminary design at the Preliminary Design Review. This will quickly be followed by the Critical Design Review in 2Q FY 2014, finalizing the system baseline.

FY 2014 Plans:
The Critical Design Review will occur in 2QFY2014. This will finalize the system baseline and initiate technology integration of Joint Tactical Radio System Handheld Manpack Small (JTRS-HMS) and Joint Battle Command-Platform (JBC-P) to enable

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203735A: *Combat Vehicle Improvement Programs*	**PROJECT** 330: *Abrams Tank Improve Prog*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
network compatibility, Power Generation/Distribution (battery monitoring system, increased amperage alternator, slip ring), auxiliary power unit, ammunition data link, armor protection upgrade, Counter RCIED Electronics Warfare System (CREW) Duke V3, and Line replacement modules as well as the start of nine (9) prototype builds.			
Title: Program Management Office (PMO) Support	7.555	15.934	15.467
Articles:	0	0	
Description: Program Management Office Support includes Systems Engineering and Government and Contractor salaries, travel and other support costs required to effectively manage the program. ***FY 2012 Accomplishments:*** System Engineering and Program Management Office Support to effectively manage the program. ***FY 2013 Plans:*** Systems Engineering and Program Management Office Support to effectively manage the program. ***FY 2014 Plans:*** Systems Engineering and Program Management Office Support to effectively manage the program.			
Title: Test & Evaluation	0.974	1.989	1.952
Articles:	0	0	
Description: Test and Evaluation ***FY 2012 Accomplishments:*** Test & Evaluation efforts to support system level test events and planning and development of test documentation ***FY 2013 Plans:*** Test & Evaluation efforts to support system level test events and planning and development of test documentation ***FY 2014 Plans:*** Test & Evaluation efforts to support system level test events and planning and development of test documentation			
Accomplishments/Planned Programs Subtotals	9.347	97.278	101.319

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203735A: *Combat Vehicle Improvement Programs*	**PROJECT** 330: *Abrams Tank Improve Prog*

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
• Abrams Upgrade Program: *Abrams Upgrade Program (GA0750) WTCV*	436.329	74.433								0.000	510.762
• M1 Abrams Tank Mod (GA0700): *Abrams Vehicle Modification (GA0700) WTCV*	131.098	129.090	178.100		178.100	180.000	202.000	215.000	460.000	1,993.900	3,489.188
• Spares (Initial) Abrams Upgrade: *Spares (Initial) Abrams Upgrade (GE0161) WTCV*	7.219									0.000	7.219

Remarks

D. Acquisition Strategy

Abrams Engineering Change Proposal (ECP) 1: Research & Development Contract - Sole Source, Cost Plus Incentive Fee (CPIF)
Production Contract - Sole Source, Firm Fixed Price

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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203735A: *Combat Vehicle Improvement Programs*	**PROJECT** 330: *Abrams Tank Improve Prog*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Abrams Engineering Change Proposal (ECP) 1	SS/CPIF	General Dynamics Land Systems:Sterling Heights, MI	89.875	0.818	Sep 2012	79.355	Jan 2013	83.900	Jan 2014	-		83.900	0.000	253.948	0.000
		Subtotal	89.875	0.818		79.355		83.900		0.000		83.900	0.000	253.948	0.000

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Office (PMO)Support	SS/LH	Various:Various	22.638	7.555	Dec 2011	15.934	Dec 2012	15.467	Dec 2013	-		15.467	Continuing	Continuing	Continuing
		Subtotal	22.638	7.555		15.934		15.467		0.000		15.467			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Advance Technology Preparation and Testing	Various	Aberdeen Proving Ground; Yuma Proving Ground; White Sands Missile Range,:Various	8.226	0.974	Feb 2012	1.989	Jan 2013	1.952	Feb 2014	-		1.952	Continuing	Continuing	Continuing
		Subtotal	8.226	0.974		1.989		1.952		0.000		1.952			

	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	120.739	9.347		97.278		101.319		0.000		101.319			

Remarks

Exhibit R-4, **RDT&E Schedule Profile:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203735A: *Combat Vehicle Improvement Programs*	**PROJECT** 330: *Abrams Tank Improve Prog*

Exhibit R-4A, **RDT&E Schedule Details:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203735A: *Combat Vehicle Improvement Programs*	**PROJECT** 330: *Abrams Tank Improve Prog*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Development Contract Award	4	2012	4	2012
Engineering & Manufacturing Development	4	2012	3	2018
Preliminary Design Review (PDR)	4	2013	4	2013
Critical Design Review (CDR)	2	2014	2	2014
Production Contract Award	3	2018	3	2018

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203735A: *Combat Vehicle Improvement Programs*	PROJECT 371: *Bradley Improve Prog*	

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
371: *Bradley Improve Prog*	-	11.858	82.586	76.213	-	76.213	84.709	59.010	40.539	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 M2/M3A3 Bradley Fighting Vehicle is at or exceeds Space, Weight, and Power-Cooling (SWAP-C) limitations. To restore lost platform capability and to host other Army Existing Programs of Record, the Bradley Fighting Vehicle program shall execute a series of Engineering Change Proposals (ECPs). ECP 1 improves vehicle's track and suspension while ECP 2 improves the power train and electrical system to enable the A3 fleet to host inbound technologies from Army Program of Records, including Joint Tactical Radio System (JTRS) and Force XXI Battle Command- Brigade and Below (FBCB2). The ECPs are not intended to exceed the operational capability outlined in current system requirement documents, but rather to ensure that the existing system performance is not further degraded and that Army mission equipment packages can be integrated on the Bradley platform.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: Bradley ECP Program	3.821	72.586	63.623
Articles:	0	0	
Description: The Bradley Fighting Vehicle System (BFVS) improvements implemented through the Engineering Change Proposal (ECP) Program will focus on restoring lost platform capability to support Army inbound technologies and to facilitate integration of technologies currently in development under other existing Programs of Record. ***FY 2012 Accomplishments:*** Award major contracts to begin design and integration of subsystems focusing on restoring space, weight and power limitations. ***FY 2013 Plans:*** Bradley Modernization - The Bradley Fighting Vehicle System (BFVS) improvements implemented through the Engineering Change Proposal (ECP) Program will focus on restoring lost platform capability to support Army inbound technologies and to facilitate integration of technologies currently in development under other existing Programs of Record. ***FY 2014 Plans:*** Continue design and integration of subsystems with the Preliminary Design Review. Qualification of subsystems leading towards Critical Design Review in 3rd Qtr FY 2014.			
Title: Support Costs	7.237	10.000	7.518
Articles:	0	0	

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Description: Government System Engineering and Program Management Support Costs. These funds cover the costs of Government salaries, travel and the facilities required to effectively manage the program. ***FY 2012 Accomplishments:*** Government System Engineering and Program Management Support costs. These funds cover the costs of government salaries, travel and the facilities required to effectively manage the program. ***FY 2013 Plans:*** Support Costs - Government System Engineering and Program Management Support Costs. These funds cover the costs of Government salaries, travel and the facilities required to effectively manage the program. ***FY 2014 Plans:*** Government System Engineering and Program Management Support Costs. These funds cover the costs of Government salaries, travel and the facilities required to effectively manage the program.			
Title: Test & Evaluation	0.800	0.000	5.072
Articles:	0		
Description: Test & Evaluations efforts support sub-system test events and planning and development of test documentation. ***FY 2012 Accomplishments:*** Test & Evaluations efforts support system sub-system test events and planning and development of test documentation. ***FY 2014 Plans:*** Test & Evaluations efforts support system sub-system test events and planning and development of test documentation.			
Accomplishments/Planned Programs Subtotals	11.858	82.586	76.213

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
• GZ2400: *Bradley Program (MOD)*	250.710	148.193	158.000		158.000	158.000	209.000	478.505	857.546	2,109.000	4,368.954

Remarks

D. Acquisition Strategy

Product Manager Bradley will execute an Engineering Change Proposal (ECP) reestablishing Space, Weight, Power and Cooling (SWAP-C) to facilitate integration of technologies being developed under existing Programs of Record (POR). The proposed ECP will restore lost capability, not to exceed operational envelopes outlined

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203735A: *Combat Vehicle Improvement Programs*	**PROJECT** 371: *Bradley Improve Prog*

in current approved requirement documents. The ECP is scheduled to field in FY 2018 to address powerpack and electrical power upgrades, which will enable the vehicle to host Army directed inbound technologies with no further performance degradation to the vehicle. This ECP will be executed on a sole source cost plus incentive fee contract to the current platform Original Equipment Manufacturer.

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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203735A: *Combat Vehicle Improvement Programs*	**PROJECT** 371: *Bradley Improve Prog*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Bradley Modernization Program	TBD	PMO:Warren, MI	79.009	-		-		-		-		-	0.000	79.009	0.000
Non Recurring Engineering	SS/CPFF	L3COM:Muskegon, MI	0.000	-		2.202	Aug 2013	6.237	Mar 2014	-		6.237	5.086	13.525	Continuing
Non Recurring Engineering	SS/CPIF	BAE:Sterling Heights, MI	0.000	3.821	Sep 2012	70.384	May 2013	57.386	Mar 2014	-		57.386	145.447	277.038	0.000
		Subtotal	79.009	3.821		72.586		63.623		0.000		63.623	150.533	369.572	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMO	MIPR	PMO:Bradley ECP Program	3.500	3.061	Dec 2011	4.000	Dec 2012	2.600	Dec 2013	-		2.600	10.400	23.561	Continuing
Government Engineering Support	MIPR	Various:Bradley ECP Program	11.043	4.176	Dec 2011	6.000	Dec 2012	4.918	Dec 2013	-		4.918	13.090	39.227	Continuing
		Subtotal	14.543	7.237		10.000		7.518		0.000		7.518	23.490	62.788	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Component Qualification	MIPR	Various:Test Sites	0.000	0.800		-		5.072		-		5.072	41.340	47.212	0.000
		Subtotal	0.000	0.800		0.000		5.072		0.000		5.072	41.340	47.212	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	93.552	11.858		82.586		76.213		0.000		76.213	215.363	479.572	

Remarks

Exhibit R-4, **RDT&E Schedule Profile:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203735A: *Combat Vehicle Improvement Programs*	**PROJECT** 371: *Bradley Improve Prog*

Exhibit R-4A, **RDT&E Schedule Details:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203735A: *Combat Vehicle Improvement Programs*	**PROJECT** 371: *Bradley Improve Prog*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
System Requirements Review	2	2013	2	2013
Preliminary Design Review	4	2013	4	2013
Critical Design Review	3	2014	3	2014
Component Qualification Testing	3	2014	2	2015
Contractor Vehicle Testing	2	2015	2	2016
Government Vehicle Testing	2	2016	2	2018

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203735A: *Combat Vehicle Improvement Programs*	PROJECT DS5: *Armored Multi Purpose Vehicle*	

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
DS5: *Armored Multi Purpose Vehicle*	-	13.841	74.095	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 new program element is 0605028A, Project EB5, Armored Multi Purpose Vehicle (AMPV). The previous program element was 0203735A, Project DS5, Combat Vehicle Improvement Program.

A. Mission Description and Budget Item Justification

The Armored Multi Purpose Vehicle Program is submitted under Program Element 0605028A, Project EB5 for the FY2014 President's Budget.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: Armored Multi-Purpose Vehicle	13.841	74.095	0.000
Articles:	0	0	

Description: The Armored Multi-Purpose Vehicle (AMPV) is a materiel solution to support the Heavy Brigade Combat Team (HBCT) 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 Packages (MEP) to a modified existing vehicle platform.

FY 2012 Accomplishments:

The Training and Doctrine Command Analysis Center completed the AMPV Analysis of Alternatives (AoA) and determined a tracked vehicle was the best solution. In preparation for a competitive acquisition a performance specification was developed for incorporation into the Request for Proposal (RFP). PM AMPV also held an Industry Day and Defense Acquisition University (DAU) workshop to support a competitive acquisition approach. Government furnished material is being prepped by Red River Army Depot (RRAD) and Anniston Army Depot (ANAD) and a Bradley chassis Technical Data Package (TDP) is being validated to make available to potential contractors during proposal development. FY 2012 also included preparation of Milestone Documents in anticipation of an FY12 Defense Acquision Board (DAB) Integrated Process Review (IPR), and an Integrated Support Plan to support staffing of the Capabilities Development Document. Test support activities were funded in support of the Test and Evaluation Master Plan preparation (TEMP).

FY 2013 Plans:

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203735A: *Combat Vehicle Improvement Programs*	**PROJECT** DS5: *Armored Multi Purpose Vehicle*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
In FY 2013 funding will be used for continued support of Milestone Documentation preparation, configuration/data management efforts for performance specification updates, RFP development and staffing, test support activities for development, coordination and staffing of the TEMP and Government Furnished Material (GFM) preparation. Request for Proposal will be released and a Source Selection Evaluation Board will be stood up for contractor proposal evaluation.			
Accomplishments/Planned Programs Subtotals	13.841	74.095	0.000

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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203735A: *Combat Vehicle Improvement Programs*	**PROJECT** DS5: *Armored Multi Purpose Vehicle*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AMPV Development	MIPR	Other Government Agencies:Various locations	0.000	8.263	Sep 2012	57.101	Dec 2012	-		-		-	0.000	65.364	0.000
		Subtotal	0.000	8.263		57.101		0.000		0.000		0.000	0.000	65.364	0.000

Remarks

Armored Multi Purpose Vehicle Tech data and system level product development costs.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AMPV Documentation	C/FFP	Camber:Michigan	0.000	1.000	May 2012	1.016	Jan 2013	-		-		-	0.000	2.016	0.000
Program Management Office (PMO)	MIPR	PMO:Warren, MI	0.000	1.790	Feb 2012	2.973	Dec 2012	-		-		-	0.000	4.763	0.000
Other Program Support	MIPR	OGAs:Various locations	0.000	2.788	Feb 2012	13.005	Feb 2013	-		-		-	0.000	15.793	0.000
		Subtotal	0.000	5.578		16.994		0.000		0.000		0.000	0.000	22.572	0.000

Remarks

AMPV 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	13.841		74.095		0.000		0.000		0.000	0.000	87.936	0.000

Remarks

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203740A: *Maneuver Control System*

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	-	39.282	68.325	36.495	-	36.495	44.760	10.062	10.082	10.589	Continuing	Continuing
484: *MANEUVER CONTROL SYSTEM (MCS)*	-	39.282	68.325	36.495	-	36.495	44.760	10.062	10.082	10.589	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

Base Year FY14 Reduction is in Mission Command Convergence Development and Integration ($30.198 Million) and CPOF Development ($0.176 Million).

A. Mission Description and Budget Item Justification

Tactical Mission Command (TMC) is a suite of products and services that provide commanders and their staff executive decision making capability in a collaborative environment, planning tools, and Common Operational Picture (COP) management and other maneuver functional tools. TMC satisfies requirements and capabilities identified in the Maneuver Control System (MCS) Good Enough Operational Requirements Document (ORD) and MCS 6.4 Capability Production Document (CPD) which includes Army migration to Department of Defense (DoD) net-centric environment. The overarching capability includes a user-defined COP with integrated Command and Control (C2) and Situational Awareness (SA), map-centric collaboration, Army Battle Command System (ABCS) and other enabling system interoperability, data management, and enterprise services. The suite of products include Command Post of the Future (CPOF), Command Web, Battle Command Common Services (BCCS), and Command Post Client (CPC), that provides the consolidate server and services infrastructure for systems supporting Army Battle Command from Battalion to Army Component Command, Battalion and Above Joint Convergence with the Marine Corps, and Tactical Web Portal for Knowledge management. TMC products and services are compliant with the joint technical architecture. In addition, this project funds the development of a collaborative Mission Command (MC) environment for ABCS to operate more efficiently and effectively. The MC environment will serve as a common foundation for functionality development and support by converging onto a common architecture and infrastructure. MC Convergence/ Common Operating Environment (COE) development and integration will significantly enhance the ability of commanders and staff to effectively conduct collaborative mission planning and execution across a range of operations and spectrum of conflict.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203740A: *Maneuver Control System*

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	42.347	68.325	66.869	-	66.869
Current President's Budget	39.282	68.325	36.495	-	36.495
Total Adjustments	-3.065	0.000	-30.374	-	-30.374
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-1.859	-			
• SBIR/STTR Transfer	-1.206	-			
• Adjustments to Budget Years	-	-	-30.198	-	-30.198
• Other Adjustments 1	-	-	-0.176	-	-0.176

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203740A: *Maneuver Control System*	PROJECT 484: *MANEUVER CONTROL SYSTEM (MCS)*	

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
484: *MANEUVER CONTROL SYSTEM (MCS)*	-	39.282	68.325	36.495	-	36.495	44.760	10.062	10.082	10.589	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

Tactical Mission Command (TMC) is a suite of products and services that provide commanders and their staff executive decision making capability in a collaborative environment, planning tools, and Common Operational Picture (COP) management and other maneuver functional tools. TMC satisfies requirements and capabilities identified in the Maneuver Control System (MCS) Good Enough Operational Requirements Document (ORD) and MCS 6.4 Capability Production Document (CPD) which includes Army migration to Department of Defense (DoD) net-centric environment. The overarching capability includes a user-defined COP with integrated Command and Control (C2) and Situational Awareness (SA), map-centric collaboration, Army Battle Command System (ABCS) and other enabling system interoperability, data management, and enterprise services. The suite of products include Command Post of the Future (CPOF), Command Web, Battle Command Common Services (BCCS), and Command Post Client (CPC), that provides server consolidation and services infrastructure for systems supporting Army Battle Command from Battalion to Army Component Command, Battalion and Above Joint Convergence with the Marine Corps, and Tactical Web Portal for Knowledge management. TMC products and services are compliant with the joint technical architecture. In addition, this project funds the development of a collaborative Mission Command (MC) environment for ABCS to operate more efficiently and effectively. The MC environment will serve as a common foundation for functionality development and support by converging onto a common architecture and infrastructure. MC Convergence/ Common Operating Environment (COE) development and integration will significantly enhance the ability of commanders and staff to effectively conduct collaborative mission planning and execution across a range of operations and spectrum of conflict.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: Joint Convergence Engineering and Development	1.225	3.942	0.000
Articles:	0	0	
Description: Joint Convergence Engineering and Development ***FY 2012 Accomplishments:*** Joint Convergence Engineering and Development ***FY 2013 Plans:*** Joint Convergence Engineering and Development			
Title: CPOF Development	14.699	21.409	20.397

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203740A: *Maneuver Control System*	**PROJECT** 484: *MANEUVER CONTROL SYSTEM (MCS)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Articles:	0	0	
Description: CPOF Development ***FY 2012 Accomplishments:*** CPOF Development ***FY 2013 Plans:*** CPOF Development ***FY 2014 Plans:*** CPOF Development			
Title: Mission Command Convergence	15.020	35.055	7.814
Articles:	0	0	
Description: Mission Command Convergence Development and Integration ***FY 2012 Accomplishments:*** Mission Command Convergence Development and Integration ***FY 2013 Plans:*** Mission Command Convergence Development and Integration ***FY 2014 Plans:*** Mission Command Convergence Development and Integration			
Title: Battle Command Common Services Development	8.338	7.919	7.275
Articles:	0	0	
Description: Battle Command Common Services Development ***FY 2012 Accomplishments:*** Battle Command Common Services Development ***FY 2013 Plans:*** Battle Command Common Services Development ***FY 2014 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203740A: *Maneuver Control System*	**PROJECT** 484: *MANEUVER CONTROL SYSTEM (MCS)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Battle Command Common Services Development			
Title: Command Web Development ***Description:*** Command Web Development ***FY 2014 Plans:*** Command Web Development	0.000	0.000	1.009
Accomplishments/Planned Programs Subtotals	39.282	68.325	36.495

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
• Funding: *BA9320 Maneuver Control System (MCS)*	78.031	71.020	59.171		59.171	154.444	176.805	175.013	67.086	Continuing	Continuing
• SPARES: *BS9710 MCS Spares Procurement*	1.633	1.671	0.655		0.655	0.637	0.631	0.604	4.950	Continuing	Continuing

Remarks

D. Acquisition Strategy

In accordance with the Training and Doctrine Command (TRADOC) requirements document approved in 2008, entitled Mission Command Essential Capability, software capability will be developed in 2-year increments as capability sets designed to Collaborate, Collapse and Converge Mission Command products. The product development funded under this R-Form is an integral part of the ABCS, a system of systems, under a strategy designed to optimize opportunity for improved interoperability among the systems, to capture the benefits of competition where possible and to ensure the rapid integration of new capability into warfighter systems. This strategy is designed to increase operational efficiency, reduce the physical footprint, and logistics support requirements.
Mission Command Convergence/ Common Operating Environment (COE) development and integration provides for a single, common solution with open architecture that produces a collaborative Mission Command environment for Maneuver, Fires and Air supported by Intel and Logistics.

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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203740A: *Maneuver Control System*	**PROJECT** 484: *MANEUVER CONTROL SYSTEM (MCS)*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Office Mgmt	Various	PM Mission Command:Aberdeen Proving Grounds, MD	10.016	1.854	Jan 2012	1.888	Jan 2013	1.922	Jan 2014	-		1.922	Continuing	Continuing	Continuing
		Subtotal	10.016	1.854		1.888		1.922		0.000		1.922			

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Misc Contracts	Various	Various:Various	24.008	0.923	Dec 2011	-		-		-		-	Continuing	Continuing	Continuing
ABCS SoS Contract (Joint Convergence Development)	Various	Lockheed Martin:Tinton Falls, NJ	2.262	1.225	Jul 2012	2.917	Jul 2013	-		-		-	Continuing	Continuing	Continuing
Technical Support	Various	PM Mission Command/ SEC:Various	24.476	1.535	Nov 2011	0.309	Nov 2012	0.931	Nov 2013	-		0.931	Continuing	Continuing	Continuing
CPOF Development	Various	General Dynamics:Scottsdale, AZ	83.455	14.113	Feb 2012	20.428	Feb 2013	20.397	Feb 2014	-		20.397	Continuing	Continuing	Continuing
ABCS SoS Contract (Joint Convergence Development) Follow-on	C/TBD	TBD:TBD	0.000	-		1.025	Jul 2013	-		-		-	Continuing	Continuing	0.000
Command Web Development	C/TBD	TBD:APG, MD	0.000	-		-		1.009	Nov 2013	-		1.009	0.000	1.009	0.000
Mission Command Convergence Development & Integration	Various	Various:Various	0.000	15.020	Mar 2012	35.055	Mar 2013	-		-		-	Continuing	Continuing	Continuing
Mission Command Convergence Development & Integration (BCS3)	C/TBD	TBD:TBD	0.000	-		-		2.011	Apr 2014	-		2.011	Continuing	Continuing	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203740A: *Maneuver Control System*	**PROJECT** 484: *MANEUVER CONTROL SYSTEM (MCS)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Mission Command Convergence Development & Integration (Common Software)	C/TBD	TBD:TBD	0.000	-		-		3.462	Jan 2014	-		3.462	0.000	3.462	0.000
Mission Command Convergence Development & Integration (TAIS)	C/TBD	TBD:TBD	0.000	-		-		2.103	Feb 2014	-		2.103	0.000	2.103	0.000
Software Development & Technical Support	Various	CECOM Software Engineering Center:Aberdeen Proving Ground, MD	50.320	2.894	Nov 2011	5.441	Nov 2012	2.341	Nov 2013	-		2.341	Continuing	Continuing	Continuing
PAL Integration	IA	SRI:AZ	11.000	-		-		-		-		-	Continuing	Continuing	0.000
		Subtotal	195.521	35.710		65.175		32.254		0.000		32.254			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Misc Engineering Support	Various	PM Mission Command/ SEC:Aberdeen Proving Ground, MD	7.700	0.772	Feb 2012	0.463	Feb 2013	0.255	Feb 2014	-		0.255	Continuing	Continuing	Continuing
Misc Contracts	Various	Various:Various	4.649	0.586	Feb 2012	0.304	Feb 2013	0.204	Feb 2014	-		0.204	Continuing	Continuing	Continuing
		Subtotal	12.349	1.358		0.767		0.459		0.000		0.459			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
OGA	Various	Various:APG, MD	5.830	0.187	Dec 2011	0.240	Dec 2012	0.370	Dec 2013	-		0.370	Continuing	Continuing	Continuing
Misc Contracts	TBD	VARIOUS:APG, MD	6.920	0.173	Dec 2011	0.255	Dec 2012	0.430	Dec 2013	-		0.430	0.000	7.778	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203740A: *Maneuver Control System*	**PROJECT** 484: *MANEUVER CONTROL SYSTEM (MCS)*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Planning/Conduct	Various	Various:APG, MD	24.894	-		-		1.060	Mar 2014	-		1.060	Continuing	Continuing	Continuing
		Subtotal	37.644	0.360		0.495		1.860		0.000		1.860			

	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	255.530	39.282		68.325		36.495		0.000		36.495			

Remarks

Exhibit R-4, **RDT&E Schedule Profile:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203740A: *Maneuver Control System*	**PROJECT** 484: *MANEUVER CONTROL SYSTEM (MCS)*

Exhibit R-4A, **RDT&E Schedule Details:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203740A: *Maneuver Control System*	**PROJECT** 484: *MANEUVER CONTROL SYSTEM (MCS)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Mission Command CPCE 2.0 Development, Test and Integration	1	2013	4	2015
Mission Command CPCE 3.0 Development, Test and Integration	1	2015	4	2017
Mission Command CPCE 4.0 Development, Test and Integration	1	2017	4	2018

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203744A: *Aircraft Modifications/Product Improvement Programs*

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	-	144.904	280.247	257.187	-	257.187	334.521	335.543	279.072	385.407	Continuing	Continuing
430: *Impr Cargo Helicopter*	-	47.370	71.563	50.601	-	50.601	66.000	47.766	44.569	45.343	Continuing	Continuing
504: *Black Hawk Recapitalization/Modernization*	-	7.711	83.255	79.922	-	79.922	111.056	172.023	180.291	340.064	Continuing	Continuing
D17: *Apache Block III*	-	89.823	124.450	124.831	-	124.831	156.256	115.062	53.200	0.000	Continuing	Continuing
D18: *Fixed Wing Aircraft*	-	0.000	0.979	1.833	-	1.833	1.209	0.692	1.012	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

FY 2014 budget request funds aviation development of modifications and improvements for the Improved Cargo Helicopter (ICH), the UH-60L Black Hawk Recapitalization/Modernization, Apache Block III, and Fixed Wing Aircraft.

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	149.469	280.247	337.363	-	337.363
Current President's Budget	144.904	280.247	257.187	-	257.187
Total Adjustments	-4.565	0.000	-80.176	-	-80.176
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-4.565	-			
• Adjustments to Budget Years	-	-	-80.176	-	-80.176

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203744A: *Aircraft Modifications/ Product Improvement Programs*	PROJECT 430: *Impr Cargo Helicopter*	

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
430: *Impr Cargo Helicopter*	-	47.370	71.563	50.601	-	50.601	66.000	47.766	44.569	45.343	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 CH-47 Chinook is the only heavy lift helicopter for the Army and is an essential element of the current Army Aviation master plan. This program funds improvements to the CH-47F System that include: T55-GA-714A engine control and component upgrades to increase power to support emerging 6K/95 requirements, continued development and testing of the Advanced Chinook Rotor Blades (ACRB) which will provide increased lift in high/hot conditions and reduce O&S costs. Production of the ACRB will begin in FY 16. Funding also initiates advanced flight control and drive train component improvements to improve aircraft performance. Development of requirements specifications, studies and risk reduction prototyping are also part of this effort.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: 714 Engine Component Improvement Program	5.500	5.955	19.828
Articles:	0	0	

Description: Included in the Engine Component Improvement Program are improvements that address increased performance, reduced Specific Fuel Consumption, improved safety, and increased reliability leading to reduced O&S costs. Improvements include an improved compressor and related component design and improved electronic control unit software. Performance improvements are aimed at providing additional power across the current operating envelope and support emerging 6K/95 requirements.

FY 2012 Accomplishments:

Included in the Engine Component Improvement Program are improvements that address safety, reliability, and readiness issues such as those to the electronic control unit software.

FY 2013 Plans:

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203744A: *Aircraft Modifications/ Product Improvement Programs*	**PROJECT** 430: *Impr Cargo Helicopter*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Included in the Engine Component Improvement Program are improvements that address increased performance, reduced Specific Fuel Consumption, improved safety, and increased reliability leading to reduced O&S costs. Improvements include an improved compressor and related component design and improved electronic control unit software. ***FY 2014 Plans:*** Included in the Engine Component Improvement Program are improvements that address increased performance, reduced Specific Fuel Consumption, improved safety, and increased reliability leading to reduced O&S costs. Improvements include an improved compressor and related component design, and improved electronic control unit software.			
Title: Airframe Component Improvement Program	39.614	62.200	28.363
Articles:	0	0	
Description: Included in the Airframe Component Improvement Program are the continued development and flight testing of the Advanced Chinook Rotor Blade (ACRB) and development of advanced flight control and drive train components. The ACIP will also assess potential improvements to the electrical system, fuel system, and structural improvements for improved aircraft performance, aircraft weight reduction, and reduction of O&S costs. ***FY 2012 Accomplishments:*** Included in this effort is the development and testing of the new Advanced Chinook Rotor Blade (ACRB) that will result in significant performance improvement such as providing approximately 1,975 lbs of additional lift, improving erosion protection, and reducing O&S costs. Funding initiates advanced flight control component development and drive train improvements to improve aircraft performance, completes development and testing of the M24A1 gun mount, and initiates studies to assess potential improvements to the electrical system, fuel system, and structural improvements. Results are not only aimed at performance improvement, but aircraft weight reduction, and reduced O&S costs. ***FY 2013 Plans:*** Included in these efforts are development and testing of the new Advanced Chinook Rotor Blade (ACRB) that will result in significant performance improvement such as providing approximately 1,975 lbs of additional lift, improving erosion protection, and reducing O&S costs. Funding also continues development of advanced flight control and drive train components to increase aircraft performance, reduce aircraft weight, and reduce O&S costs. ***FY 2014 Plans:*** Included in these efforts are development and testing of the new Advanced Chinook Rotor Blade (ACRB) that will result in significant performance improvement such as providing approximately 1,975 lbs of additional lift, improving erosion protection,			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203744A: *Aircraft Modifications/ Product Improvement Programs*	**PROJECT** 430: *Impr Cargo Helicopter*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
and reducing O&S costs. Funding also continues development of advanced flight control and drive train components to increase aircraft performance, reduce aircraft weight, and reduce O&S costs.			
Title: In-house and Program Management Administration	2.256	3.408	2.410
Articles:	0	0	
Description: This funding provides support costs for various government agencies. ***FY 2012 Accomplishments:*** This funding provides future support costs for various government agencies. ***FY 2013 Plans:*** This funding provides future support costs for various government agencies ***FY 2014 Plans:*** This funding provides future support costs for various government agencies.			
Accomplishments/Planned Programs Subtotals	47.370	71.563	50.601

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
• AA0252: *CH-47 CARGO HELICOPTER MODS (MYP) (Including Adv Proc and Initial Spares)*	69.012	39.135	149.764		149.764	89.975	144.811	280.431	406.910	Continuing	Continuing
• A05105: *CH-47 SLEP*	489.917	634.241	679.053		679.053	772.084	777.519	753.318	164.018	Continuing	Continuing
• A05008: *CH-47 CARGO HELICOPTER NEW BUILD (Including Adv Proc)*	870.399	525.141	375.373		375.373	147.200	396.700	0.200		Continuing	Continuing

Remarks

D. Acquisition Strategy

The CH-47F program replaces one for one, the aging CH-47D aircraft by FY2020, incorporates a new machined airframe, and includes a new Common Avionics Architecture System (CAAS) cockpit with digital communication/navigation capability allowing improved interoperability on the digital battlefield. The CH-47F program includes recapitalization of key dynamic components, bringing them to a near zero time.

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203744A: *Aircraft Modifications/ Product Improvement Programs*	**PROJECT** 430: *Impr Cargo Helicopter*

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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203744A: *Aircraft Modifications/ Product Improvement Programs*	**PROJECT** 430: *Impr Cargo Helicopter*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
714 Engine Component Improvement Program	Various	Honeywell:Phoenix, AZ	2.400	5.500	Dec 2011	5.955	Mar 2013	19.828	Mar 2014	-		19.828	Continuing	Continuing	Continuing
Airframe Component Improvement Program	Various	Boeing:Ridley Park PA	7.625	39.614	Aug 2012	62.200	Dec 2012	28.363	Mar 2014	-		28.363	Continuing	Continuing	Continuing
		Subtotal	10.025	45.114		68.155		48.191		0.000		48.191			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMO/OGA	Various	Various government:Redstone Arsenal AL	0.484	2.256	Mar 2012	3.408	Mar 2013	2.410	Mar 2014	-		2.410	Continuing	Continuing	Continuing
		Subtotal	0.484	2.256		3.408		2.410		0.000		2.410			

	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	10.509	47.370		71.563		50.601		0.000		50.601			

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203744A: *Aircraft Modifications/ Product Improvement Programs*	PROJECT 504: *Black Hawk Recapitalization/ Modernization*	

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
504: *Black Hawk Recapitalization/Modernization*	-	7.711	83.255	79.922	-	79.922	111.056	172.023	180.291	340.064	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 Improved Turbine Engine Program (ITEP) develops, tests and qualifies a nominal three thousand (3,000) shaft horsepower (shp) class turboshaft engine with 25% better specific fuel consumption (SFC) as compared to other equivalent horsepower category engines. The engine will be designed to fit in the same engine envelope as a T700 engine for the Black Hawk and Apache aircraft. Other goals of the program are 65% greater horsepower to weight ratio, 35% less production and maintenance cost and 20% greater design life. The program consists of system engineering and program management, detailed design engineering, design assurance hardware manufacturing and testing, component and module level development and testing, system level testing and qualification, as well as, integration testing into the airframe.

FY2014 funds initial airframe engine integration efforts and continuing component testing. FY2015 funds ITEP contract award and initial component design. FY2016 funds continuing design effort, Preliminary Design Review (PDR), component testing and airframe and integration design effort. FY2017 funds Critical Design Review (CDR) and development testing. FY2018 funds airframe integration and flight testing.

The UH-60L Digital provides an integrated digital map, integrated performance planning, common functionality and commonality of training with UH-60M.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: ITEP	7.711	72.255	79.922
Articles:	0	0	
Description: Improved Turbine Engine Program (ITEP) - a multi-platform turbine engine improvement required across existing Army aircraft to fill the capability gaps for Army Aviation Operations.			
FY 2012 Accomplishments: Systems Engineering/Program Management requirements. Activity to support Material Development Decision (MDD), preparation for Milestone entry.			
FY 2013 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203744A: *Aircraft Modifications/ Product Improvement Programs*	**PROJECT** 504: *Black Hawk Recapitalization/ Modernization*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Systems Engineering/Program Management requirements. Continue preparation for Milestone entry, development of contractor requirements package, and support to Analysis of Alternatives (AoA). ***FY 2014 Plans:*** Systems Engineering/Program Management Milestone requirements. Source selection board activities leading to contract award.			
Title: UH-60L Digital	0.000	11.000	0.000
Articles:		0	
Description: Three year program to upgrade UH-60L. Provide an integrated digital map, integrated performance planning, common functionality and commonality of training with UH-60M. ***FY 2013 Plans:*** Begin UH-60L Digital effort. Activity to support Material Development Decision (MDD), preparation for Milestone entry, development of contractor requirements package.			
Accomplishments/Planned Programs Subtotals	7.711	83.255	79.922

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
• BLACK HAWK (Modifications)	74.745	73.804	74.095		74.095	77.214	89.066	117.494	149.944	Continuing	Continuing
AA0492: *BLACK HAWK (Modifications) AA0492*											

Remarks

AA0492 BLACK HAWK (Modifications) provides funding for the UH-60L Digital starting in FY 2016. This line also includes other post production modifications to the UH-60 A/L aircraft.

D. Acquisition Strategy

Full and Open Competition is planned for the ITEP development contract. Award cost plus contracts to dual vendors and continue competition to down select at Milestone B.

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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203744A: *Aircraft Modifications/ Product Improvement Programs*	**PROJECT** 504: *Black Hawk Recapitalization/ Modernization*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ITEP SEPM - Organic	Various	PMO:Huntsville, AL	0.000	4.330	Oct 2011	4.577	Oct 2012	4.784	Oct 2013	-		4.784	Continuing	Continuing	Continuing
ITEP SEPM - Contractor	Various	TBD:TBD	0.000	0.631	Oct 2011	0.612	Oct 2012	1.780	Oct 2013	-		1.780	Continuing	Continuing	Continuing
ITEP SEPM - OGA	Various	PMO:Huntsville, AL	0.000	0.100	Oct 2011	0.832	Oct 2012	2.773	Oct 2013	-		2.773	Continuing	Continuing	Continuing
ITEP OTHER	Various	TBD:Various	0.000	-		54.154	Oct 2012	-		-		-	Continuing	Continuing	Continuing
		Subtotal	0.000	5.061		60.175		9.337		0.000		9.337			

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ITEP Development Engineering	Various	Various:Various	0.000	-		-		-		-		-	Continuing	Continuing	Continuing
ITEP Air Vehicle Integration	SS/BOA	Various:Various	0.000	-		-		31.322	Jan 2014	-		31.322	Continuing	Continuing	Continuing
UH-60L Digital	C/CPFF	TBD:Various	0.000	-		11.000	May 2013	-		-		-	Continuing	Continuing	Continuing
		Subtotal	0.000	0.000		11.000		31.322		0.000		31.322			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ITEP Other OGA - AoA Development Support	Various	AMSAA:Huntsville, AL	0.000	0.650	Jan 2012	2.080	Jan 2013	-		-		-	Continuing	Continuing	Continuing
		Subtotal	0.000	0.650		2.080		0.000		0.000		0.000			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203744A: *Aircraft Modifications/ Product Improvement Programs*	**PROJECT** 504: *Black Hawk Recapitalization/ Modernization*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AATD/AATE Testing Support	Various	Various:Various	0.000	2.000	Jan 2012	10.000	Jan 2013	39.263	Jan 2014	-		39.263	Continuing	Continuing	Continuing
ITEP System Test & Evaluation	C/CPAF	Various:Various	0.000	-		-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	0.000	2.000		10.000		39.263		0.000		39.263			

	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	7.711		83.255		79.922		0.000		79.922			

Remarks

Exhibit R-4, **RDT&E Schedule Profile:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203744A: *Aircraft Modifications/ Product Improvement Programs*	**PROJECT** 504: *Black Hawk Recapitalization/ Modernization*

	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
UH-60L Digital (Development)																												

Exhibit R-4A, **RDT&E Schedule Details:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203744A: *Aircraft Modifications/ Product Improvement Programs*	**PROJECT** 504: *Black Hawk Recapitalization/ Modernization*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
UH-60L Digital (Development)	1	2013	4	2013

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203744A: *Aircraft Modifications/ Product Improvement Programs*	PROJECT D17: *Apache Block III*	

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
D17: *Apache Block III*	-	89.823	124.450	124.831	-	124.831	156.256	115.062	53.200	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 FY 2015 budget request for Apache Block III (AB3) will fund the non-recurring engineering (NRE), development, and testing work associated with the planned remanufacture and new build of 690 Apache aircraft in the Block III configuration (deliveries began in Oct 2011). The AB3 program consists of two Major Defense Acquisition Programs (MDAP), AB3A Remanufacture and AB3B New Build. This project also addresses obsolescence and reliability challenges and provides increased combat capability to the aircraft. Upgrades include: Unmanned Aircraft System (UAS) Level III-IV Control, Improved Situational Awareness, Upgraded Communications Suite, Improved Drive and Propulsion Systems, Improved Targeting Capability, Increased Computer Processing Capability and Speed, Improved Navigation Systems, and Improved Diagnostics and Maintainability. Upgrades are integrated as incremental block modifications. The program addresses operational shortfalls identified during real-world combat missions and meets Longbow Apache Capability Production Document (CPD) requirements for modernization.

Funds will also provide for the development and testing of the Modernized Rocket Launcher (MRL) with digital launcher electronics.

FY2015 funding totals do not include any previously requested funding for current FY2014 Overseas Contingency Operations (OCO) requirements, and no FY2014 OCO funds have been previously requested in the RDTE Project D17.

FY2014 funding totals do not include any previously requested funding for current FY2013 Overseas Contingency Operations (OCO) requirements, and no FY2013 OCO funds have been previously requested in the RDTE Project D17.

FY2013 funding totals did not include any previously requested funding for current FY2012 Overseas Contingency Operations (OCO) requirements, and no FY2012 OCO funds have been previously requested in the RDTE Project D17.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: Product Development	65.008	91.809	104.886
Articles:	0	0	

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203744A: *Aircraft Modifications/ Product Improvement Programs*	**PROJECT** D17: *Apache Block III*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Description: Funding is provided for the following efforts by Boeing, Longbow Limited Liability (LBL), and Lockheed Martin. ***FY 2012 Accomplishments:*** Development & Testing capabilities associated with planned remanufacture and new build of Apache aircraft for Block III Lot 4 & 6 configuration (joint interoperability, crashworthy fuel tanks, embedded diagnostics, communications, mission processor, and navigation upgrades). ***FY 2013 Plans:*** Development & Testing work associated with the planned remanufacture and new build of Apache aircraft in the Block III Lot 4-6 configuration and to enhance operational capabilities. Provides for development of the MRL. ***FY 2014 Plans:*** Development & Testing capabilities associated with planned remanufacture and new build of Apache aircraft for Block III Lot 4 & 6 configuration (joint interoperability, crashworthy fuel tanks, embedded diagnostics, communications, mission processor, and navigation upgrades) and to enhance operational capabilities. Provides NRE for design of the Hydra Launcher Electronics Assemblyfor development of the MRL.			
Title: Support Costs	11.471	20.510	7.124
Articles:	0	0	
Description: Funding is provided for the following effort ***FY 2012 Accomplishments:*** GFE supporting AB3 tests ***FY 2013 Plans:*** GFE supporting AB3 tests ***FY 2014 Plans:*** GFE supporting AB3 tests and government R&D Facilities			
Title: Test and Evaluation	12.855	10.546	8.999
Articles:	0	0	
Description: Funding is provided for Development Testing and Evaluation and Operational Test and Evaluation ***FY 2012 Accomplishments:***			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203744A: *Aircraft Modifications/ Product Improvement Programs*	**PROJECT** D17: *Apache Block III*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Development Testing and Operational T&E, Government test oversight, test ranges, and other Government agencies ***FY 2013 Plans:*** Development Test & Evaluation and Operational Test & Evaluation ***FY 2014 Plans:*** Development Testing & Operational Test & Evaluation, Government test oversight, test ranges, flight hour costs for MRL testing, other Government Agencies and launcher testing.			
Title: Management Services	0.489	1.585	3.822
Articles:	0	0	
Description: Funding is provided for the following effort ***FY 2012 Accomplishments:*** Payroll, TDY, Support Contractors, Matrix Support ***FY 2013 Plans:*** Payroll, TDY, Support Contractors, Matrix Support ***FY 2014 Plans:*** Payroll, TDY, Support Contractors, Matrix Support			
Accomplishments/Planned Programs Subtotals	89.823	124.450	124.831

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
• AA6605: *AH-64 MODS*	331.230	178.805	251.657		251.657	216.154	174.396	267.767	281.614	Continuing	Continuing
• A05111: *AH-64 APACHE BLOCK IIIA REMAN*	561.269	684.822	859.400		859.400	842.500	870.300	880.200	878.000	Continuing	Continuing
• A05133: *AH-64 APACHE BLOCK IIIB NEW BUILD*	104.263	371.114								Continuing	Continuing

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203744A: *Aircraft Modifications/ Product Improvement Programs*	**PROJECT** D17: *Apache Block III*

D. Acquisition Strategy

The NRE will encompass subsystem integration and will utilize existing test aircraft, incorporate the technical insertions, and initiate appropriate qualification and operational flight-testing. The Low Rate Initial Production (LRIP) effort includes a total quantity of 51 aircraft, with deliveries completing in December 2013. These 51 LRIP aircraft will be used for operational testing, First Unit Equipped (FUE), and training base fielding.

In Oct 2010, a contract for Apache Block III Lot 1 (8 aircraft) was awarded to initiate LRIP. In April 2012, additional options for Lot 2a (16 aircraft), Lot 2b (19 aircraft) and Lot 2c (8 aircraft) were definitized.

In early 2012, the existing Engineering Manufacturing Development (EMD) effort was modified to incorporate development and testing to support the AB3 Lot 4 and Lot 6 production configurations.

In FY13, a contract for Apache Block III Lot 3, initiating Full Rate Production, will be awarded with options for Lot 4 and will continue to a total of 690 remanufactured and new build aircraft.

Training device concurrency will be maintained with each technical insertion. The EMD effort is managed as Cost Reimbursable. Production efforts will be awarded as Firm Fixed Price (FFP) and include the Advance Procurement requirements.

In FY13, FY14, and FY15 MRL NRE will encompass US Government (USG) design of the Hydra Launcher Electronics Assembly (LEA), modification of the M261 launcher, launcher fabrication, and launcher testing.

Multi-year authority may be requested for the out years.

E. Performance Metrics

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

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203744A: *Aircraft Modifications/ Product Improvement Programs*	**PROJECT** D17: *Apache Block III*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Management Services (In-House, Travel, etc.)	MIPR	PMO AAH, Matrix Support, AMCOM Express:Redstone Arsenal, AL	0.000	0.489	Dec 2011	0.774		3.010	Dec 2013	-		3.010	Continuing	Continuing	Continuing
Management Services (In-House, Travel, etc)	MIPR	PEO Missiles & Space, Matrix Support, AMCOM Express, SETA:Huntsville, AL	0.000	-		0.811		0.811		-		0.811	Continuing	Continuing	0.000
		Subtotal	0.000	0.489		1.585		3.821		0.000		3.821			

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
The Boeing Company	SS/CPIF	Boeing Contracts:Mesa, AZ	78.200	52.984	Dec 2011	83.516	Dec 2012	82.811	Dec 2013	-		82.811	Continuing	Continuing	Continuing
Longbow Limited Liability (LBL) Contracts	SS/CPIF	Longbow Limited Liability (LBL) Contracts:Orlando, FL and Baltimore, MD	2.348	12.024	Dec 2011	1.810		14.500		-		14.500	Continuing	Continuing	Continuing
Lockheed Martin	SS/CPIF	Lockheed Martin Contracts:Orlando, FL	0.000	-		0.470		-		-		-	Continuing	Continuing	Continuing
Modernized Rocket Launcher Development - USG	MIPR	Various USG Activities:Various	0.000	-		5.253		7.125		-		7.125	Continuing	Continuing	0.000
Boeing - MRL Platform SW and Integration	SS/CPIF	Boeing Company:Mesa, AZ	0.000	-		0.760		0.451		-		0.451	Continuing	Continuing	0.000
		Subtotal	80.548	65.008		91.809		104.887		0.000		104.887			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203744A: *Aircraft Modifications/ Product Improvement Programs*	**PROJECT** D17: *Apache Block III*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Support Activities	MIPR	Various Activities:Various	3.320	11.471	Dec 2011	20.510	Dec 2012	7.124	Dec 2013	-		7.124	Continuing	Continuing	Continuing
		Subtotal	3.320	11.471		20.510		7.124		0.000		7.124			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Operational Assessments, Test Integration Working Group (TWIG), TEMP, etc.	MIPR	Various Activities:Various	6.800	12.855	Dec 2011	8.700	Dec 2012	5.700	Dec 2013	-		5.700	Continuing	Continuing	Continuing
MRL Weapon Integration Lab, LFT, Qual Test, & Test Working Group	MIPR	AMRDEC:Huntsville, AL, Yuma Proving Grounds, AZ	0.000	-		1.846		3.299		-		3.299	Continuing	Continuing	0.000
		Subtotal	6.800	12.855		10.546		8.999		0.000		8.999			

	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	90.668	89.823		124.450		124.831		0.000		124.831			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203744A: *Aircraft Modifications/ Product Improvement Programs*	**PROJECT** D17: *Apache Block III*

Exhibit R-4A, **RDT&E Schedule Details:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203744A: *Aircraft Modifications/ Product Improvement Programs*	**PROJECT** D17: *Apache Block III*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Initial Operational Test & Eval	2	2012	2	2012
Full Rate Production Decision	4	2012	4	2012
Follow-On Test & Eval I	2	2014	2	2014
Follow-On Test & Eval II	3	2016	3	2016
MRL Design	4	2013	3	2014
MRL PDR	2	2014	2	2014
MRL Prototypes & CDR	2	2014	2	2014
MRL Integration and Test	1	2015	3	2015

Exhibit R-5, RDT&E Termination Liability: PB 2014 Army									DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*					R-1 ITEM NOMENCLATURE PE 0203744A: *Aircraft Modifications/ Product Improvement Programs*				PROJECT D17: *Apache Block III*
Cost ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	
Program Termination Liability	-	9.265	12.445	15.160	12.820	9.980	4.140	-	

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203744A: *Aircraft Modifications/ Product Improvement Programs*	PROJECT D18: *Fixed Wing Aircraft*	

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
D18: *Fixed Wing Aircraft*	-	0.000	0.979	1.833	-	1.833	1.209	0.692	1.012	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 budget line provides for Non-Recurring Engineering (NRE) and integration of all Army Fixed Wing aircraft to provide communications, navigation, surveillance (CNS) and Department of Defense (DoD) mandated safety equipment to meet current and evolving international standards. FY 2014 Research, Development, Test, and Evaluation (RDT&E) dollars in the amount of $2.833 million provides funding for NRE of CNS equipment that meets current and future air traffic management requirements. The increased performance will permit the Army Fixed Wing aircraft to operate in compliance with other existing and emerging regulations. As requirements for new avionics equipment continue, aircraft delays and airspace exclusion are likely for aircraft not properly equipped. Upgrade of communication and navigation systems will improve aircraft performance and enhance reliability and maintainability, thereby improving aircraft availability for mission requirements. The associated aircraft modifications will assure worldwide deployability for those required to deploy. This budget line will also provide funding for studies, evaluations and Analysis of Alternatives to support emerging Army Fixed Wing requirements for product improvements to support the Army fleet.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: Non-recurring Engineering	0.000	0.940	1.691
Articles:		0	
Description: Non-recurring engineering efforts provide improved performance to Army fixed wing aircraft for communication, navigation, and surveillance equipment. ***FY 2013 Plans:*** Non-recurring engineering efforts provide improved performance to Army fixed wing aircraft for communication, navigation, and surveillance equipment. ***FY 2014 Plans:*** Initiate non-recurring engineering efforts in order to improve performance to Army fixed wing aircraft for communication, navigation, and surveillance equipment.			
Title: Program Management	0.000	0.039	0.142

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203744A: *Aircraft Modifications/ Product Improvement Programs*	**PROJECT** D18: *Fixed Wing Aircraft*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Articles:		0	
Description: Program Management of PM FW ***FY 2013 Plans:*** Program Management of PM FW ***FY 2014 Plans:*** Program Management of PM FW			
Accomplishments/Planned Programs Subtotals	0.000	0.979	1.833

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
• AA0703: *GATM-Fixed Wing Aircraft*		17.179	12.072		12.072	12.569	15.063	19.065	15.645	0.000	91.593
• AA0270: *Utility/Cargo Airplane Mods*		24.842	17.500		17.500	15.167	16.612	17.833	16.695	0.000	108.649

Remarks

D. Acquisition Strategy

The US Army Fixed Wing acquisition and modernization strategy leverages commercial derivative aircraft and includes cockpit modernization for civil and tactical upgrades of military unique equipment. These equipment upgrades include items such as dual Flight Management Systems, Terrain Area Warning Systems, transponder, Mode S/5 transponders, Satellite Communications, Traffic Alert and Collision Avoidance II, Flight Data Recorders, Cockpit Voice Recorders, communication radios, military Global Positioning Sytem (GPS), Wide Area Augmentation System/ Localizer Performance with Vertical Guidance, Automatic Dependence Surveillance Broadcast (ADS-B) Out, M-code GPS, Blue Force Tracker, and Smart books. The Research Development Test & Evaluation funding associated with this program provides for Non-Recurring Engineering and integration for installation of these required modernization efforts on Army fixed wing aircraft.

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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203744A: *Aircraft Modifications/ Product Improvement Programs*	**PROJECT** D18: *Fixed Wing Aircraft*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	Various	PM Fixed Wing:Redstone Arsenal, AL	0.000	-		0.039		0.142		-		0.142	Continuing	Continuing	Continuing
		Subtotal	0.000	0.000		0.039		0.142		0.000		0.142			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Fixed Wing Non-recurring Engineering	Various	Various:Various	0.000	-		0.940		1.691		-		1.691	Continuing	Continuing	Continuing
		Subtotal	0.000	0.000		0.940		1.691		0.000		1.691			

	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		0.979		1.833		0.000		1.833			

Remarks

Exhibit R-4, **RDT&E Schedule Profile:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203744A: *Aircraft Modifications/ Product Improvement Programs*	**PROJECT** D18: *Fixed Wing Aircraft*

	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
FW Non-recurring Engineering																												

Exhibit R-4A, **RDT&E Schedule Details:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203744A: *Aircraft Modifications/ Product Improvement Programs*	**PROJECT** D18: *Fixed Wing Aircraft*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
FW Non-recurring Engineering	1	2013	4	2018

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203752A: *Aircraft Engine Component Improvement Program*

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	-	0.800	0.898	0.315	-	0.315	0.387	0.370	0.331	0.145	Continuing	Continuing
106: *A/C COMPON IMPROV PROG*	-	0.800	0.898	0.315	-	0.315	0.387	0.370	0.331	0.145	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 Aircraft Engine Component Improvement Program (CIP) is included in the RDTE budget vice procurement appropriations in accordance with congressional direction. The majority of CIP funding has been reallocated to PE 273744 beginning in FY07.

A. Mission Description and Budget Item Justification

Aircraft Engine Component Improvement Program (CIP) develops, tests, and qualifies improvements to aircraft engine components to correct service-revealed deficiencies, improve flight safety, enhance readiness and reduce operating and support (O&S) costs. In addition, CIP provides the test vehicles for the testing and qualification efforts required as a part of the Army's Critical Safety Item (CSI) program. CIP is included in the RDTE budget vice procurement appropriations in accordance with congressional direction. The majority of CIP funding has been reallocated to PE 273744 beginning in FY07. Non-program specific Auxiliary Power Unit (APU) as well as Unmanned Aerial Vehicle (UAV) safety and readiness issues will continue to be addressed under this PE.

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	0.822	0.898	0.423	-	0.423
Current President's Budget	0.800	0.898	0.315	-	0.315
Total Adjustments	-0.022	0.000	-0.108	-	-0.108
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.022	-			
• Other Adjustments 1	-	-	-0.108	-	-0.108

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203752A: *Aircraft Engine Component Improvement Program*	PROJECT 106: *A/C COMPON IMPROV PROG*	

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
106: *A/C COMPON IMPROV PROG*	-	0.800	0.898	0.315	-	0.315	0.387	0.370	0.331	0.145	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 Aircraft Engine Component Improvement Program (CIP) is included in the RDTE budget vice procurement appropriations in accordance with congressional direction. The majority of CIP funding has been reallocated to PE 273744 beginning in FY07.

A. Mission Description and Budget Item Justification

Aircraft Engine Component Improvement Program (CIP) develops, tests, and qualifies improvements to aircraft engine components to correct service-revealed deficiencies, improve flight safety, enhance readiness and reduce operating and support (O&S) costs. In addition, CIP provides the test vehicles for the testing and qualification efforts required as a part of the Army's Critical Safety Item (CSI) program. Non-program specific Auxiliary Power Unit (APU) as well as Unmanned Aerial Vehicle (UAV) safety and readiness issues will continue to be addressed under this PE.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: T700 Engine	0.321	0.349	0.100
Articles:	0	0	

Description: Majority of funding for this program has been reallocated to PE 273744. Previously, this program addressed flight safety and readiness problems that arise in the field by providing timely engineering support, continued the development of the T700-GE-701D, provided engineering support of fielded engines to enhance war fighting capability and improve durability and reliability while reducing cost of ownership.

FY 2012 Accomplishments:
Continued the overspeed and burst qualification test effort and finished the heat rejection report for the T700-GE-701D engine. Started the qualification report effort for the Improved Durability (Ruggedized) Blisk which will increase engine time on wing.

FY 2013 Plans:
Will start efforts to perform an instrumented engine test to measure gas generator turbine hardware metal temperatures. Will evaluate clean air combustor shield hardware for redesign effort

FY 2014 Plans:

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203752A: *Aircraft Engine Component Improvement Program*	**PROJECT** 106: *A/C COMPON IMPROV PROG*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Will continue an instrumented engine test to measure gas generator turbine hardware metal temperatures. Will evaluate clean air combustor shield hardware for redesign effort.			
Title: T55 Engine	0.299	0.349	0.100
Articles:	0	0	
Description: Provide timely support to field users, applying engineering effort to resolve unanticipated flight safety problems revealed in the field. Continue the engineering support of fielded engines to enhance war-fighting capability, improve durability and reliability while reducing CH-47 engine cost of ownership. ***FY 2012 Accomplishments:*** Continued the 1553 ECU effort for F Model incorporation. ***FY 2013 Plans:*** Will continue ECU Software Block Update to improve ECU functionality and address field software issues ***FY 2014 Plans:*** Will complete ECU Software Block Update to improve ECU functionality and address field software issues			
Title: GTCP36 Auxiliary Power Unit (APU)	0.030	0.030	0.015
Articles:	0	0	
Description: Provide timely responses to technical problems arising in the field during operational use. Review operational and repair reports, perform engineering analysis of failed engines and equipment. Perform investigation and testing as required to isolate/verify reported field problems and service revealed deficiencies (SRDs). ***FY 2012 Accomplishments:*** Addressed service revealed deficiencies that affect safe operation of the GTCP 36 series APUs. ***FY 2013 Plans:*** Will coontinue formulating correlation factors to published life limits and will address service revealed deficiencies that affect safe operation of the GTCP 36 APU ***FY 2014 Plans:*** Will complete formulating correlation factors to published life limits and will address service revealed deficiencies that affect safe operation of the GTCP 36 APU.			
Title: T62 Auxiliary Power Unit (APU)	0.030	0.030	0.020
Articles:	0	0	

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203752A: *Aircraft Engine Component Improvement Program*	**PROJECT** 106: *A/C COMPON IMPROV PROG*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Description: Provide timely responses to technical problems arising in the field during operational use. Review operational and repair reports, perform engineering analysis of failed engines and equipment. Perform investigation and testing as required to isolate/verify reported field problems and service revealed deficiencies (SRDs). ***FY 2012 Accomplishments:*** Finished the qualification tests for the Flex Fuel Manifolds. Address service revealed deficiencies affecting safe operation of the T-62T series APUs. ***FY 2013 Plans:*** Will continue to address service revealed deficiencies affecting safe operation of US Army APUs ***FY 2014 Plans:*** Will continue to address service revealed deficiencies affecting safe operation of US Army APUs.			
Title: UAV Shadow Engine	0.070	0.060	0.020
Articles:	0	0	
Description: UAV Shadow Engine Investigation at U.S. Army Research Laboratory (ARL) Cleveland: US Army Vehicle Technology Directorate (VTD) at ARL Cleveland. Provide research to support airworthiness, reliability and performance improvements of the Unmanned Aerial Vehicle (UAV) shadow engine. Investigate and research the technology challenges (i.e. engine performance, engine durability, engine life, and engine modifications) for reliable engine operation using JP-8 fuel and readily available MIL-spec lubricants. ***FY 2012 Accomplishments:*** Continued to research improvements to address service related deficiencies. ***FY 2013 Plans:*** Will continue to research improvements to address service related deficiencies to improve safety and reduce O&S costs. ***FY 2014 Plans:*** Will continue to research improvements to address service related deficiencies to improve safety and reduce O&S costs.			
Title: In-House Support	0.050	0.080	0.060
Articles:	0	0	
Description: In-house support for the CIP engineers. Contracting support for CIP contracts. ***FY 2012 Accomplishments:***			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203752A: *Aircraft Engine Component Improvement Program*	**PROJECT** 106: *A/C COMPON IMPROV PROG*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Provided in-house support for the CIP engineers and contracting support for CIP contracts. ***FY 2013 Plans:*** Will continue to provide in-house support for the CIP engineers and contracting support for CIP contracts ***FY 2014 Plans:*** Will continue to provide in-house support for the CIP engineers and contracting support for CIP contracts.			
Accomplishments/Planned Programs Subtotals	0.800	0.898	0.315

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Improved designs will be implemented via Engineering Change Proposal (ECP) and follow-on procurement or modification to a production contract to introduce the improved hardware.

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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203752A: *Aircraft Engine Component Improvement Program*	**PROJECT** 106: *A/C COMPON IMPROV PROG*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
In-house Engineering	WR	AMRDEC:Redstone Arsenal, AL	2.250	0.050	Dec 2011	0.080	Jan 2013	0.060	Jan 2014	-		0.060	Continuing	Continuing	Continuing
		Subtotal	2.250	0.050		0.080		0.060		0.000		0.060			

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
T700 Engine	SS/IDIQ	GE-Air:Lynn, MA	61.311	0.321	Feb 2012	0.349	Jan 2013	0.100	Jan 2014	-		0.100	Continuing	Continuing	Continuing
T55 Engine	SS/IDIQ	Honeywell:Phoenix, AZ	29.262	0.299	Feb 2012	0.349	Jan 2013	0.100	Jan 2014	-		0.100	Continuing	Continuing	Continuing
APU's	SS/IDIQ	Air Force:Kelly AFB, TX	13.647	-		-		0.015	Jan 2014	-		0.015	Continuing	Continuing	0.000
UAV Shadow Engine	Various	ARL-Vehicle Technology Directorate:TBD	0.067	0.070	Feb 2012	0.060	Jan 2013	0.020	Jan 2014	-		0.020	Continuing	Continuing	0.000
APU's	SS/IDIQ	Air Force:Hill AFB, UT	2.259	0.060	Feb 2012	0.060	Jan 2013	0.020	Jan 2014	-		0.020	Continuing	Continuing	Continuing
		Subtotal	106.546	0.750		0.818		0.255		0.000		0.255			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
T-62T-2B Vibration Test	Various	Redstone Technical Text Center:Redstone Arsenal, AL	0.050	-		-		-		-		-	Continuing	Continuing	0.000
		Subtotal	0.050	0.000		0.000		0.000		0.000		0.000			0.000

Remarks

Not Applicable

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203752A: *Aircraft Engine Component Improvement Program*	**PROJECT** 106: *A/C COMPON IMPROV PROG*

	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	108.846	0.800		0.898		0.315		0.000		0.315			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203752A: *Aircraft Engine Component Improvement Program*	**PROJECT** 106: *A/C COMPON IMPROV PROG*

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203752A: *Aircraft Engine Component Improvement Program*	**PROJECT** 106: *A/C COMPON IMPROV PROG*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
T700 Engine Temperature Survey	2	2014	2	2016
T55 Engine 1553 Engine Control Unit (ECU)	2	2012	1	2013
T55 Engine ECU BLock Upgrade	2	2014	4	2015
Auxiliary Power Units (APUs)	1	2014	4	2014
UAV Shadow Engine	3	2014	1	2015

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203758A: *Digitization*

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	-	7.771	35.180	6.186	-	6.186	11.388	10.705	9.375	9.360	Continuing	Continuing
374: *HOR BATTLEFLD DIGITIZN*	-	7.771	35.180	6.186	-	6.186	11.388	10.705	9.375	9.360	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

Not applicable for this item.

A. Mission Description and Budget Item Justification

Horizontal Battlefield Digitization is a strategy that allows warfighters, from the individual soldier and platform to echelons above corps, to share critical situation awareness (SA) and command and control (C2) information. It conducts analysis and evaluation of new information technologies, concepts, and applications of integrated management activities to meet the dynamic Army acquisition technology requirements. The strategy applies digital information technologies to acquire, exchange, and employ data throughout the operational environment, and provides a clear and accurate common operational picture for leaders at all levels. This timely sharing of information significantly improves the ability of commanders and leaders to quickly make decisions, synchronize forces and fires, and increase the operational tempo. Digitization is a means of realizing a fully integrated C2/SA capability to the platoon level, including interoperability links with joint and multi-national ground forces. The major efforts included in the program element are: 1) Integration and synchronization of the Army's interoperability efforts, coordination of interoperability efforts between joint and multi-national forces, and the synchronization of combat material and training efforts to develop Army information technologies; 2) Systems engineering and integration of hardware and software interfaces between and across the warfighting functions and across multiple Program Executive Offices, providing System of Systems (SOS) capabilities that satisfy warfighter requirements and enable the execution of mission operations by providing one Common Operational Picture (COP)/Common Tactical Picture (CTP). 3) Oversee and support synchronization of LandWarNet Battle Command capabilities and ensure interoperability across the current and future force. 4) Support fielding of integrated systems to Active and Reserve Components (USARNG and USAR) in accordance with Army Force Generation (ARFORGEN). 5) Support of the the Army Equipping Enterprise System (AE2S) integration of the Force Development Investment Information System (FDIIS), Army Flow Model (AFM), and the Continuing Early Validation (CEaVa) programs into a single integrated system. This supports the Army's Equipping Strategy Army Force Generation, ARFORGEN, and consolidates capabilities to gain efficiencies. IAW the National Defense Authorization Act 804 and OSD's report to congress,Army is poised to implement the "Agile Business Process" that will result in an iterative and incremental approach to software development and hardware/software capability integration. This process will improve effectiveness in the identification, assessment and acquisition of capability solutions for the Army Network.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203758A: *Digitization*

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	8.016	35.180	9.162	-	9.162
Current President's Budget	7.771	35.180	6.186	-	6.186
Total Adjustments	-0.245	0.000	-2.976	-	-2.976
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	-2.976	-	-2.976
• Other Adjustments 1	-0.245	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203758A: *Digitization*	**PROJECT** 374: *HOR BATTLEFLD DIGITIZN*

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
374: *HOR BATTLEFLD DIGITIZN*	-	7.771	35.180	6.186	-	6.186	11.388	10.705	9.375	9.360	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

Horizontal Battlefield Digitization is a strategy that allows warfighters, from the individual soldier and platform to echelons above corps, to share critical situation awareness (SA) and command and control (C2) information. It conducts analysis and evaluation of new information technologies, concepts, and applications of integrated management activities to meet the dynamic Army acquisition technology requirements. The strategy applies digital information technologies to acquire exchange and employ data throughout the operational environment, and provides a clear and accurate common operational picture for leaders at all levels. This timely sharing of information significantly improves the ability of commanders and leaders to quickly make decisions, synchronize forces and fires, and increase the operational tempo. Digitization is a means of realizing a fully integrated C2/SA capability to the platoon level, including interoperability links with joint and multi-national ground forces. The major efforts included in the program element are: 1) Integration and synchronization of the Army's interoperability efforts, coordination of interoperability efforts between joint and multi-national forces, and the synchronization of combat material and training efforts to develop Army information technologies; 2) Systems engineering and integration of hardware and software interfaces between and across the warfighting functions and across multiple Program Executive Offices, providing System of Systems (SOS) integration capabilities that satisfy warfighter requirements and enable the execution of mission operations by providing one Common Operational Picture (COP)/Common Tactical Picture (CTP). 3) Oversee and support synchronization of LandWarNet Battle Command capabilities and ensure interoperability across the current and future force. 4) Support fielding of integrated systems to Active and Reserve Components (USARNG and USAR) in accordance with Army Force Generation (ARFORGEN). 5) Support the Army Equipping Enterprise System (AE2S) integration of the Force Development Investment Information System (FDIIS), Army Flow Model (AFM) and the Continuous Early Validation (CEaVa) programs into a single integrated system. This supports the Army's Equipping Strategy, ARFORGEN, and consolidates capabilities to gain efficiencies. IAW the National Defense Authorization Act 804 and OSD's report to Congress, Army is poised to implement the "Agile Business Process" that will result in an iterative and incremental approach to software development and hardware/software capability integration. This process will improve effectiveness in the identification, assessment and acquisition of capability solutions for the Army Network.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: Interoperability Assessment	2.088	2.560	1.094
Articles:	0	0	
Description: funds are to be used for the following efforts			
FY 2012 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203758A: *Digitization*	**PROJECT** 374: *HOR BATTLEFLD DIGITIZN*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Conduct technical interoperability assessments, perform interoperability/integration analyses, analyze networked weapon system and Situational Awareness (SA), Command and Control (C2), Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) systems compatibility, and assess technical and operational test plans, activities, and results. ***FY 2013 Plans:*** Conduct technical interoperability assessments, perform interoperability/integration analyses, analyze networked weapon system and Situational Awareness (SA), Command and Control (C2), Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) systems compatibility, and assess technical and operational test plans, activities, and results. ***FY 2014 Plans:*** Conduct technical interoperability assessments, perform interoperability/integration analyses, analyze networked weapon system and Situational Awareness (SA), Command and Control (C2), Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) systems compatibility, and assess technical and operational test plans, activities, and results.			
Title: SA/C2/C4ISR	2.085	2.560	1.091
Articles:	0	0	
Description: funds are to be used for the following efforts ***FY 2012 Accomplishments:*** Integrate and synchronize interoperability across SA/C2/C4ISR programs in support of acquisition synchronization, testing, training, and fielding System of Systems capabilities to the Army Force. Continue application across current and future force. ***FY 2013 Plans:*** Integrate and synchronize interoperability across SA/C2/C4ISR programs in support of acquisition synchronization, testing, training, and fielding System of Systems capabilities to the Army Force. Continue application across current and future force. ***FY 2014 Plans:*** Integrate and synchronize interoperability across SA/C2/C4ISR programs in support of acquisition synchronization, testing, training, and fielding System of Systems capabilities to the Army Force. Continue application across current and future force.			
Title: Ditization Technical Integration	0.865	1.025	1.071
Articles:	0	0	
Description: Support digitization technical integration with Active and Reserve Components both CONUS and OCONUS.			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203758A: *Digitization*	**PROJECT** 374: *HOR BATTLEFLD DIGITIZN*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
FY 2012 Accomplishments: Support digitization technical integration with Active and Reserve Components both CONUS and OCONUS. ***FY 2013 Plans:*** Support digitization technical integration with Active and Reserve Components both CONUS and OCONUS. ***FY 2014 Plans:*** Support digitization technical integration with Active and Reserve Components both CONUS and OCONUS.			
Title: AE2S Software	0.755	1.000	0.806
Articles:	0	0	
Description: Procures AE2S software integration and enhancements for the single program language, single platform system that incorporates FDIIS, CEaVa, COP and AFM ***FY 2012 Accomplishments:*** Procures AE2S software integration and enhancements for the single program language, single platform system that incorporates FDIIS, CEaVa, COP and AFM ***FY 2013 Plans:*** Procures AE2S software integration and enhancements for the single program language, single platform system that incorporates FDIIS, CEaVa, COP and AFM ***FY 2014 Plans:*** Procures AE2S software integration and enhancements for the single program language, single platform system that incorporates FDIIS, CEaVa, COP and AFM			
Title: Joint & Coalition Interoperability	0.738	1.255	0.944
Articles:	0	0	
Description: Support Joint and Coalition interoperability programs to improve integration and interoperability in accordance with Army Software Blocking Policy, Joint Planning Guidance, Coalition Specifications, Joint Capabilities Integration and Development System (JCIDS) requirements. ***FY 2012 Accomplishments:***			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203758A: *Digitization*	**PROJECT** 374: *HOR BATTLEFLD DIGITIZN*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Support Joint and Coalition interoperability programs to improve integration and interoperability in accordance with Army Software Blocking Policy, Joint Planning Guidance, Coalition Specifications, Joint Capabilities Integration and Development System (JCIDS) requirements. ***FY 2013 Plans:*** Support Joint and Coalition interoperability programs to improve integration and interoperability in accordance with Army Software Blocking Policy, Joint Planning Guidance, Coalition Specifications, Joint Capabilities Integration and Development System (JCIDS) requirements. ***FY 2014 Plans:*** Support Joint and Coalition interoperability programs to improve integration and interoperability in accordance with Army Software Blocking Policy, Joint Planning Guidance, Coalition Specifications, Joint Capabilities Integration and Development System (JCIDS) requirements.			
Title: Academic Research	0.500	0.570	0.506
Articles:	0	0	
Description: Apply university academic and research resources to the integration of Army complex modeling, simulation, and training in support of modernized forces. ***FY 2012 Accomplishments:*** Apply university academic and research resources to the integration of Army complex modeling, simulation, and training in support of modernized forces. ***FY 2013 Plans:*** Apply university academic and research resources to the integration of Army complex modeling, simulation, and training in support of modernized forces. ***FY 2014 Plans:*** Apply university academic and research resources to the integration of Army complex modeling, simulation, and training in support of modernized forces.			
Title: Cross-platform development	0.740	1.210	0.674
Articles:	0	0	
Description: Manage cross-platform software and hardware development, testing, training, and fielding to ensure the coordinated interoperability for each Army Force unit rotation. ***FY 2012 Accomplishments:***			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203758A: *Digitization*	**PROJECT** 374: *HOR BATTLEFLD DIGITIZN*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Manage cross-platform software and hardware development, testing, training, and fielding to ensure the coordinated interoperability for each Army Force unit rotation. ***FY 2013 Plans:*** Manage cross-platform software and hardware development, testing, training, and fielding to ensure the coordinated interoperability for each Army Force unit rotation. ***FY 2014 Plans:*** Manage cross-platform software and hardware development, testing, training, and fielding to ensure the coordinated interoperability for each Army Force unit rotation.			
Title: Network Integrated Evaluation (NIE)	0.000	25.000	0.000
Articles:		0	
Description: Network Integrated Evaluation (NIE) ***FY 2013 Plans:*** Implement agile business solutions through the Network Integrated Evaluation (NIE) cycle in FY12 that address Army system shortcomings and bring efficiency, effectiveness and affordabilaity to an otherwise burdensome process. This process enables the Army to be more responsive to Soldiers' current needs and avoids long-term production commitments to potentially obsolete technology. Material solutions to fill capability gaps from the FY12 cycle will be ready for procurement in FY13.			
Accomplishments/Planned Programs Subtotals	7.771	35.180	6.186

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Not Applicable for this item

D. Acquisition Strategy

To validate/demonstrate concepts and requirements, near term efforts are focused on developing a seamless battlefield software architecture and digitized hardware systems to include: evaluation of the horizontal battlefield digitization resources for systems, acquisition, integration, and testing of digital capability across multiple command and control, communications, sensors, and weapons platforms. The result will be an integrated, synchronized capability designed to meet the near-term requirements of the Stryker Brigade Combat Teams and the Army Future Force. Also supports the Army's role in joint and multi-national digitization programs, battle command efforts and Joint Battlefield Situational Awareness.

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203758A: *Digitization*	**PROJECT** 374: *HOR BATTLEFLD DIGITIZN*

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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203758A: *Digitization*	**PROJECT** 374: *HOR BATTLEFLD DIGITIZN*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TBD	Various	TBD:TBD	0.000	7.771		35.180		6.186		-		6.186	Continuing	Continuing	Continuing
		Subtotal	0.000	7.771		35.180		6.186		0.000		6.186			

	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	7.771		35.180		6.186		0.000		6.186			

Remarks

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203801A: *Missile/Air Defense Product Improvement Program*

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	-	52.811	20.733	1.578	-	1.578	0.000	0.000	0.000	0.000	Continuing	Continuing
036: *PATRIOT PROD IMP PGM*	-	42.938	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
DF8: *DF8*	-	0.194	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
DT5: *Stinger Product Improvement*	-	9.679	20.733	1.578	-	1.578	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

PATRIOT Product Improvement Program is now reported under Program Element 077865, DV8.

DF8 Funding was realigned to Program Element 0203808, DS1.

DF9 Funding was realigned to Program Element 0203808, DS2.

A. Mission Description and Budget Item Justification

Project 036 PATRIOT Product Improvement Program (PIP): PATRIOT is an advanced Surface-to-Air guided missile system with a high probability of kill capable of operation in the presence of Electronic Countermeasures (ECM) and able to conduct multiple simulataneous engagements against high performance air breathing targets and ballistic missiles likely to be encountered by US Forces. The PATRIOT Product Improvement Program provides for the upgrade of the PATRIOT System through individual materiel changes. The PATRIOT Product Improvement Program upgrades the PATRIOT system to address operational lessons learned, enhancements to joint force interoperability, and other system performance improvements to provide overmatch capabillity with the emerging threat. Efforts will be made to expedite PATRIOT materiel solutions (e.g. Radar Digital Processor, Communications Upgrades, Radars on the Net) to both enhance capability and facilitate integration into the Integrated Air Missile Defense (IAMD) architecture.

Project 038 Avenger PIP: The Avenger Air Defense System is a lightweight, highly mobile surface-to-air missile and gun weapon system mounted on a High Mobility Multi-purpose Wheeled Vehicle (HMMWV). The system employs a canopied turret consisting of a gunner position, two gyro-stabilized missile launcher pods containing four STINGER missiles each, a Forward Looking Infrared Receiver (FLIR), a Laser Range Finder (LRF), an Identification Friend or Foe (IFF) system, and a very high rate of fire .50 caliber machine gun. The gun system is used against ground targets and to cover the Stinger missile dead-zone. Avenger is capable of day, night and adverse weather operations, can be transported by Utility Helicopter-60L Blackhawk or C-130 aircraft, is air-droppable and can shoot on the move. The system can also be operated by remote control from a protected position up to 50 meters away from the fire unit. The Avenger system is operated by a crew of two to counter hostile low flying unmanned aerial vehicles (UAVs), cruise missiles, attack helicopters, and high performance fixed winged aircraft. The system fills the line-of-sight rear component of the Forward Area Air Defense (FAAD) system.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203801A: *Missile/Air Defense Product Improvement Program*

The Avenger PIP provides for the design, development, integration and testing asociated with modernization and added capability to the Avenger Weapon System.

Project DT5 Stinger Product Improvement: The Stinger Block I missile is an advanced, fire-and-forget, short-range, man-portable, air defense weapon system. It provides low-altitude defense for ground forces against attack or aerial observation by low-flying Unmanned Aerial System (UAS), Cruise Missile (CM), Rotary Wing (RW), and Fixed Winged (FW) threats. Stinger employs an infrared (heat seeking)/ultraviolet seeker to guide to the target. Stinger Block I missiles have extensive infrared counter-countermeasure capabilities and can engage targets from any aspect to include head-on. The missile utilizes a high-explosive, hit-to-kill warhead. Stinger can be fired from the shoulder or from a variety of platforms to include ground vehicles and helicopters. The missile is delivered as a certified wooden round and requires no field testing or maintenance.

The Stinger Product Improvement provides design, development, test and integration of a Proximity Fuze into the existing Stinger Block I missiles. The Proximity Fuze will improve system effectiveness against the evolving UAS threat. Unmanned Aerial System Defense (UAS-D) is a requirement of the Operational Requirements Document (ORD) for the Stinger Guided Missile System.

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	53.015	20.733	7.646	-	7.646
Current President's Budget	52.811	20.733	1.578	-	1.578
Total Adjustments	-0.204	0.000	-6.068	-	-6.068
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	0.101	-	-6.068	-	-6.068

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203801A: *Missile/Air Defense Product Improvement Program*	PROJECT 036: *PATRIOT PROD IMP PGM*	

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
036: *PATRIOT PROD IMP PGM*	-	42.938	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

PATRIOT Product Improvement Program is now reported under Program Element 677865, DV8.

A. Mission Description and Budget Item Justification

Project 036: PATRIOT is an advanced Surface-to-Air guided missile system with a high probability of kill capable of operation in the presence of Electronic Countermeasures (ECM) and able to conduct multiple simultaneous engagements against high performance air breathing targets and ballistic missiles likely to be encountered by US Forces. The PATRIOT Product Improvement Program provides for the upgrade of the PATRIOT System through individual materiel changes. These improvements focus on the evolving threat and will provide a more robust capability and the foundation upon which future improvements can more readily be incorporated with minimal hardware changes. Efforts will be made to expedite Patriot materiel solutions (e.g. Radar Digital Processor, Communications Upgrades, Radars on the Net) to both enhance capability and facilitate integration into the IAMD architecture.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: PATRIOT Product Improvement	42.938	0.000	0.000
Articles:	0		
Description: Software Improvement for Threat Evolution			
FY 2012 Accomplishments: FY2012 PATRIOT Product Improvement (PIP) funds continued Software Improvement for Threat Evolution and Radar Digital Processor (RDP) development efforts.			
Accomplishments/Planned Programs Subtotals	42.938	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203801A: *Missile/Air Defense Product Improvement Program*	**PROJECT** 036: *PATRIOT PROD IMP PGM*

D. Acquisition Strategy

The design objective of the PATRIOT system was to provide a baseline system capable of modification to cope with continuing threat evolution. This program minimizes technological risks and provides a means of enhancing system capability through planned upgrades of deployed systems. The PATRIOT Product Improvement program upgrades the PATRIOT system to address operational lessons learned, enhancements to joint force interoperability and communications, and other system performance improvements to provide overmatch capability against the emerging threat. Upgrades are implemented through individual hardware and software materiel changes and fielded incrementally. This program encompasses several changes which will require the use of a variety of acquisition methods to develop, test, procure and field.

E. Performance Metrics

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

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203801A: *Missile/Air Defense Product Improvement Program*	**PROJECT** 036: *PATRIOT PROD IMP PGM*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Program Management	Various	RSA:various	25.955	0.535	Feb 2012	-		-		-		-	0.000	26.490	Continuing
U.S. Contracts	C/FFP	Intuitive Research and Technology Corp. (IRTC):Huntsville, AL	1.028	0.377	Feb 2012	-		-		-		-	0.000	1.405	Continuing
		Subtotal	26.983	0.912		0.000		0.000		0.000		0.000	0.000	27.895	

Remarks

Non-Applicable (N/A); Redstone Arsenal (RSA)

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Improvement for Threat Evolution	Various	Multiple:Multiple	68.997	5.773	Feb 2012	-		-		-		-	0.000	74.770	0.000
Radar Digital Processor (RDP)	Various	Raytheon:Massachusetts	0.000	35.400	Feb 2012	-		-		-		-	0.000	35.400	0.000
		Subtotal	68.997	41.173		0.000		0.000		0.000		0.000	0.000	110.170	0.000

Remarks

Sole Source-Firm Fixed Price (SS-FFP)

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
RDEC and Other Govt Agencies	Various	RSA:Various	103.891	0.853	Feb 2012	-		-		-		-	0.000	104.744	Continuing
		Subtotal	103.891	0.853		0.000		0.000		0.000		0.000	0.000	104.744	

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203801A: *Missile/Air Defense Product Improvement Program*	**PROJECT** 036: *PATRIOT PROD IMP PGM*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Aviation and Missile Command (AMCOM), Research and Development and Engineering Center (RDEC)

	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	199.871	42.938		0.000		0.000		0.000		0.000	0.000	242.809	

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203801A: *Missile/Air Defense Product Improvement Program*	PROJECT DF8: *DF8*	

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
DF8: *DF8*	-	0.194	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

DF8 Funding was realigned to Program Element 0203808, DS1.

A. Mission Description and Budget Item Justification

This program is reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: DF8	0.194	0.000	0.000
Articles:	0		
Description: Funding is provided for the following effort			
FY 2012 Accomplishments: Program will be reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress.			
Accomplishments/Planned Programs Subtotals	0.194	0.000	0.000

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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203801A: *Missile/Air Defense Product Improvement Program*	**PROJECT** DF8: *DF8*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DF8	TBD	TBD:TBD	0.000	0.194		-		-		-		-	0.000	0.194	0.000
		Subtotal	0.000	0.194		0.000		0.000		0.000		0.000	0.000	0.194	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	0.194		0.000		0.000		0.000		0.000	0.000	0.194	0.000

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203801A: *Missile/Air Defense Product Improvement Program*	PROJECT DT5: *Stinger Product Improvement*	

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
DT5: *Stinger Product Improvement*	-	9.679	20.733	1.578	-	1.578	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 effort funds the design, development and testing of the Stinger Proximity Fuze (Prox Fuze) and integrates the Proximity Fuze into the Stinger Block I missile.

A. Mission Description and Budget Item Justification

The Stinger Block I missile is an advanced, fire-and-forget, short-range, man-portable, air defense weapon system. It provides low-altitude defense for ground forces against attack or aerial observation by low-flying Unmanned Aerial System (UAS), Cruise Missile (CM), Rotary Wing (RW), and Fixed-Wing (FW) threats. Stinger employs an infrared (heat seeking)/ultraviolet seeker to guide to the target. Stinger Block I has extensive infrared counter-countermeasure capabilities and can engage targets from any aspect to include head-on. The missile utilizes a high-explosive, hit-to-kill warhead. Stinger can be fired from the shoulder or from a variety of platforms to include ground vehicles and helicopters. The missile is delivered as a certified wooden round and requires no field testing or maintenance.

The Stinger Product Improvement provides design, development, test and integration of a Proximity Fuze into the existing Stinger Block I missiles. The Proximity Fuze will improve system effectiveness against the evolving UAS threat. Unmanned Aerial System Defense (UAS-D) is a requirement of the Operational Requirements Document (ORD) for the Stinger Guided Missile System.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: Proximity Fuze (Prox Fuze) Development and Integration	9.454	15.383	1.010
Articles:	0	0	
Description: This effort funds the design and development of a Prox Fuze and integrates it into existing STINGER Block I missiles.			
FY 2012 Accomplishments: Developed requirements, defined functionality, established allocated and product baselines, and performed preliminary detail design and development of a Prox Fuze and integration methods and processes. Performed producibility engineering, build brass boards and conduct component and subsystem test. Performed technical assessments, concept studies, cost reduction, risk reduction, threat analysis, and required documentation.			
FY 2013 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203801A: *Missile/Air Defense Product Improvement Program*	**PROJECT** DT5: *Stinger Product Improvement*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Complete design and development of Prox Fuze and Block I missile integration method and processes. Integrate warhead with Prox Fuze and integrate warhead/Prox Fuze assembly into existing Stinger Block I missiles for Guided Test Vehicles and All-Up-Rounds for testing. Perform technical assessments, concept studies, cost reduction, risk reduction, and develop required documentation. ***FY 2014 Plans:*** Complete integration efforts allowing for final revisions and developing the required documentation to support.			
Title: Test and Evaluation ***Articles:*** ***Description:*** This effort funds Government and contractor Developmental and Operational tests. ***FY 2013 Plans:*** Perform government and contractor Developmental and Operational flight test, test for hazard classification, lethality, and fuze board. ***FY 2014 Plans:*** Complete Developmental and Operational flight testing as well as required safety and lethality testing.	0.000	4.650 0	0.511
Title: Management Support ***Articles:*** ***Description:*** This effort funds government management and technical support. ***FY 2012 Accomplishments:*** Provide government management, technical and administrative support for the program in FY 2012. ***FY 2013 Plans:*** Provide government management, technical and administrative support for the program in FY 2013. ***FY 2014 Plans:*** Provide government management, technical and administrative support for the program in FY 2014.	0.225 0	0.700 0	0.057
Accomplishments/Planned Programs Subtotals	9.679	20.733	1.578

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203801A: *Missile/Air Defense Product Improvement Program*	**PROJECT** DT5: *Stinger Product Improvement*

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
• PE0604869A: *Proj M06, Patriot.MEADS Compined Aggregate Program (CAP)*	389.630	400.861								0.000	790.491
• PE0605456A: *Proj PA3, Pac-3/ MSE Missile*	88.909	69.029	69.175		69.175	130.348	63.975	65.771	66.638	Continuing	Continuing
• SSN C53101: *MSE Missile*	74.953	12.850	546.210		546.210	541.584	560.687	566.757	671.624	Continuing	Continuing
• PE0102419A: *Proj E55, JLENS*	327.338	190.422	64.450		64.450	32.100	23.850	24.330		0.000	662.490
• PE0605455A: *Proj S35, SLAMRAAM*	1.529									0.000	1.529
• PE 0604319A: *Proj DU3, IFPC2 (FY 2011/2012 PE0603305A IFPC II- Intercept)*	9.269	76.039	79.232		79.232	107.587	146.463	151.769	159.700	Continuing	Continuing
• PE0605457A: *Proj S40, Army Integrated Air and Missile Defense (AIAMD)*	270.180	262.211	345.410		345.410	372.000	222.940	143.196	80.103	Continuing	Continuing
• SSN BZ5075: *Army IAMD Battle Command system (IBCS)*			20.980		20.980	101.830	327.100	492.820	455.390	Continuing	Continuing
• PE 0208053: *Proj 635, Joint Tact Grd Station - PI (MIP)*	27.586	31.738	14.109		14.109	2.903	8.134	7.642	8.957	Continuing	Continuing
• PE 0604820A: *Proj E10, Sentinel*	2.885	3.486	1.944		1.944	1.927	2.953	3.007	3.053	Continuing	Continuing
• PE 0604741A: *Proj 126, 146, 149; Air Defense C2I Eng Dev*	82.932	73.333	37.409		37.409	14.670	15.171	14.409	7.315	Continuing	Continuing

Remarks

This program is a supporting system of the Army Integrated Air and Missile Defense (IAMD) architecture.

D. Acquisition Strategy

In FY 2012 the Stinger Based Systems (SBS) Product Office awarded a Proximity Fuze (Prox Fuze) development contract for the design, development, test and integration of a Proximity Fuze into existing Stinger Block I missiles. The Proximity Fuze will improve system effectiveness against the evolving UAS threat. Unmanned Aerial System Defense (UAS-D) is a requirement of the Operational Requirements Document (ORD) for the Stinger Guided Missile System.

E. Performance Metrics

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

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203801A: *Missile/Air Defense Product Improvement Program*	**PROJECT** DT5: *Stinger Product Improvement*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Mgt/Admin	Various	CMDS PO:Huntsville, AL	0.000	0.225		0.700		0.057		-		0.057	0.000	0.982	0.000
		Subtotal	0.000	0.225		0.700		0.057		0.000		0.057	0.000	0.982	0.000

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Proximity Fuze Development	MIPR	Picatinny Arsenal:Picatinny Arsenal, NJ	0.000	9.454	May 2012	15.383		1.010		-		1.010	0.000	25.847	0.000
		Subtotal	0.000	9.454		15.383		1.010		0.000		1.010	0.000	25.847	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Test & Evaluation	Various	CMDS Project Office:Redstone Arsenal,AL; White Sands Missile Range, NM	0.000	-		4.650		0.511		-		0.511	0.000	5.161	0.000
		Subtotal	0.000	0.000		4.650		0.511		0.000		0.511	0.000	5.161	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	9.679		20.733		1.578		0.000		1.578	0.000	31.990	0.000

Remarks

Exhibit R-4, **RDT&E Schedule Profile:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203801A: *Missile/Air Defense Product Improvement Program*	**PROJECT** DT5: *Stinger Product Improvement*

Exhibit R-4A, **RDT&E Schedule Details:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203801A: *Missile/Air Defense Product Improvement Program*	**PROJECT** DT5: *Stinger Product Improvement*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Technology Demonstrations	2	2012	2	2012
Proximity Fuze Development	3	2012	2	2014
Critical Design Review	4	2013	4	2013
Operational Test Readiness Reviews	1	2014	2	2014
Developmental Testing/Operational Testing	3	2014	3	2014

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203802A: *Other Missile Product Improvement Programs*

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	62.100	-	62.100	46.300	0.000	0.000	0.000	Continuing	Continuing
DZ9: *ATACMS Mods*	-	0.000	0.000	62.100	-	62.100	46.300	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

Beginning in FY14, project DZ9 has been added under Program Element 0203802A-Other Missile Product Improvement Programs.

A. Mission Description and Budget Item Justification

The United States (U.S.) Army is funding the integration and testing of the Army Tactical Missile Systems (ATACMS) Modification program under DZ9 ATACMS Project Code. This effort will not build any new missiles or add to the overall inventory. The modification program will take expired Block (Blk) 1 assets which have reached the end of their service life and reset their shelf life. Blk 1 missiles currently have warheads (WHs) that are non-compliant with the 2008 Department of Defense (DoD) policy on cluster munitions (CMs), as well as, expired electronics and rocket motors. Under this modification effort, a policy compliant WH will replace the existing M74 bomblets, and also replace electronics and propellant to achieve a reset on the shelf life. This effectively brings the expired inventory back into service, while meeting the DoD CM Policy, to engage imprecisely located targets up to 300 kilometers (km).

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	62.100	-	62.100
Total Adjustments	0.000	0.000	62.100	-	62.100
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	62.100	-	62.100

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203802A: *Other Missile Product Improvement Programs*	PROJECT DZ9: *ATACMS Mods*	

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
DZ9: *ATACMS Mods*	-	0.000	0.000	62.100	-	62.100	46.300	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 United States (U.S.) Army is funding the integration and testing of the Army Tactical Missile System (ATACMS) Modification program under DZ9 ATACMS Project Code. This effort will not build any new missiles or add to the overall inventory. The modification program will take expired Block (Blk) 1 assets which have reached the end of their service life and reset their shelf life. Blk 1 missiles currently have warheads (WHs) that are non-compliant with the 2008 Department of Defense (DoD) policy on cluster munitions (CMs), as well as, expired electronics and rocket motors. Under this modification effort, a policy compliant WH will replace the existing M74 bomblets and also replace electronics and propellants to achieve a reset on the shelf life. This effectively brings the expired inventory back into service, while meeting the DoD CM Policy, to engage imprecisely located targets up to 300 kilometers (km).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Conduct Development Engineering, Design Component Testing, and Performance Analysis. ***Description:*** Funding is provided for the following effort ***FY 2014 Plans:*** Conduct Development Engineering, Design Component Testing, and Performance Analysis.	0.000	0.000	62.100
Accomplishments/Planned Programs Subtotals	0.000	0.000	62.100

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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203802A: *Other Missile Product Improvement Programs*	**PROJECT** DZ9: *ATACMS Mods*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Program Management	TBD	PFRMS Project Office,:RSA	0.000	-		-		5.054		-		5.054	0.000	5.054	0.000
		Subtotal	0.000	0.000		0.000		5.054		0.000		5.054	0.000	5.054	0.000

Remarks

PFRMS-Precision Fires Rocket and Missile Systems; RSA-Redstone Arsenal; TBD-To Be Determined

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ATACMS Mods Contracts	TBD	LMMFCS:(Dallas, TX)	0.000	-		-		35.002		-		35.002	0.000	35.002	0.000
Other Government Agencies	TBD	AMCOM/ AMRDEC,:RSA	0.000	-		-		5.015		-		5.015	0.000	5.015	0.000
		Subtotal	0.000	0.000		0.000		40.017		0.000		40.017	0.000	40.017	0.000

Remarks

ATACMS-Army Tactical Missile System; Mods-Modifications; LMMFCS-Lockheed Martin Missile and Fire Control; TX-Texas; TBD-To Be Determined; AMCOM-Army Materiel Command; AMRDEC-U.S. Army Research, Development and Engineering Command; RSA-Redstone Arsenal, Alabama

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Support Contract	TBD	Camber Research/ S3/TMI,:Alabama	0.000	-		-		2.312		-		2.312	0.000	2.312	0.000
		Subtotal	0.000	0.000		0.000		2.312		0.000		2.312	0.000	2.312	0.000

Remarks

S3-Systems Studies Simulation, Inc.; TMI-Tec Master, Inc.; TBD-To Be Determined

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203802A: *Other Missile Product Improvement Programs*	**PROJECT** DZ9: *ATACMS Mods*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Support	TBD	WSMR, NM;:RTC, AL	0.000	-		-		14.717		-		14.717	0.000	14.717	0.000
		Subtotal	0.000	0.000		0.000		14.717		0.000		14.717	0.000	14.717	0.000

Remarks

WSMR, NM-White Sands Missile Range, New Mexico; RTC, AL-Redstone Test Center, Alabama

	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		62.100		0.000		62.100	0.000	62.100	0.000

Remarks

Exhibit R-4, **RDT&E Schedule Profile:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203802A: *Other Missile Product Improvement Programs*	**PROJECT** DZ9: *ATACMS Mods*

	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
Development Engineering																												

Exhibit R-4A, **RDT&E Schedule Details:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203802A: *Other Missile Product Improvement Programs*	**PROJECT** DZ9: *ATACMS Mods*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Development Engineering	1	2014	4	2015

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203808A: *TRACTOR CARD*

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	-	42.487	63.243	18.778	-	18.778	19.834	19.312	19.611	18.401	Continuing	Continuing
DS1: *TRACTOR BARN*	-	13.528	32.347	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
DS2: *Tractor Puma*	-	10.213	13.073	1.517	-	1.517	2.277	1.518	1.518	0.000	Continuing	Continuing
E11: *DE11*	-	18.746	17.823	17.261	-	17.261	17.557	17.794	18.093	18.401	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

The details for this program are reported in accordance with Title 10, United States Code, Section 119(a)(1).

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	42.487	63.243	18.778	-	18.778
Current President's Budget	42.487	63.243	18.778	-	18.778
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	-	-			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203808A: *TRACTOR CARD*	PROJECT DS1: *TRACTOR BARN*	

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
DS1: *TRACTOR BARN*	-	13.528	32.347	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 details for this program are reported in accordance with Title 10, United States Code 119(a)(1).

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army												DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*					R-1 ITEM NOMENCLATURE PE 0203808A: *TRACTOR CARD*				PROJECT DS2: *Tractor Puma*			
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**
DS2: *Tractor Puma*	-	10.213	13.073	1.517	-	1.517	2.277	1.518	1.518	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 details for this program are reported in accordance with Title 10, United States Code, Section 119(a)(1).

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army												DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*					R-1 ITEM NOMENCLATURE PE 0203808A: *TRACTOR CARD*				PROJECT E11: *DE11*			
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**
E11: *DE11*	-	18.746	17.823	17.261	-	17.261	17.557	17.794	18.093	18.401	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 details for this program are reported in accordance with Title 10, United States Code, Section 119(a)(1).

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0208053A: *Joint Tactical Ground System*

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	-	27.586	31.738	7.108	-	7.108	20.762	20.972	11.835	8.872	Continuing	Continuing
635: *JOINT TACT GRD STATION-P3I (MIP)*	-	27.586	31.738	7.108	-	7.108	20.762	20.972	11.835	8.872	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

Not applicable for this item.

A. Mission Description and Budget Item Justification

The Joint Tactical Ground System (JTAGS) is a post-production, ACAT III program and is designated as a DoD Space Program. JTAGS provides missile warning message data for the Air and Missile Defense (AMD) architecture and improves performance for Integrated Air and Missile Defense Fire Control Systems/Composite Army Air and Missile Defense Brigades. The JTAGS Program Element (PE) supports development and test to meet JTAGS ORD thresholds using improved sensors and algorithms as Pre-Planned Product Improvements (P3I). Presently, JTAGS is a transportable information processing system, receiving and processing in-theater, direct down-linked data from Defense Support Program (DSP) and other InfraRed (IR) satellites. JTAGS then disseminates near real time warning, alerting, and cueing information on ballistic missile launches and other tactical events of interest throughout the theater using existing communication networks, providing critical support to Combatant Commanders in their Areas of Responsibility (AOR). Four OCONUS deployed JTAGS units constitute DoD's only in-theater system providing space-based missile warning. The fifth CONUS system is being used as an institutional trainer but is a deployable asset. JTAGS is designated as the in-theater element of the United States Strategic Command's Theater Event System (TES). JTAGS supports all Theater Missile Defense pillars and by being located in-theater, affords the shortest sensor to shooter connectivity. P3I Improvements will upgrade JTAGS to a new configuration for operation with the next generation of Space Based Infrared System (SBIRS) satellites, and will improve warning tactical parameters and timeliness. JTAGS P3I is on contract for a two-Block development effort. Block 1 activities (ECD 2013) include Information Assurance (IA) upgrades; Highly Elliptical Orbit (HEO) Automation Track Transfer (ATT) Integration, Initial Geosynchronous Capability (IGC); commercial antennas; Source on Source (SoS) data; and SIPRNET capability. Beginning with FY 2012 funds, Block 2 will be executed in two phases: Phase 1 deshelters five systems, adds SBIRS Geosynchronous (GEO) scanner capability (FY 2012-15) and updates hardware/software/communication systems. Phase 2 activities include stereo SBIRS GEO starer sensor data and Net Centric capabilities (FY 2015-17). JROC-Memo 197-12 directs fielding of JTAGS P3I Phase I by FY15 and Phase II by FY 2017.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0208053A: *Joint Tactical Ground System*

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	27.630	31.397	14.109	-	14.109
Current President's Budget	27.586	31.738	7.108	-	7.108
Total Adjustments	-0.044	0.341	-7.001	-	-7.001
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.044	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	0.341	-7.001	-	-7.001

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0208053A: *Joint Tactical Ground System*	**PROJECT** 635: *JOINT TACT GRD STATION-P3I (MIP)*

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
635: *JOINT TACT GRD STATION-P3I (MIP)*	-	27.586	31.738	7.108	-	7.108	20.762	20.972	11.835	8.872	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 Tactical Ground System (JTAGS) is a post-production, ACAT III program and is designated as a DoD Space Program. JTAGS provides missile warning message data for the Air and Missile Defense (AMD) architecture and improves performance for Integrated Air and Missile Defense Fire Control Systems/Composite Army Air and Missile Defense Brigades. The JTAGS Program Element (PE) supports development and test to meet JTAGS ORD thresholds using improved sensors and algorithms as Pre-Planned Product Improvements (P3I). Presently, JTAGS is a transportable information processing system, receiving and processing in-theater, direct down-linked data from Defense Support Program (DSP) and other InfraRed (IR) satellites. JTAGS then disseminates near real time warning, alerting, and cueing information on ballistic missile launches and other tactical events of interest throughout the theater using existing communication networks, providing critical support to Combatant Commanders in their Areas of Responsibility (AOR). Four OCONUS deployed JTAGS units constitute DoD's only in-theater system providing space-based missile warning. The fifth CONUS system is being used as an institutional trainer, but is a deployable asset. JTAGS is designated as the in-theater element of the United States Strategic Command's Theater Event System (TES). JTAGS supports all Theater Missile Defense pillars and by being located in-theater, affords the shortest sensor to shooter connectivity. P3I Improvements will upgrade JTAGS to a new configuration for operation with the next generation of Space Based Infrared System (SBIRS) satellites, and improve warning tactical parameters and timeliness. JTAGS P3I is on contract for a two-Block development effort. Block 1 activities (ECD 2013) include Information Assurance (IA) upgrades; Highly Elliptical Orbit (HEO) Automation Track Transfer (ATT) Integration, Initial Geosynchronous Capability (IGC); commercial antennas; Source on Source (SoS) data; and SIPRNET capability. Beginning with FY 2012 funds, Block 2 will be executed in two phases: Phase 1 deshelters five systems, adds SBIRS Geosynchronous (GEO) scanner capability (FY 2012-15) and updates hardware/software/communication systems. Phase 2 activities include stereo SBIRS GEO starer sensor data and Net Centric capabilities (FY 2015-17). JROC-Memo 197-12 directs fielding of JTAGS P3I Phase I by FY 2015 and Phase II by FY 2017.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: Execute Block 1 Upgrades	3.118	0.200	0.200
Articles:	0	0	
Description: Funding is provided for the following effort			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0208053A: *Joint Tactical Ground System*	**PROJECT** 635: *JOINT TACT GRD STATION-P3I (MIP)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
FY 2012 Accomplishments: Software Upgrades, Information Assurance (IA) Maintenance/Testing, Software Discrepancy Report Resolution and Exercise Participation ***FY 2013 Plans:*** Information Assurance (IA) Maintenance/Testing, and Software Discrepancy Report Resolution ***FY 2014 Plans:*** Information Assurance (IA) Maintenance/Testing, and Software Discrepancy Report Resolution			
Title: JTAGS Test and Evaluation Support	0.671	0.885	0.898
Articles:	0	0	
Description: Funding is provided for the following effort ***FY 2012 Accomplishments:*** Testing of JTAGS Upgrade Activities into existing Command Operation Centers ***FY 2013 Plans:*** JTAGS P3I Phase I Testing ***FY 2014 Plans:*** Continues P3I Phase I Testing			
Title: JTAGS P3I Phase I Development (Deshelterization; Hardware/Software Upgrades. Includes Government IPPD)	23.797	30.653	6.010
Articles:	0	0	
Description: Funding is provided for the following effort ***FY 2012 Accomplishments:*** Began P3I Phase I Development Upgrades ***FY 2013 Plans:*** Continue P3I Phase I Development ***FY 2014 Plans:*** Complete P3I Phase I Development			
Accomplishments/Planned Programs Subtotals	27.586	31.738	7.108

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0208053A: *Joint Tactical Ground System*	**PROJECT** 635: *JOINT TACT GRD STATION-P3I (MIP)*

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 BZ8401: *SSN BZ8401, Joint Tactical Ground Station (JTAGS)*	1.199	2.680	9.899		9.899	7.035	2.996	7.940		Continuing	Continuing

Remarks

D. Acquisition Strategy

Under this program element, critical improvements will be developed making maximum use of Non-Developmental Items (NDI)/Commercial Off-The-Shelf (COTS) components. After design and integration, the system will be subject to thorough developmental and validation/verification testing to verify performance, operational effectiveness and suitability. JTAGS Block 1 activities are focused to maintain system viability in support of warfighter and USSTRATCOM priorities. Activities include: Information Assurance (IA) upgrades; Highly Elliptical Orbit (HEO) Automation Track Transfer (ATT) Integration upgrades; Initial Geosynchronous Capability (IGC); commercial antennas; and SIPRNET capability. Beginning with FY 2012 funds, Block 2 will be executed in two phases. Phase 1 activities include desheltering five systems and integration of hardware/software/communication systems using SBIRS Geosynchronous (GEO) scanning sensors (FY 2012-15). Phase II activities includes stereo SBIRS GEO starer sensor and net centric capabilities (FY 2015-17).

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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0208053A: *Joint Tactical Ground System*	**PROJECT** 635: *JOINT TACT GRD STATION-P3I (MIP)*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government IPPD	Various	various:various	43.931	3.416		3.449		3.279		-		3.279	Continuing	Continuing	Continuing
		Subtotal	43.931	3.416		3.449		3.279		0.000		3.279			

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JTAGS Block I Engineering Services Hardware/Software	SS/CPFF	Northrop Grumman:Arlington, VA	36.364	3.118		0.200		0.200		-		0.200	Continuing	Continuing	Continuing
Government Furnished Equipment	TBD	various:various	1.510	-		-		-		-		-	Continuing	Continuing	Continuing
P3I Phase I Development	SS/CPIF	Northrop Grumman:Arlington, VA	0.000	18.038		24.783		0.631		-		0.631	Continuing	Continuing	Continuing
		Subtotal	37.874	21.156		24.983		0.831		0.000		0.831			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Integrated Product & Process Development (IPPD) Support	Various	various:various	22.902	2.343		2.421		2.100		-		2.100	Continuing	Continuing	Continuing
		Subtotal	22.902	2.343		2.421		2.100		0.000		2.100			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0208053A: *Joint Tactical Ground System*	**PROJECT** 635: *JOINT TACT GRD STATION-P3I (MIP)*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Support (ATEC/JITC/ETC)	Various	various:various	5.506	0.671		0.885		0.898		-		0.898	Continuing	Continuing	Continuing
		Subtotal	5.506	0.671		0.885		0.898		0.000		0.898			

Remarks

N/A-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	110.213	27.586		31.738		7.108		0.000		7.108			

Remarks

Exhibit R-4, **RDT&E Schedule Profile:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0208053A: *Joint Tactical Ground System*	**PROJECT** 635: *JOINT TACT GRD STATION-P3I (MIP)*

Exhibit R-4A, **RDT&E Schedule Details:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0208053A: *Joint Tactical Ground System*	**PROJECT** 635: *JOINT TACT GRD STATION-P3I (MIP)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
P3I BLOCK 1 IGC FIELDING	3	2012	4	2012
P3I JTAGS BLOCK 2	3	2012	3	2017
P3I H/W & S/W BLK 2 PHASE 1 DESHELTERIZATION AND GEO SCANNER	4	2012	2	2015
P3I GEO STARER AND NET CENTRIC UPGRADE (P3I BLK 2 PHASE 2 UPGRADE)	2	2014	2	2017
FUTURE SENSOR INTEGRATION AND TECHNOLOGY REFRESH	3	2017	4	2018

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0208058A: *Joint High Speed Vessel (JHSV)*

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	0.035	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
JH1: *JOINT HIGH SPEED VESSEL MANUFACTURING TECHNOLOGY*	-	0.000	0.035	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

Funding in FY13/14 realigned to support Army higher priority requirements.

A. Mission Description and Budget Item Justification

The Joint High Speed Vessel (JHSV) program is a merger of the Army's Theater Support Vessel (TSV) program and the Marine Corps/Navy High Speed intra-theater surface Connector (HSC) program into a joint (multi-service) High Speed Vessel program.

The JHSV program takes advantage of inherent commonality hull forms to create a more flexible asset for the Department of Defense and leverage the Navy's core competency in ship acquisition. The JHSV program will provide high speed intra-theater surface connector capability to rapidly deploy troops and equipment together and then immediately transition to execute, even in the absence of developed infrastructure, and conduct deployment and sustainment activities in support of multiple simultaneous, distributed, decentralized battles and campaigns. The primary missions include: support to Theater Security Cooperation Program (TSCP) and Global War on Terrorism (GWOT), littoral maneuver, and seabasing support. Department of Army (DA) and Department of Navy (DoN) will maintain separate and distinct funding streams to support this joint program. DA will resource to the critical Army requirement set validated for the joint Initial Capabilities Document (ICD) for High Speed Intra-theater Surface Connector (HSC)and the Capability Development Document (CDD) for JHSV . DA and DoN will focus on the development of common capabilities, each Department will source their unique developmental costs for unique service capabilities that cannot be incorporated into a combined solution set. FY10/11 funding will procure for the Army Integrated Logistics Support (ILS)/Integrated Electronic Technical Manuals.(IETMs). FY13 funding will be used for program management support.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army					DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*		**R-1 ITEM NOMENCLATURE** PE 0208058A: *Joint High Speed Vessel (JHSV)*			
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	0.035	0.038	-	0.038
Current President's Budget	0.000	0.035	0.000	-	0.000
Total Adjustments	0.000	0.000	-0.038	-	-0.038
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-3.044	-3.194	-	-	-
• Other Adjustments 1	3.044	3.194	-0.038	-	-0.038

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0208058A: *Joint High Speed Vessel (JHSV)*	PROJECT JH1: *JOINT HIGH SPEED VESSEL MANUFACTURING TECHNOLOGY*	

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
JH1: *JOINT HIGH SPEED VESSEL MANUFACTURING TECHNOLOGY*	-	0.000	0.035	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

Per the Memorandum of Agreement signed 2 May 2011, "The Army funding contained in the Program Objective Memorandum FY13-17 will be transferred to the Navy via a budget based transfer from the Army to the Navy."

A. Mission Description and Budget Item Justification

The Joint High Speed Vessel (JHSV) program is a merger of the Army's Theater Support Vessel (TSV) program and the Marine Corps/Navy High Speed intra-theater surface Connector (HSC) program into a joint (multi-service) High Speed Vessel program.

The JHSV program takes advantage of inherent commonality hull forms to create a more flexible asset for the Department of Defense and leverage the Navy's core competency in ship acquisition. The JHSV program will provide high speed intra-theater surface connector capability to rapidly deploy troops and equipment together and then immediately transition to execute, even in the absence of developed infrastructure, and conduct deployment and sustainment activities in support of multiple simultaneous, distributed, decentralized battles and campaigns. The primary missions include: support to Theater Security Cooperation Program (TSCP) and Overseas Contingency Operations (OCO), littoral maneuver, and seabasing support. Department of Army (DA) and Department of Navy (DoN) will maintain separate and distinct funding streams to support this joint program. DA will resource to the critical Army requirement set validated for the joint Initial Capabilities Document (ICD) for High Speed Intra-theater Surface Connector (HSC)and the Capability Development Document (CDD) for JHSV . DA and DoN will focus on the development of common capabilities, each Department will source their unique developmental costs for unique service capabilities that cannot be incorporated into a combined solution set. FY12 funding will allow the Army to develop and design Army-unique Command, Control, Communications, Computers and Intelligence (C4I) and Anti-Terrorist/ Force Protection Capabilities in support of the Army JHSV concept of operations.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: JHSV PROGRAM SUPPORT	0.000	0.035	0.000
Articles:		0	
Description: Funding is provided forprogram support			
FY 2013 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0208058A: *Joint High Speed Vessel (JHSV)*	**PROJECT** JH1: *JOINT HIGH SPEED VESSEL MANUFACTURING TECHNOLOGY*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Program Support			
Accomplishments/Planned Programs Subtotals	0.000	0.035	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
• JH1: *OPA 3, M11203, Joint High Speed Vessel (JHSV),*											

Remarks

D. Acquisition Strategy

The JHSV program will combine the two separate programs (Theater Support Vessel (TSV) - Army and High Speed Connector (HSC) - Navy) and take advantage of inherent commonality of hull forms to create a more flexible asset for the Department of Defense. Based on the efforts accomplished and data collected to date by the two services, it appears that a hardware solution will incorporate the evolutionary development of commercial based high speed vessel technology employing integrated military unique capabilities/adaptations. The JHSV would be acquired competitively and production would be based in the United States. The Joint High Speed Vessel (JHSV) program's updated Acquisition Strategy is currently under development. The JHSV program Milestone A Defense Acquisition Board (DAB) was in April 2006. Milestone B occurred November 2008.

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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0208058A: *Joint High Speed Vessel (JHSV)*	**PROJECT** JH1: *JOINT HIGH SPEED VESSEL MANUFACTURING TECHNOLOGY*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	Various	PM Force Projection,TACOM,:Warren MI	7.094	-		0.035		-		-		-	Continuing	Continuing	Continuing
SBIR/STTR	Various	PM Force Projection, TACOM,:Warren, MI	0.086	-		-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	7.180	0.000		0.035		0.000		0.000		0.000			

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Acquisition/Documentation Development	Various	PEO Ships:Washington DC	9.047	-		-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	9.047	0.000		0.000		0.000		0.000		0.000			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Integrated Logistics Support (ILS)/Integrated Electronic Technical Manuals (IETMs)	Various	NSWCCD:Norfolk, VA	4.138	-		-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	4.138	0.000		0.000		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	20.365	0.000		0.035		0.000		0.000		0.000			

Remarks

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0301359A: *SPECIAL ARMY PROGRAM*

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	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
000: *SPECIAL ARMY PROGRAM*	-	0.000	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

A. Mission Description and Budget Item Justification

Not Applicable

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	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	-	-			

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303028A: *Security and Intelligence Activities*

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	-	2.763	7.591	7.600	-	7.600	7.740	7.649	7.730	7.862	Continuing	Continuing
H13: *INFORMATION DOMINANCE CENTER (IDC) - TIARA*	-	2.763	7.591	7.600	-	7.600	7.740	7.649	7.730	7.862	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

*Phased growth approach provides INSCOM adequate time to build annual performance metrics and show solide output based on prioritization of response to US Cyber Command and Combatant Commander/Land Component Command operational needs validated by Joint Staff and Army G3/5/7.

A. Mission Description and Budget Item Justification

INSCOM's RDTE program provides the Army with low-density, high-demand, extremely advanced offensive cyberspace technologies designed to degrade, deny, disrupt, or destroy adversary C4I and shape the operational warfighting environment in order to create conditions favorable to the application of other elements of national power.

Justification: INSCOM conducts RDTE of offensive Cyberspace technologies in direct support of the full range of missions called for in the National Defense Strategy, Comprehensive National Cyber-Security Initiative, National Security Strategy, National Defense Guidance, NSPD-38, NSPD-54 and HSPD-23.

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	2.850	7.591	2.569	-	2.569
Current President's Budget	2.763	7.591	7.600	-	7.600
Total Adjustments	-0.087	0.000	5.031	-	5.031
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	5.031	-	5.031

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303028A: *Security and Intelligence Activities*	PROJECT H13: *INFORMATION DOMINANCE CENTER (IDC) - TIARA*	

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
H13: *INFORMATION DOMINANCE CENTER (IDC) - TIARA*	-	2.763	7.591	7.600	-	7.600	7.740	7.649	7.730	7.862	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

INSCOM's RDTE program provides the Army with low-density, high-demand, extremely advanced offensive cyberspace technologies designed to degrade, deny, disrupt, or destroy adversary C4I and shape the operational warfighting environment in order to create conditions favorable to the application of other elements of national power.

Justification: INSCOM conducts RDTE of offensive Cyberspace technologies in direct support of the full range of missions called for in the National Defense Strategy, Comprehensive National Cyber-Security Initiative, National Security Strategy, National Defense Guidance, NSPD-38, NSPD-54 and HSPD-23.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: Cyberspace technologies	2.763	7.591	7.600
Articles:	0	0	
Description: INSCOM's RDTE program provides the Army with low-density, high-demand, extremely advanced offensive cyberspace technologies designed to degrade, deny, disrupt, or destroy adversary C4I and shape the operational warfighting environment in order to create conditions favorable to the application of other elements of national power.			
FY 2012 Accomplishments: Utilized to support cyberspace technologies designed to degrade, deny, disrupt, or destroy adversary C4I and shape the operational warfighting environment in order to create conditions favorable to the application of other elements of national power. Supports the conduct of offensive Cyberspace technologies in direct support of the full range of missions called for in the National Defense Strategy, Comprehensive National Cyber-Security Initiative, National Security Strategy, National Defense Guidance, NSPD-38, NSPD-54 and HSPD-23.			
FY 2013 Plans: Utilized to support cyberspace technologies designed to degrade, deny, disrupt, or destroy adversary C4I and shape the operational warfighting environment in order to create conditions favorable to the application of other elements of national power.			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303028A: *Security and Intelligence Activities*	**PROJECT** H13: *INFORMATION DOMINANCE CENTER (IDC) - TIARA*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Supports the conduct of offensive Cyberspace technologies in direct support of the full range of missions called for in the National Defense Strategy, Comprehensive National Cyber-Security Initiative, National Security Strategy, National Defense Guidance, NSPD-38, NSPD-54 and HSPD-23. ***FY 2014 Plans:*** Utilized to support cyberspace technologies designed to degrade, deny, disrupt, or destroy adversary C4I and shape the operational warfighting environment in order to create conditions favorable to the application of other elements of national power. Supports the conduct of offensive Cyberspace technologies in direct support of the full range of missions called for in the National Defense Strategy, Comprehensive National Cyber-Security Initiative, National Security Strategy, National Defense Guidance, NSPD-38, NSPD-54 and HSPD-23.			
Accomplishments/Planned Programs Subtotals	2.763	7.591	7.600

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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303028A: *Security and Intelligence Activities*	**PROJECT** H13: *INFORMATION DOMINANCE CENTER (IDC) - TIARA*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Mobile Objects/ PHAEDRUS	Various	TBD:TBD	17.348	2.763		7.591		7.600		-		7.600	Continuing	Continuing	Continuing
		Subtotal	17.348	2.763		7.591		7.600		0.000		7.600			

	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	17.348	2.763		7.591		7.600		0.000		7.600			

Remarks

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303140A: *Information Systems Security Program*

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	-	15.282	15.961	9.357	-	9.357	17.482	16.716	15.141	16.243	Continuing	Continuing
491: *Information Assurance Development*	-	15.282	8.380	5.113	-	5.113	9.644	9.156	8.356	9.343	Continuing	Continuing
501: *Army Key Mgt System*	-	0.000	7.581	1.306	-	1.306	2.411	2.338	2.185	2.500	Continuing	Continuing
DV4: *Key Management Infrastructure (KMI)*	-	0.000	0.000	1.502	-	1.502	2.653	2.725	2.200	2.100	Continuing	Continuing
DV5: *Crypto Modernization (Crypto Mod)*	-	0.000	0.000	1.436	-	1.436	2.774	2.497	2.400	2.300	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 FY14 the following adjustments were made:

Adjustment 1: Two new projects were created under the ISSP line: DV4 Key Management Infrastructure($1.502 Million) and DV5 Crypto Modernization ($1.436 Million) for a net increase of $2.938 Million.

Adjustment 2: Army Key MGT System new funding line is 1.306 Million.

Adjustment 3: Information Assurance funding was reduced by $4.612 Million.

A. Mission Description and Budget Item Justification

Information Asurance Development supports the implementation of the National Security Agency (NSA) developed Communications Security (COMSEC) technologies into the Army by providing COMSEC system capabilities through encryption, trusted software or standard operating procedures, and integrating these mechanisms into specific systems in support of securing the National Network Enterprise. This entails architecture studies,system integration, testing, certification, and accreditation of COMSEC systems and equipment. COMSEC technology ensures total signal and data security for all Army information systems to include any operational enhancement and specialized Army configurations. The program also assesses, develops, and integrates COMSEC tools (hardware and software) which provide protection for fixed infrastructure posts, camp or station networks as well as tactical networks. The cited work is consistent with Strategic Planning Guidance and the Army Modernization Strategy.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303140A: *Information Systems Security Program*

G6 OA22 Funding supports the technical assessment and specifications documentation of cryptographic, key management and information assurance (IA) technologies developed under the direction of the National Security Agency (NSA), the Defense Information Systems Agency (DISA), Joint Services, and commercial developers to secure National Security Systems (NSS) and National Security Information (NSI). Technical evaluations assess the security, operational effectiveness and network interoperability of advanced concept technologies to identify fundamental building blocks for Army IA solutions.

Army Key Management System (AKMS) is the Army's implementation of the National Security Agency's (NSA) Electronic Key Management System (EKMS) to automate the functions of Communications Security (COMSEC) key management control and distribution, thereby limiting adversarial access to, and reducing the vulnerability of, Army Command, Control, Communications, Computers, Intelligence (C4I) systems. Numerous software applications are being fielded on separate laptops, thus, burdening the units with the management of numerous laptops. In an effort to reduce the number of laptops in the field, Joint Tactical Network Environment NetOps Toolkit (J-TNT) provides a consolidated platform that hosts the numerous planning, monitoring and network management tools onto one J-TNT box. The J-TNT AN\GYK-33 V1 system is a laptop platform comprised of a suite of Commerical off the Shelf (COTS) and Government off the Shelf (GOTS) software applications. The suite of applications provides the soldier the capability to plan, monitor and manage COMSEC, Signal Operation Instruction/Joint Communications-Electronics Operations Instructions (SOI/JCEOI), network radio waveform configurations, loadsets and spectrum. From one platform, the J-TNT system provides the soldier the essential tools needed to complete critical battlefield missions operating on the tactical network.

Key Management Infrastructure (KMI) provides an integrated, operational environment that will bring essential key management personnel and functions in-band. KMI achieves an over the network key (OTNK) management solution to support emerging cryptographically modernized systems. The KMI client nodes are the Army's subset of the National Security Agency's (NSA's) KMI System supporting DoD Global Information Grid (GIG) Net Centric and Crypto Modernization Initiatives. The Mission Planning/ Mission Support System (MP/MSS) Interface for KMI will create a secure and highly automated interface to enable transparent provisioning of KMI products. The interface shall facilitate transparent communications between MP/MSS and KMI to achieve integration by bridging the gap between provisioning services and the communications net plan of the Warfighter.

The Crypto System program supports the implementation of the National Security Agency (NSA) developed Communications Security (COMSEC) technologies into the Army by providing COMSEC system capabilities through encryption, trusted software or standard operating procedures, and integrating these mechanisms into specified systems in support of securing the National Network Enterprise in as transparent a manner as possible.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303140A: *Information Systems Security Program*

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	15.684	15.961	9.725	-	9.725
Current President's Budget	15.282	15.961	9.357	-	9.357
Total Adjustments	-0.402	0.000	-0.368	-	-0.368
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 1	-0.402	-	2.938	-	2.938
• Other Adjustments 2	-	-	1.306	-	1.306
• Other Adjustments 3	-	-	-4.612	-	-4.612

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303140A: *Information Systems Security Program*	PROJECT 491: *Information Assurance Development*	

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
491: *Information Assurance Development*	-	15.282	8.380	5.113	-	5.113	9.644	9.156	8.356	9.343	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

PE 0303140A, project 491 includes funding for the Army CIO/G6 (OA22)and PD COMSEC (5F).

A. Mission Description and Budget Item Justification

This program supports the implementation of the National Security Agency (NSA) developed Communications Security (COMSEC) technologies into the Army by providing COMSEC system capabilities through encryption, trusted software or standard operating procedures, and integrating these mechanisms into specified systems in support of securing the National Network Enterprise in as transparent a manner as possible.

This entails architecture studies, system integration and testing, installation kits, and certification and accreditation of Automation Information Systems. The program assesses, develops and integrates information assurance (IA)/COMSEC tools (hardware and software) which provide protection for fixed infrastructure post, camp and station networks as well as efforts on tactical networks. The cited work is consistent with Strategic Planning Guidance and the Army Modernization and Strategy Plan.

Funding supports the technical assessment and specifications documentation of cryptographic, key management and information assurance (IA) technologies developed under the direction of the NSA, the Defense Information Systems Agency (DISA), Joint Services, and commercial developers to secure National Security Systems (NSS) and National Security Information (NSI). Technical evaluations assess the security, operational effectiveness and network interoperability of advanced concept technologies to identify fundamental building blocks for Army IA solutions. (G6 OA22)

Develop and publish the strategy to identify and manage the insertion of new security capabilities to bridge operational gaps, providing timely security and performance improvements to the Army's network through the performance of interoperability and standards testing, conducting IA System of System Network Vulnerability Assessments (IA SoS NVA) of Army Capability Sets, and develops and integrates IA/COMSEC capabilities to provide protections for fixed infrastructure post, camp and station networks. Develop Army migration strategies of COMSEC equipment to ensure fully IA-compliant solutions that meet the objective for LandWarNet (LWN) 2020 and beyond. (G6 OA22)

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: Assessing emerging COMSEC hardware and software systems and products	4.827	4.942	0.000
Articles:	0	0	

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303140A: *Information Systems Security Program*	**PROJECT** 491: *Information Assurance Development*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Description: This program researches, assesses, tests and plans for cryptographic and information assurance technology insertions within the existing and future network infrastructure; provides the basis for adjusting COMSEC capabilities and policies to reflect the latest technologies. Supports risk mitigation of IA networked vulnerabilities in end-to-end network operations and common operating environment. ***FY 2012 Accomplishments:*** This Program researches new cryptographic, information assurance, and key management technologies, perform operational assessments, concept exploration and validation to develop strategies and policies capitalizing on and leveraging emerging Cryptographic and Key Management technologies. Continuing to provide information, knowledge sharing and new equipment capabilities, limitations, and impacts on the Army network to assist in bridging the gap between the tactical edge and the Army Enterprise Network. Test proof of concept prototypes and provide infrastructure support to facilitate information assurance technology transition. Continue to provide guidance for the adjustment of COMSEC programs and ensure COMSEC policies remains in synchronization with the latest COMSEC technologies. ***FY 2013 Plans:*** This Program researches new cryptographic, information assurance, and key management technologies, perform operational assessments, concept exploration and validation to develop strategies and policies capitalizing on and leveraging emerging Cryptographic and Key Management technologies. Continuing to provide information, knowledge sharing and new equipment capabilities, limitations, and impacts on the Army network to assist in bridging the gap between the tactical edge and the Army Enterprise Network. Test proof of concept prototypes and provide infrastructure support to facilitate information assurance technology transition. Continue to provide guidance for the adjustment of COMSEC programs and ensure COMSEC policies remains in synchronization with the latest COMSEC technologies.			
Title: Cryptographic Systems and Key Management Test and Evaluation	5.955	3.438	1.914
Articles:	0	0	
Description: This program supports the Army Cryptographic Modernization Transformational Initiative. This is accomplished by providing test and evaluation capabilities to the COMSEC community in order to assess emerging technologies before being released and approved for Army use; testing can be performed on hardware, software, or network systems. ***FY 2012 Accomplishments:*** The program will continue to test and evaluate advanced prototypes and cryptographic devices to confirm capability and interoperability on Army networks and systems as well as identifying risk areas for compliance with COMSEC regulations and procedures. Continuing to evaluate performance of Cryptographic Systems (CS) compliant devices, including the initial Suite B Internet Protocol Security (IPSec) devices built based on commercial standards. This is the first step in the migration to NSA			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303140A: *Information Systems Security Program*	**PROJECT** 491: *Information Assurance Development*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
approved COTS devices for Secret and below information in place of Government Off-The-Shelf (GOTS) devices. Started evaluation of Secure Smartphones based on COTS platform for Mobile secure use. Evaluating KMI CI-2, Spiral 2 initial release and migration of initial HAIPE 4.0 compliant crypto devices to KMI based key delivery. Development plan for delivery of NSA produced keys for COTS devices. Complete evaluation of the performance of initial EKMS / AKMS to KMI transition strategies. These efforts will support network operations from end-to-end throughout the force and the Common Operating Environment (COE) thus mitigating Information Assurance (IA) vulnerabilities to the national network enterprise. ***FY 2013 Plans:*** The program will continue to test and evaluate advanced prototypes and cryptographic devices to confirm capability and interoperability on Army networks and systems as well as identifying risk areas for compliance with COMSEC regulations and procedures. Continuing to evaluate performance of Cryptographic Modernization (CM) compliant devices, including the initial Suite B Internet Protocol Security (IPSec) devices built based on commercial standards. This is the first step in the migration to NSA approved COTS devices for Secret and below information in place of Government Off-The-Shelf (GOTS) devices. Started evaluation of Secure Smartphones based on COTS platform for Mobile secure use. Evaluating KMI CI-2, Spiral 2 initial release and migration of initial HAIPE 4.0 compliant crypto devices to KMI based key delivery. Development plan for delivery of NSA produced keys for COTS devices. Complete evaluation of the performance of initial EKMS / AKMS to KMI transition strategies. These efforts will support network operations from end-to-end throughout the force and the Common Operating Environment (COE) thus mitigating Information Assurance (IA) vulnerabilities to the national network enterprise. ***FY 2014 Plans:*** The Program will continue to test and evaluate advanced prototypes within the system to confirm capability and interoperability on Army networks and systems as well as identifying risk areas for compliance with COMSEC regulations and procedures. The Program will continue to test and evaluate Crypto Systems compliant devices, Suite B IPSec devices built on commercial standards, Cryptographic High Value Product (CHVP), Commercial Solutions for Classified (CSfC) Standards, and new software releases to HAIPE 4.X devices in accordance with AR 700-142 Rapid Action Revision dated October 16, 2008. Will continue to evaluate Secure Smartphone based on a COTS platform for Mobile secure use, KMI CI-2, Spiral 2 release, and migrate crypto devices to KMI based key delivery. Evaluate delivery of NSA produced keys for COTS devices. Support of EKMS during the transition to KMI. Develop interfaces and provides ways to insert Data At Rest (DAR) and Data In Transit (DIT) technology within the existing and future network infrastructure. Evaluate performance of technologies and provide direction on were technology will converge to insure the lowest impact on performance while providing the greatest protection from loss of sensitive data.			
Title: Mission Planning Mission Support System (MP/MSS) Interface	4.500	0.000	0.000
Articles:	0		

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303140A: *Information Systems Security Program*	**PROJECT** 491: *Information Assurance Development*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Description: The program creates a secure highly automated interface to enable transparent provisioning of Key Management Infrastructure (KMI) products. The Mission Planning Mission Support System (MP/MSS) system is to be used by both the KMI system developer and MP/MSS developers to have a standard interface to electronically exchange information, enabling Warfighter Operations; achieves integration between provisioning services and the communications net plan of the Warfighter. ***FY 2012 Accomplishments:*** Continue to develop additional capabilities/upgrades if Mission Planning Mission Support System (MP/MSS). Develop the capability to validate signatures of payloads from MP/MSS using the Technical Readiness Level (TRL) 6 (client) emulator.			
Title: Research and insertion of emerging cryptographic and IA technologies, operational value, and performance improvement to shape policies and guidance (G6 OA22) ***Description:*** This program provides research, information assurance (IA) compliance oversight, guidance, and for cryptographic and information assurance technology insertions within the existing and future Army network infrastructure; provides the basis for adjusting Cryptographic and IA capabilities and policies to reflect the latest technology trends and emerging Department of Defense (DOD) enterprise architecture. Define, develop, and published IA assessment to determine maturity and viability of technologies for insertion. Assess risk mitigation of IA networked vulnerabilities in end-to-end Army network operations and Common Operating Environment. ***FY 2014 Plans:*** This program researches new and emerging Cryptographic and IA technologies to bridge the operational gaps to enable secure communications between the tactical edge, the Army Enterprise Network and the DoD Joint Information Environment (JIE). Review operational needs, operation assessments, identify fundamental building blocks for IA solutions and risk reduction lab test commercial products for Army insertion. Participate in DOD pilot programs. Develop strategies and policies capitalizing on leveraging emerging Cryptographic and Key Management technologies to enhance Cyber Security, prevent any undue risk and limitations and maximize performance to the Army networks. Effectively provide strategies, policies, and documentation to protect information, and knowledge sharing on the LandWarNet to secure the edge. Provide guidance for the adjustment of COMSEC programs and ensure COMSEC policies remains in synchronization with the latest COMSEC technologies. (G6 OA22)	0.000	0.000	3.199
Accomplishments/Planned Programs Subtotals	15.282	8.380	5.113

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303140A: *Information Systems Security Program*	**PROJECT** 491: *Information Assurance Development*

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
• DV5: *Cryptographic Systems RDTE*			1.436		1.436	2.774	2.497	2.400	2.300	Continuing	Continuing
• TA0600: *Information System Security Program - ISSP*	37.022	43.897	23.245		23.245	19.352	7.509	11.913	3.363	Continuing	Continuing
• B96002: *Cryptographic Systems OPA2*			13.890		13.890	14.140	14.394	14.653	14.889	Continuing	Continuing
• BS9716: *NON PEO-SPARES*	2.384	2.412	2.093		2.093	3.843	2.712	2.597	8.800	Continuing	Continuing

Remarks

0303140A DV5 - Cryptographic System - RDTE funds
TA0600 - Information System Security Program - OPA2 funds
B96002 - Cryptographic Systems - OPA2 funds
BS9716 - NON PEO-SPARES - OPA4 funds

D. Acquisition Strategy

The objective of this program is to integrate and validate hardware and software solutions that will secure current and objective architecture and electronic business/ commerce transactions. The objective of the DoD Cryptographic Systems program is to provide adaptive, flexible, and programmable cryptographic systems using best practices, lessons learned and programmatic management to meet the challenge of modernizing the Army's aging cryptographic systems. The network operations effort will support the network operations from end-to-end throughout the force and the Common Operating Environment (COE) thus mitigating IA networked vulnerabilities to National information security 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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303140A: *Information Systems Security Program*	**PROJECT** 491: *Information Assurance Development*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
System Engineering	C/FFP	CECOM RDEC:CECOM RDEC APG, MD	70.773	2.547	Feb 12	2.360		0.842	Jan 13	-		0.842	Continuing	Continuing	Continuing
Information Assurance System Engineering Support	C/FFP	DSCI Consulting:APG, MD	6.396	-		-		0.230	May 13	-		0.230	Continuing	Continuing	Continuing
Engineering Support	C/FP	CACI:APG, MD	3.100	0.500	Feb 12	1.000		0.498	Mar 13	-		0.498	Continuing	Continuing	Continuing
Engineering Support	C/CPFF	Booz Allen Hamilton:APG, MD	2.730	-		0.800		0.344	May 13	-		0.344	Continuing	Continuing	Continuing
Engineering Support	C/FP	CSC:APG, MD	14.341	2.107	Feb 12	2.170		-		-		-	0.000	18.618	0.000
IA Technical Support (G6/ OA22)	C/FFP	CACI:APG, MD	0.000	-		-		1.219	Mar 2013	-		1.219	0.000	1.219	0.000
IA Engineering/Art Support (G6/OA22)	C/FFP	Booz Allen Hamilton:APG, MD	0.000	-		-		1.280	Mar 2013	-		1.280	0.000	1.280	0.000
IA SOS Vulnerability Scans (OA22)	C/TBD	SLAD:White Sand Missile Defense	0.000	-		-		0.700		-		0.700	0.000	0.700	0.000
Hardware/Software Engineering	C/FFP	CECOM RDEC:APG, MD	5.224	-		0.800		-		-		-	Continuing	Continuing	Continuing
Information Assurance System Engineering Support	C/FFP	MITRE:McLean, VA	3.178	0.150	Feb 12	-		-		-		-	Continuing	Continuing	Continuing
C2 Protect Common Tools	C/FFP	CECOM RDEC:APG, MD	9.899	-		0.450		-		-		-	Continuing	Continuing	Continuing
Engineering Support	C/FFP	VIATECH:APG, MD	6.180	1.939	Feb 12	0.800		-		-		-	Continuing	Continuing	Continuing
Mission Planning Mission Support System (MPMSS) Interface	C/IDIQ	NSA (SAIC):San Diego, CA	0.000	4.500	Feb 12	-		-		-		-	0.000	4.500	0.000
Network Operations	C/IDIQ	TBD:TBD	0.000	1.941		-		-		-		-	0.000	1.941	0.000
		Subtotal	121.821	13.684		8.380		5.113		0.000		5.113			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303140A: *Information Systems Security Program*	**PROJECT** 491: *Information Assurance Development*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Support	C/CPFF	TBD:TBD	0.000	1.598		-		-		-		-	0.000	1.598	0.000
		Subtotal	0.000	1.598		0.000		0.000		0.000		0.000	0.000	1.598	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	121.821	15.282		8.380		5.113		0.000		5.113			

Remarks

Exhibit R-4, **RDT&E Schedule Profile:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303140A: *Information Systems Security Program*	**PROJECT** 491: *Information Assurance Development*

Exhibit R-4A, **RDT&E Schedule Details:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303140A: *Information Systems Security Program*	**PROJECT** 491: *Information Assurance Development*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
TEST & EVALUATION OF LEF Family (KIV-7M)	1	2014	4	2014
TEST & EVALUATION OF INE Family (KG-250X)	1	2014	4	2016
TEST & EVALUATION OF INE Family (KG-175D)	1	2015	4	2018
TEST & EVALUATION OF INE Family (Small Tactical)	1	2014	4	2015
TEST & EVALUATION OF Secure Terminal (VIPER)	1	2014	4	2014
TEST & EVALUATION OF Secure Terminal (VACM)	1	2016	4	2017

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303140A: *Information Systems Security Program*	PROJECT 501: *Army Key Mgt System*	

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
501: *Army Key Mgt System*	-	0.000	7.581	1.306	-	1.306	2.411	2.338	2.185	2.500	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 Key Management System (AKMS) is the Army's implementation of the National Security Agency's (NSA) Electronic Key Management System (EKMS) program automating the functions of Communications Security (COMSEC) key management control and distribution, thereby limiting adversarial access to, and reducing the vulnerability of, Army Command, Control, Communications, Computers, Intelligence (C4I) systems. NSA's aging EKMS infrastructure is being replaced with the Key Management Infrastructure (KMI) by Dec. 2017, requiring the transition of 425 Army accounts from FY2013 to FY2017. AKMS supports the transition to the Army Key Management Infrastructure (AKMI) during this timeframe. A critical component of this transition is the Mission Planning/Mission Support System (MP/MSS) which creates a secure, highly automated interface to enable transparent provisioning of KMI products. Updates to the MP/MSS Interface Specification and additional capabilities for the interface continue through FY2014. The MP/MSS Interface Specification defines the interface between the KMI Management Client Node (MGC) and the Mission Planning System operating on the Secure Internet Protocol Router Network (SIPRNET). This interface definition covers the key ordering, management, and distribution transactions that were decomposed based upon an Army Mission Planning System collaborating with KMI to fulfill mission requirements in a highly automated manner.

The additional MP/MSS capabilities projected to be developed include 1) adding the missing mission planning data fields based on the Communications-Electronics Research, Development and Engineering Center (CERDEC) evaluation of Sprint 9/Release 1, 2) completing the Release 1 backlog along with the other core software requirements related to security, and 3) adding the access controls based on the current login procedures (via medium assurance Public Key Infrastructure (PKI), Login/Password and KMI certificate).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: Mission Planning Mission Support System (MP/MSS) Interface	0.000	7.581	1.306
Articles:		0	
Description: The Mission Planning Mission Support System (MP/MSS) program creates a secure, highly automated interface to enable transparent provisioning of Key Management Infrastructure (KMI) products. The MP/MSS system is to be used by both the KMI system developer and MP/MSS developers to have a standard interface to electronically exchange information, enabling Warfighter Operations; achieving integration between provisioning services and the communications net plan of the Warfighter.			
FY 2013 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Additional Mission Planning Mission Support System (MP/MSS) capabilities projected to be developed include 1) adding missing mission planning data fields based on the Communications-Electronics Research, Development and Engineering Center (CERDEC) evaluation of Sprint 9/Release 1, 2) completing the Release 1 backlog along with other core software requirements related to security, and 3) adding the access controls based on the current login procedures (via medium assurance PKI, Login/ Password and KMI certificate). ***FY 2014 Plans:*** Develop Army-Specific software implementation of KMI's MP/MSS API to ensure maximum use of KMI architecture by Army's legacy ECUs, and provide a level of KMI Awareness for those devices.			
Accomplishments/Planned Programs Subtotals	0.000	7.581	1.306

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
• BA1201: *TSEC - AKMS*		23.432	13.890		13.890	34.112	34.731	35.179	35.500	Continuing	Continuing
• B96004: *Key Management Infrastructure*			10.821		10.821	9.001	9.090	9.163	9.327	Continuing	Continuing
• DV4: *Key Management Infrastructure*			1.502		1.502	2.653	2.725	2.200	2.100	Continuing	Continuing

Remarks

Line Item & Title:
BA1201: TSEC-AKMS (OPA2)
B96004: Key Management Infrastructure (OPA2)
DV4: Key Management Infrastructure (RDTE)

D. Acquisition Strategy

Army Key Management System (AKMS) Milestone III was conducted/ approved in FY 1999. Local COMSEC Management System (LCMS) completed fielding of software v5.0.3 in FY 2009 to all Communications Security (COMSEC) custodians in order to provide Encrypted Key capability. LCMS hardware refresh began 2QFY10. Current LCMS software is v5.1.0.5, which completes fielding in 2013. The AKMS acquisition strategy to procure Simple Key Loaders (SKL) was updated in an Acquisition Decision Memorandum (ADM) approved by the PEO C3T Milestone Decision Authority (MDA) 3QFY02. Science Applications International Corporation (SAIC) began SKL Post Development Software (PDSS) efforts in 1QFY09 and release software upgrades annually. In FY 2010, an Engineering Change Proposal (ECP) was initiated to modify the current SKL design in order to meet emerging requirements of modern end cryptographic units and Joint Tactical Radio Systems (JTRS). Automated Communications Engineering Software (ACES) is currently undergoing a hardware refresh. Continued enhancements and support of AKMS next

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303140A: *Information Systems Security Program*	**PROJECT** 501: *Army Key Mgt System*

generation software tools to meet emerging Army systems' requirements are also underway. ACES is currently operating on version 3.1. SKL is currently operating on version 8.0. AKMS supports the transition from NSA's EKMS infrastructure to the new Key Management Infrastructure (KMI).

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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303140A: *Information Systems Security Program*	**PROJECT** 501: *Army Key Mgt System*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Technical Support	C/CPFF	TBD:TBD	0.000	-		2.250		0.652		-		0.652	Continuing	Continuing	0.000
		Subtotal	0.000	0.000		2.250		0.652		0.000		0.652			0.000

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Integration Support	TBD	TBD:TBD	0.000	-		3.000		0.327		-		0.327	Continuing	Continuing	0.000
		Subtotal	0.000	0.000		3.000		0.327		0.000		0.327			0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Technical Support	TBD	TBD:TBD	0.000	-		2.331		0.327		-		0.327	Continuing	Continuing	0.000
		Subtotal	0.000	0.000		2.331		0.327		0.000		0.327			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		7.581		1.306		0.000		1.306			0.000

Remarks

Exhibit R-4, **RDT&E Schedule Profile:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303140A: *Information Systems Security Program*	**PROJECT** 501: *Army Key Mgt System*

	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
Mission Planning Mission Support System (MP/MSS) Interface																												

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303140A: *Information Systems Security Program*	**PROJECT** 501: *Army Key Mgt System*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Mission Planning Mission Support System (MP/MSS) Interface	2	2014	4	2018

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303140A: *Information Systems Security Program*	PROJECT DV4: *Key Management Infrastructure (KMI)*	

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
DV4: *Key Management Infrastructure (KMI)*	-	0.000	0.000	1.502	-	1.502	2.653	2.725	2.200	2.100	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

Key Managament Infrastructure (KMI) (DV4) is a new project in FY2014 which supports infrastructure requirements in support of Key Managment.

A. Mission Description and Budget Item Justification

Key Management Infrastructure (KMI) provides an integrated, operational environment that brings essential key management personnel and functions in-band. KMI achieves an over the network keying (OTNK) management solution to support emerging cryptographically modernized systems. The KMI client nodes are the Army's subset of the National Security Agency's (NSA's) KMI System supporting Department of Defense (DoD) Global Information Grid (GIG) Net Centric and Crypto Modernization Initiatives. The Mission Planning/ Mission Support System (MP/MSS) Interface for KMI will create a secure and highly automated interface to enable transparent provisioning of KMI products. The interface shall facilitate transparent communications between MP/MSS and KMI to achieve integration by bridging the gap between provisioning services and the communications net plan of the WarFighter. Updates relative to Key Management requirements to the MP/MSS Interface Specification and additional capabilities for the interface are scheduled to begin in FY2014. The MP/MSS Interface Specification defines the interface between the KMI Management Client Node (MGC) and the Mission Planning System operating on the Secure Internet Protocol Router Network (SIPRNET). This interface definition covers the key ordering, management and distribution transactions that were decomposed based upon an Army Mission Planning System collaborating with KMI to fulfill mission requirements in a highly automated manner.

Additional MP/MSS capabilities projected to be developed include 1) registration of MP/MSS identities, 2) validations required for digital signature based on KMI and other medium assurance Public Key Infrastructure (PKI), 3) allowing the exchange of an electronic equivalent of a signed SF-153 (Hand Receipt, Destruction, Inventory, etc) and 4) integrating MP/MSS Application Program Interface (API) into the Army Mission Planner - Joint Tactical Network Environment NetOps Toolkit (JTNT).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Key Management Infrastructure (KMI) Awareness	0.000	0.000	1.502
Description: Key Management Infrastructure Awareness initiative creates a secure, highly automated interface in providing future Over the Network Keying (OTNK) capability to legacy End Crypto Units (ECUs). This initiative will allow ECUs to receive,			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
authenticate, and decrypt OTNK messages and increases WarFighter survivability by minimizing the need for Soldiers to travel to obtain keys. ***FY 2014 Plans:*** Additional Mission Planning/ Mission Support System (MP/MSS) capabilities projected to be developed include 1) registration of MP/MSS identities, 2) validations required for digital signature based on Key Management Infrastructure (KMI) and other medium assurance Public Key Infrastructure (PKI), 3) allowing the exchange of an electronic equivalent of a signed SF-153 (Hand Receipt, Destruction, Inventory, etc) and 4) integrating MP/MSS Application Program Interface (API) into the Army Mission Planner - Joint Tactical Network Environment NetOps Toolkit (JTNT).			
Accomplishments/Planned Programs Subtotals	0.000	0.000	1.502

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
• B96004: *Key Management Infrastructure*			10.821		10.821	9.001	9.090	9.163	9.327	Continuing	Continuing
• BA1201: *TSEC - Army Key Mgt Sys (AKMS)*	12.541	23.432	13.890		13.890	34.112	34.731	35.179	35.500	Continuing	Continuing
• 501: *Army Key Management System (AKMS)*			1.306		1.306	2.411	2.338	2.185	2.500	Continuing	Continuing

Remarks

Line Item & Title:
B96004: Key Management Infrastructure (OPA2)
BA1201: TSEC-AKMS (OPA2)
501: Army Key Management System (RDTE)

D. Acquisition Strategy

Army Key Management Infrastructure (AKMI) is the Army's implementation of the National Security Agency's (NSAs) Key Management Infrastructure (KMI) ACAT ID program. The initial Army Acquisition Program Baseline (APB) for its implementation of KMI was signed on 26 Jan 2012. KMI Clients purchased in FY2012 were Low Rate Initial Production (LRIP) Management Clients (MGCs). Deliveries are scheduled to begin in March 2013. KMI MGCs purchased in FY2013 will be Full Rate Production (FRP) MGCs with deliveries beginning 12 months after FRP contract award. RDTE efforts are underway to provide communication within the KMI architecture for legacy devices. Current sunset for Electronic Key Management System (EKMS) is scheduled for December 2017.

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303140A: *Information Systems Security Program*	**PROJECT** DV4: *Key Management Infrastructure (KMI)*

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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303140A: *Information Systems Security Program*	**PROJECT** DV4: *Key Management Infrastructure (KMI)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Technical Support	C/CPFF	Science Applications International Corporation:Linthicum, MD	0.000	-		-		0.601	May 13	-		0.601	Continuing	Continuing	Continuing
Technical Support	MIPR	CERDEC:APG, MD	0.000	-		-		0.901	Jan 13	-		0.901	Continuing	Continuing	Continuing
		Subtotal	0.000	0.000		0.000		1.502		0.000		1.502			

	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		1.502		0.000		1.502			

Remarks

Exhibit R-4, **RDT&E Schedule Profile:** PB 2014 Army		**DATE:** April 2013
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	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
KMI Awareness Development and Testing																												

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303140A: *Information Systems Security Program*	**PROJECT** DV4: *Key Management Infrastructure (KMI)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
KMI Awareness Development and Testing	1	2014	4	2018

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303140A: *Information Systems Security Program*	PROJECT DV5: *Crypto Modernization (Crypto Mod)*	

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
DV5: *Crypto Modernization (Crypto Mod)*	-	0.000	0.000	1.436	-	1.436	2.774	2.497	2.400	2.300	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

Key Managament Infrastructure (KMI) (DV4) is a new project in FY2014 which supports infrastructure requirements in support of COMSEC.

A. Mission Description and Budget Item Justification

This program supports the implementation of the National Security Agency (NSA) developed Communications Security (COMSEC) technologies into the Army by providing COMSEC system capabilities through encryption, trusted software or standard operating procedures, and integrating these mechanisms into specified systems in support of securing the National Network Enterprise in as transparent a manner as possible.

This entails architecture studies, system integration and testing, installation kits, and certification and accreditation of Automation Information Systems. The program assesses, develops and integrates emerging information assurance (IA)/COMSEC tools (hardware and software) which provide protection for fixed infrastructure post, camp and station networks as well as efforts on tactical networks. The cited work is consistent with Strategic Planning Guidance and the Army Modernization and Strategy Plan.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Crypto Solutions for Low Bandwidth Communications at the Tactical Edge	0.000	0.000	0.520
Description: This program creates tools that can be used with current and future methodologies in order to determine what amount of cryptographic solutions can be deployed at the tactical edge. This experimentation will allow for the WarFighter to have optimized solutions tailored for their specific program requirements while also showing trade-offs between competing solutions. Examples of common analysis to be performed are comparisons in encryption implementations, network initialization overhead, comparison of emerging Commercial Solutions for Classified architectures with COMSEC architectures, development of new network security and management protocols optimized for low-bandwidth environments and impact of emerging dynamic capabilities that evade or obstruct the adversary.			
FY 2014 Plans: Develop software for use in NS-2 and/or OPNet environments to target specific comparisons in COMSEC diversity and also comparisons with Commercial Solutions for Classified architectures. Study existing network security and management protocols			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303140A: *Information Systems Security Program*	**PROJECT** DV5: *Crypto Modernization (Crypto Mod)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
to identify areas of improvement and propose optimizations and new protocol designs. Identify optimal placement of network discovery servers and key management infrastructure. Investigate use of single packet authorization and propose improvements that make networks and hosts less detectable.			
Title: VINSON/ANDVT (Advanced Narrowband Digital Voice Terminal) Cryptograph Modernization (VACM) program ***Description:*** This program researches, assesses, test, plan and works to integrate VINSON/ANDVT Crypto Modernization (VACM) products for the Army. The VACM program is an NSA mandated program established to replace legacy external cryptographic devices such as the KY-57, KY-99A, KY-58, KY-100 and CV- 3591 /YV-5. In order to ensure the confidentiality, integrity and availability of classified communications, the cryptographic modules must be tested for interoperability and form fit to ensure a successful fielding. Each software release will require testing to insure comparability and interoperability. ***FY 2014 Plans:*** The program will continue to test and evaluate advanced prototypes of VINSON/ANDVT Crypto Modernization (VACM) within the system to confirm capability and interoperability on Army networks and systems as well as identifying risk areas for compliance with COMSEC regulations and procedures.	0.000	0.000	0.916
Accomplishments/Planned Programs Subtotals	0.000	0.000	1.436

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
• 491: *Information Assurance Development*	15.684		5.113		5.113	9.644	9.156	8.356	9.343	Continuing	Continuing
• TA0600: *Information System Security Program - ISSP*	37.022	43.987	23.245		23.245	19.352	7.509	11.913	3.363	Continuing	Continuing
• B96002: *Cryptographic Systems (Crypto Sys)*			13.890		13.890	14.140	14.394	14.653	14.889	Continuing	Continuing
• BS9716: *NON PEO-SPARES*	2.384	2.412	2.093		2.093	3.843	2.712	2.597	8.800	Continuing	Continuing

Remarks

491 - Information Assurance Developemnt - RDTE funds - 2 lines: 5F and OA22(G6)
TA0600 - Information System Security Program - OPA2 funds
B96002 - Cryptographic Systems - OPA2 funds
BS9716 - NON PEO-SPARES - OPA4 funds

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

The objective of this program is to integrate and validate hardware and software solutions to provide COMSEC superiority in order to protect against threats, increase battlefield survivability/lethality, and enable critical Mission Command activities. The objective of the Cryptographic Systems program is to provide adaptive, flexible, and programmable cryptographic systems using best practices, lessons learned and programmatic management to meet the challenge of modernizing the Army's aging cryptographic systems. The effort will support the network operations from end-to-end throughout the force and the Common Operating Environment (COE) thus mitigating IA networked vulnerabilities to National information security 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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303140A: *Information Systems Security Program*	**PROJECT** DV5: *Crypto Modernization (Crypto Mod)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
System Engineering	C/FFP	CECOM RDEC:APG, MD	0.000	-		-		0.388	Jan 13	-		0.388	Continuing	Continuing	Continuing
Engineering Support	C/FP	CACI:Aberdeen Maryland	0.000	-		-		0.359	Mar 13	-		0.359	Continuing	Continuing	0.000
Engineering Support	C/CPFF	Booz Allen Hamilton (BAH):APG, MD	0.000	-		-		0.215	May 13	-		0.215	Continuing	Continuing	0.000
Engineering Support	C/CPFF	AASKI:Edgewood, Maryland	0.000	-		-		0.359	Aug 13	-		0.359	Continuing	Continuing	0.000
Information Assurance System Engineering Support	C/FFP	DSCI:Aberdeen, Maryland	0.000	-		-		0.115	May 13	-		0.115	Continuing	Continuing	0.000
		Subtotal	0.000	0.000		0.000		1.436		0.000		1.436			

	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		1.436		0.000		1.436			

Remarks

Exhibit R-4, **RDT&E Schedule Profile:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303140A: *Information Systems Security Program*	**PROJECT** DV5: *Crypto Modernization (Crypto Mod)*

	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
VACM interoperability																												

Exhibit R-4A, **RDT&E Schedule Details:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303140A: *Information Systems Security Program*	**PROJECT** DV5: *Crypto Modernization (Crypto Mod)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
VACM interoperability	4	2013	4	2016

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303141A: *Global Combat Support System*

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	-	140.017	120.927	41.225	-	41.225	5.640	3.390	2.540	0.315	Continuing	Continuing
083: *Global Combat Support Sys - Army*	-	90.040	96.596	22.615	-	22.615	2.070	1.680	1.620	0.315	Continuing	Continuing
08A: *Army Enterprise System Integration Program*	-	49.977	24.331	18.610	-	18.610	3.570	1.710	0.920	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 FY 2014 funding increase allows GCSS-Army to make large changes to the ERP environment immediately after testing and deployments. The increase also enables the Program to fix critical deficiencies in the system once system is deployed.

A. Mission Description and Budget Item Justification

The Global Combat Support System-Army (GCSS-Army) program has two components: a functional component titled GCSS-Army and a technology enabler component titled Army Enterprise Systems Integration Program (AESIP) (formerly Product Lifecycle Management Plus (PLM+)). GCSS-Army coupled with AESIP are information and communications technology investments that will provide key enabling support to the transformation of the Army into a network-centric, knowledge-based future force. The GCSS-Army approved Joint Capability Description Document (CDD) requires an enterprise approach to replace current logistics and maintenance Standard Army Management Information Systems (STAMIS). GCSS-Army will provide the Army's Sustainment Support for the warfighter with a seamless flow of timely, accurate, accessible and secure information management that gives combat forces a decisive edge. AESIP will provide the system's enterprise hub services, centralized master data management and cross-functional business intelligence/analytics. GCSS-Army will implement best business practices to streamline supply, accountability, maintenance, distribution, and reporting procedures in support of the future force transition path of the Army Campaign Plan.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303141A: *Global Combat Support System*

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	160.491	120.927	23.475	-	23.475
Current President's Budget	140.017	120.927	41.225	-	41.225
Total Adjustments	-20.474	0.000	17.750	-	17.750
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 1	-20.474	-	17.750	-	17.750

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303141A: *Global Combat Support System*	PROJECT 083: *Global Combat Support Sys - Army*	

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
083: *Global Combat Support Sys - Army*	-	90.040	96.596	22.615	-	22.615	2.070	1.680	1.620	0.315	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

Global Combat Support System-Army will provide the Army's Tactical warfighter with a seamless flow of timely, accurate, accessible, actionable, and secure information not readily available today that gives combat forces a decisive edge. GCSS-Army will modernize automated logistics by implementing best business practices to streamline supply operations, maintenance operations, property accountability, and tactical logistics and financial management and integration procedures in support of the Future Force transition path of the Army Campaign Plan. This effort will implement a comprehensive logistics automation solution for the field (deployable) and installation level Army and provide the Commander on the battlefield with an integrated, interoperable view of the battle-space in time to support decisions that will affect the outcome of combat operations. Further, it will allow the Army to meet statutory requirements for auditability. This solution implements Commercial-Off-The-Shelf (COTS) Enterprise Resource Planning (ERP) products from SAP AG. This will also allow the Army to retire multiple custom designed stand-alone business software baselines optimized to existing Army business processes and replace them with a single integrated business software baseline that has been optimized to industry defined best business practices. GCSS-Army is a key component of the Federated ERP Integration solution that will optimize tactical logistics and finance domain business processes into a single federated approach. It will eliminate the need for extensive maintenance and modification of aging, diverse software systems resulting in improved and efficient change control and configuration management through implementation of an enterprise system.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: PM Operations	15.725	10.021	0.000
Articles:	0	0	
Description: Provide functional support across a wide array of specialty areas to sustain product development and evaluation. ***FY 2012 Accomplishments:*** Continued to provide functional support across a wide array of specialty areas to sustain product development and evaluation. ***FY 2013 Plans:*** Continue to provide functional support across a wide array of specialty areas to sustain product development, evaluation and begin fielding.			
Title: Production and Full Deployment Phase Contract Activity	72.757	83.955	22.131
Articles:	0	0	

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303141A: *Global Combat Support System*	**PROJECT** 083: *Global Combat Support Sys - Army*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Description: Manage a myriad of Government contracts associated with work relating to acquisition, engineering, planning and integration activities supporting Global Combat Support System-Army (GCSS-Army). These contracts support an evolutionary development strategy using Systems Applications & Products (SAP) products and architecture. The current efforts support the Milestone Decision Authority federated approach. It is also synchronized with the Army Enterprise Systems Integration Program (AESIP), the Logistics Modernization Program (LMP), and the General Fund Enterprise Business System (GFEBS) to enable end-to-end integration of the Army's logistical and financial Enterprise Resource Planning (ERP) programs. ***FY 2012 Accomplishments:*** Following the successful FY 2011 MS C decision, GCSS-Army began the plan, analyze and design phases for Release 1.2 which will continue throughout FY 2012. The 1st Qtr FY 2012 plan included a successful Intial Operational Test and Evaluation (IOT&E) for Rel 1.1.Based on this success, the Program plannned to seek a Full Deployment Decision (FDD) for this capability. ***FY 2013 Plans:*** After a Lead Site Verification Test, the program will begin fielding Wave 1 of GCSS-Army. Work will continue on the design and build phases for Release 1.2. In the 1st Qtr FY 2013 the program successfully obtained FDD. ***FY 2014 Plans:*** Release 1.2 will be completed and operationally assessed, the program will seek a Fielding Decision from MDA in 2nd Qtr FY 2014 to field Wave 2.			
Title: Government System Test and Evaluation	1.558	2.620	0.484
Articles:	0	0	
Description: Plans, conducts and reports on developmental tests and assists in planning, conducting, and reporting of operational and interoperability tests, assessments, and experiments in order to provide essential information for the acquisition and fielding of warfighting systems. ***FY 2012 Accomplishments:*** Successfully completed IOT&E for GCSS-Army Rel 1.1. in 1st Qtr FY12 and JITC Testing ***FY 2013 Plans:*** Conduct Lead Site Verification with ATEC in 1st Qtr FY 2013. ***FY 2014 Plans:*** Continue ATEC, OTC and JITC testing and evaluation focusing on testing of GCSS-Army Rel 1.2. Conduct Operational Assessment for release 1.2 in 1st Qtr FY 2014.			
Accomplishments/Planned Programs Subtotals	90.040	96.596	22.615

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303141A: *Global Combat Support System*	**PROJECT** 083: *Global Combat Support Sys - Army*

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
• Single Army Logistic Enterprise OPA: *GCSS-Army Other Procurement, Army STACOMP (OPA)*	83.651	110.158	115.736		115.736	135.524	139.280	130.907	31.700	Continuing	Continuing
• GCSS-Army Sustainment: *GCSS-Army Operations & Maintenance, Army (OMA)*	29.390	45.306	74.618		74.618	97.106	93.926	101.663	93.974	Continuing	Continuing

Remarks

PM GCSS-Army Other Procurement, Army (OPA) and Operations & Maintenance, Army (OMA) funding supports acquisition, deployment, and implementation followed by the associated sustainment of GCSS-Army capabilities.

D. Acquisition Strategy

GCSS-Army has an evolutionary acquisition strategy as defined in DoD Directive 5000.01 and DoD Instruction 5000.02 and will define, develop and produce/deploy an initial, militarily useful (and supportable) operational capability based upon proven technology, time-phased requirements, projected threat assessments, and demonstrated manufacturing capabilities in as short a time as possible. The system will be developed in multiple releases as functional capabilities are defined and as integration and synchronization opportunities with related systems present opportunities for subsequent releases. Release 1.2 will be a viable stand alone capability that will not require subsequent releases to be operational.

GCSS-Army is being implemented in three releases to ensure program success.

Release 1.0 replaces: Standard Army Retail Supply System (SARSS) at one Direct Support Unit (DSU) in the 11th Armored Cavalry Regiment (ACR), Fort Irwin, California. An Operational Assessment (OA) was conducted on Release 1.0 and information is gathered through Continuous Evaluation.

Release 1.1 includes: Supply (Tactical and Installation Warehouse and Materiel Management); Field-level and Installation Based Maintenance; Property Accountability (Property Book, Unit Level Supply, and Unit Basic Load Ammunition); Force Element and Defense Forces Public Security (Allows Task Organization of Personnel, Equipment and Associated Property Accountability, Maintenance and Finance Actions); Store and Forward capability; Interoperability with STAMIS systems; Tactical and Installation Finance (Cost Management, Funds Distribution and Execution, Fund Status Reporting, and General Fund Enterprise Business System (GFEBS) Data Synchronization); Hub services; and Enterprise Master Data Management. Release 1.1 provides over 80% of the required GCSS-Army capability; it subsumes Release 1.0 and replaces the SARSS, Property Book Unit Supply Enhanced (PBUSE), Standard Army Maintenance System - Enhanced (SAMS-E) and Standard Army Maintenance System Installation Enhanced (SAMS-IE) legacy systems.

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303141A: *Global Combat Support System*	**PROJECT** 083: *Global Combat Support Sys - Army*

Release 1.2 provides enhanced capabilities such as disconnected operations,increased financial capabilities, expanded enterprise master data management and is prepared to interface with an aviation maintenance system. Rel 1.2 does not by itself replace any additional Systems. Rel 1.2 represents the complete baseline with all required capabilities provided.

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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303141A: *Global Combat Support System*	**PROJECT** 083: *Global Combat Support Sys - Army*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
1 . PMO Operations - PM GCSS-Army PMO Operations	Various	PM GCSS-Army:FT LEE	94.945	3.617	Dec 2011	5.369		-		-		-	Continuing	Continuing	62.385
		Subtotal	94.945	3.617		5.369		0.000		0.000		0.000			62.385

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
1. Enterprise Resource Planning (ERP) design and development	C/FPAF	Northrop Grumman Information Systems:Chester, VA	302.954	68.685	Dec 2011	82.809		22.131		-		22.131	Continuing	Continuing	453.329
Government Developer Subject Matter Experts	IA	ASA (FM&C), CASCOM and GFEBS:Various Locations	17.097	4.072	Dec 2011	1.146		-		-		-	Continuing	Continuing	19.730
		Subtotal	320.051	72.757		83.955		22.131		0.000		22.131			473.059

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
1. PM Support - Independent Verification and Validation (IV&V)	C/T&M	CAP Gemini:2250 Corporate Park Dr, Herndon, VA 20171	0.477	0.370	Dec 2011	0.184		-		-		-	Continuing	Continuing	Continuing
2. PM Support - Program Management Support Services A	C/T&M	Engility Corporation:3750 Centerview Drive Chantilly, VA 20151	0.213	0.694	Dec 2011	0.479		-		-		-	Continuing	Continuing	25.580
3. PM Support - Program Management Support Services B	C/T&M	Logistics Management Institue:Colonial Heights, VA	27.068	11.044	Dec 2011	3.989		-		-		-	Continuing	Continuing	34.531

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303141A: *Global Combat Support System*	**PROJECT** 083: *Global Combat Support Sys - Army*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	27.758	12.108		4.652		0.000		0.000		0.000			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
1. Test and Evaluation - Test and Evaluation	IA	AEC, ATEC, OTC and JITC:Various Locations	30.100	1.558	Dec 2011	2.620		0.484		-		0.484	Continuing	Continuing	Continuing
		Subtotal	30.100	1.558		2.620		0.484		0.000		0.484			

	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	472.854	90.040		96.596		22.615		0.000		22.615			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303141A: *Global Combat Support System*	**PROJECT** 083: *Global Combat Support Sys - Army*

Exhibit R-4A, **RDT&E Schedule Details:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303141A: *Global Combat Support System*	**PROJECT** 083: *Global Combat Support Sys - Army*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Lead Site Verification	1	2013	1	2013
Release 1.1 Full Deployment Decision	1	2013	1	2013
Field Wave 1 Release 1.1	1	2013	2	2015
Release 1.2 Fielding Decision	2	2014	2	2014
Field Wave 2 Release 1.2	3	2014	4	2017

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303141A: *Global Combat Support System*	PROJECT 08A: *Army Enterprise System Integration Program*	

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
08A: *Army Enterprise System Integration Program*	-	49.977	24.331	18.610	-	18.610	3.570	1.710	0.920	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

Army Enterprise Systems Integration Program (AESIP), mission is to integrate Army business processes by providing a single source for enterprise hub services, centralized master data management, and business intelligence and analytics. AESIP will support the Army's federated approach and enable the integration of end-to-end logistical and financial processes. The Army has successfully addressed concerns about the lack of integration of ERPs by leveraging AESIP core capabilities and expanding those benefits across the Army enterprise. AESIP will be an Army specific commercial off-the-shelf (COTS) web portal implementation via the NetWeaver Platform from developer Systems Applications and Products (SAP) American Group to support Army process scenarios and requirements that will provide core competencies:

Enterprise Service Bus (Hub Services) - For a Service oriented, Single Point of Entry to connect, mediate, and control the exchange of data.
Enterprise Business Intelligence/Business Warehouse - Aggregates data from ERP and non-ERP systems to provide flexible Enterprise level reporting.
Enterprise Master Data Management - For a single source of authoritative data and improved workflow and business processes.

Hence, the AESIP solution establishes a framework for a fully integrated ERP centric environment that will ultimately provide Commanders Total Visibility from Factory to Foxhole thereby ensuring delivery of the right equipment to the right unit at the right time, while reducing backlogs of material on the battlefield.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: System Development and Demonstration (SDD) Phase Contract Activity	24.302	2.637	0.000
Articles:	0	0	
Description: Manage a myriad of Government contracts associated with work relating to acquisition, engineering, planning and integration activities supporting production and deployment. These contracts support an evolutionary development strategy for enterprise hub services, centralized master data management and business intelligence/business warehouse applications using Systems Applications & Products (SAP) products and architecture. The current efforts support the Milestone Decision Authority federated approach. It is also synchronized with the Global Combat Support System-Army (GCSS-Army), the Logistics			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303141A: *Global Combat Support System*	**PROJECT** 08A: *Army Enterprise System Integration Program*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Modernization Program (LMP), and the General Fund Enterprise Business System (GFEBS) to enable end-to-end integration of the Army's logistical and financial Enterprise Resource Planning (ERP) programs. ***FY 2012 Accomplishments:*** Continued to manage a myriad of Government contracts associated with work relating to acquisition, engineering, planning and integration activities supporting production and deployment. The focus of work planned for FY 2012 included designing, building and testing hub services and the material master (MM) interfaces required for GCSS-Army Rel 1.2 and complete MM release functionality and attain a Full Deployment Decision. FY 2012 work also included design, development, testing & implementation of MM 3.2 release to support the initial Army instance of an Enterprise non-standard material capability. Funding supported the initiation of convergence of the ERP programs IAW the federated approach. The plan for application server hosting and enterprise service support remained unchanged at Redstone Arsenal and ALTESS respectively. ***FY 2013 Plans:*** Continue to manage a myriad of Small Business and Government contracts associated with work relating to acquisition, engineering, planning and integration activities supporting production and deployment. The focus of work planned for FY13 includes designing, building and testing hub services and the MM interfaces required for GCSS-Army Rel 1.2 and complete MM 3.3, 3.5 release functionality. Funding will continue to support the convergence of the ERP programs IAW the federated approach. The plan for application server hosting and enterprise disaster recovery support remains unchanged at Redstone Arsenal and ALTESS respectively.			
Title: Production & Full Deployment Phases Contract Activity ***Description:*** Manage a myriad of Government contracts associated with work relating to acquisition, engineering, planning and integration activities supporting Army Enterprise Systems Integration Program (AESIP). These contracts support an evolutionary development strategy using Systems Applications & Products (SAP) products and architecture. The current efforts support the Milestone Decision Authority federated approach. It is also synchronized with the Global Combat Support System-Army (GCSS-Army), the Logistics Modernization Program (LMP), and the General Fund Enterprise Business System (GFEBS) to enable end-to-end integration of the Army's logistical and financial Enterprise Resource Planning (ERP) programs. ***FY 2014 Plans:*** Funding is required for AESIP to address system enhancement requests from users, events in the development of other systems, and critical requirements from CASCOM or LOGSA during the GCSS-Army full fielding.	0.000	0.000	3.079
Title: PM Operations ***Articles:*** ***Description:*** Provide functional support across a wide array of specialty areas to sustain product development.	15.898 0	14.990 0	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303141A: *Global Combat Support System*	**PROJECT** 08A: *Army Enterprise System Integration Program*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
FY 2012 Accomplishments: Continued to provide functional support across a wide array of specialty areas to sustain product development. ***FY 2013 Plans:*** Continue to provide functional support across a wide array of specialty areas to sustain product development.			
Title: Government System Test and Evaluation	0.189	0.190	0.956
Articles:	0	0	
Description: Plans, conducts and reports on developmental tests and assists in planning, conducting, and reporting of operational and interoperability tests, assessments, and experiments in order to provide essential information for the acquisition and fielding of warfighting systems. ***FY 2012 Accomplishments:*** Continued ATEC, OTC and JITC testing and evaluation of Enterprise Service Bus (Hub Services) products including but not limited to Business Intelligence/Business Warehouse, Material Master Data and Equipment Master Data applications for full deployment. ***FY 2013 Plans:*** Continue ATEC, OTC and JITC testing and evaluation of Enterprise Service Bus (Hub Services) products including but not limited to Business Intelligence/Business Warehouse, Material Master Data and Equipment Master Data applications for full deployment. ***FY 2014 Plans:*** Continue developmental and operational (ATEC and JITC) testing and evaluation of AESIP Hub Services products. These products include data brokering (interfaces and data conversion), enterprise master data management (material, customer, and vendor records), and enterprise business intelligence/business warehouse capabilities. Additionally, AESIP will conduct continuous evaluation as mandated by ATEC in the Program's capstone TEMP as well as participation in test events such as Limited User Tests and Operational Assesments with various other trading partners.			
Title: Small Business Innovative Research/Small Business Technology Transfer Programs	9.588	6.514	14.575
Articles:	0	0	
Description: Small Business Innovative Research/Small Business Technology Transfer Programs ***FY 2012 Accomplishments:***			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Continued to transition systems integration to small business firms through Source Selection Evaluation Boards (SSEB) to identify potential vendors and offer them fair opportunity competitions for TO Award. ***FY 2013 Plans:*** Continue to transition systems integration to small business firms through Source Selection Evaluation Boards (SSEB) to identify potential vendors and offer them fair opportunity competitions for TO Award. ***FY 2014 Plans:*** Continue to manage a myriad of Small Business contracts through the Government Lead System Integrator during the Production & Full Deployment Phases. Funding is required for AESIP to address system enhancement requests from users, events in the development of other systems, and critical requirements from CASCOM or LOGSA during the GCSS-Army full fielding.			
Accomplishments/Planned Programs Subtotals	49.977	24.331	18.610

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
• Single Army Logistic Enterprise OPA: *AESIP Other Procurement, Army (OPA)*	9.022	3.011	0.700		0.700	1.076	3.420	2.740		Continuing	Continuing
• AESIP Sustainment: *AESIP Operations & Maintenance Army (OMA)*	13.235	19.364	19.881		19.881	37.688	37.435	37.343	36.303	Continuing	Continuing

Remarks

D. Acquisition Strategy

As the technical component of GCSS-Army, AESIP employs an evolutionary acquisition strategy as defined in DoD Directive 5000.1 and DoD Instruction 5000.2, and will define, develop and produce/deploy an initial operational capability based upon proven technology, time-phased requirements, projected threat assessments, and demonstrated manufacturing capabilities in as short a time as possible. The system will be developed in multiple releases then integrated and synchronized with related systems presenting opportunities for subsequent increments.

AESIP will support the same Release 1.1 and 1.2 schedules of GCSS-Army by providing Enterprise Service Bus (Hub Services), Enterprise Master Data Management, and Enterprise Business Intelligence/Business Warehouse capabilities in support of the entire GCSS-Army program to include various other trading partners namely; Logistics Modernization program (LMP), General Fund Enterprise Business System (GFEBS) and Logistics Support Agency (LOGSA).

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303141A: *Global Combat Support System*	**PROJECT** 08A: *Army Enterprise System Integration Program*

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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303141A: *Global Combat Support System*	**PROJECT** 08A: *Army Enterprise System Integration Program*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
1 . PMO Operations - PM AESIP PMO Operations	Various	PM AESIP:5911 Kingstowne Village Pkwy, Alexandria VA 22315	15.740	4.589	Dec 2011	5.761		-		-		-	Continuing	Continuing	Continuing
		Subtotal	15.740	4.589		5.761		0.000		0.000		0.000			

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
1. Enterprise Resource Planning (ERP) Implementation Systems Integration	C/T&M	Computer Sciences Corporation (CSC):3160 Fairview Park Drive, Falls Church, VA 22042	118.445	-		-		-		-		-	Continuing	Continuing	111.902
2. Enterprise Resource Planning (ERP) Implementation - Technical Support Services	FFRDC	MITRE Corporation:7615 Colshire Drive, McLean, VA 22102	5.363	1.457	Dec 2011	0.359		-		-		-	Continuing	Continuing	Continuing
3. Enterprise Resource Planning (ERP) - Government Lead Systems Integrator	IA	US Army ARDEC:Picatinny Arsenal NJ 08706	34.577	13.844	Dec 2011	1.179		-		-		-	Continuing	Continuing	Continuing
4. Enterprise Resource Planning (ERP) - Technical Support Services	C/T&M	Systems Applications and Services (SAP):1300 Pennsylvania Ave, Washington DC 20004	6.009	6.453	Dec 2011	0.664		3.079	Mar 2014	-		3.079	Continuing	Continuing	Continuing
5. Enterprise Resource Planning (ERP) - ERP/ SAP Technical and Management Support Services	C/T&M	iLuMina Solution Inc.:23330 Cottonwood, California MD 20619	2.430	2.548	Dec 2011	0.435		-		-		-	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303141A: *Global Combat Support System*	**PROJECT** 08A: *Army Enterprise System Integration Program*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
6. Enterprise Resource Planning (ERP) - Enterprise Application Services A	C/T&M	Attain, LLC:8000 Towers Crescent Dr., Vienna VA 22182	1.214	6.782	Dec 2011	0.935		-		-		-	Continuing	Continuing	Continuing
7. Enterprise Resource Planning (ERP) - Enterprise Application Services B	C/T&M	Insap Services Inc.:12000 Lincoln Dr. Marlton, NJ 08053	0.010	-		0.010		-		-		-	Continuing	Continuing	Continuing
8. Enterprise Resource Planning (ERP) - Enterprise Application Services C	C/T&M	Oakland Consulting Group Inc:9501 Sheridan Lanham MD 20706	5.821	2.806	Dec 2011	4.470		-		-		-	Continuing	Continuing	Continuing
Enterprise Resource Planning (ERP) - Enterprise Application Services D	C/T&M	TBD:TBD	0.000	-		-		14.575		-		14.575	0.000	14.575	0.000
9. Enterprise Resource Planning (ERP) - Enterprise Integration Services	C/T&M	EDC Consulting LLC:1104 Good Hope Rd SE Washington DC 20020	1.364	-		1.050		-		-		-	Continuing	Continuing	Continuing
10. Enterprise Resource Planning (ERP) - Infrastructure Services	C/T&M	TBD:TBD	0.050	-		0.050		-		-		-	Continuing	Continuing	Continuing
		Subtotal	175.283	33.890		9.152		17.654		0.000		17.654			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
1. PM Support - Program Management Support Services A	C/FFP	L3 Services Inc. (MPRI Division):1320 Braddock PL, Alexandria, 22314	6.846	-		0.094		-		-		-	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303141A: *Global Combat Support System*	**PROJECT** 08A: *Army Enterprise System Integration Program*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
2. PM Support - Program Management Support Services B	C/T&M	LMI Government Consulting:2000 Corporate Ridge, McLean, VA 22102	10.477	10.847	Dec 2011	4.884		-		-		-	Continuing	Continuing	Continuing
3. PM Support - Program Management Support Services C	C/T&M	Science Applications Internation Corporation (SAIC):1710 SAIC Dr., McLean, VA 22102	3.366	-		3.654		-		-		-	Continuing	Continuing	Continuing
4. PM Support - Indepent Verification and Validation (IV&V)	C/T&M	CAP Gemini:2250 Corporate Park Dr, Herndon, VA 20171	1.046	0.462	Dec 2011	0.596		-		-		-	Continuing	Continuing	Continuing
		Subtotal	21.735	11.309		9.228		0.000		0.000		0.000			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
1. Test and Evaluation - Test and Evaluation	IA	AEC, ATEC, OTC and JITC:Various Locations	1.907	0.189	Dec 2011	0.190		0.956	Dec 2013	-		0.956	Continuing	Continuing	Continuing
		Subtotal	1.907	0.189		0.190		0.956		0.000		0.956			

	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	214.665	49.977		24.331		18.610		0.000		18.610			

Remarks

Exhibit R-4, **RDT&E Schedule Profile:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303141A: *Global Combat Support System*	**PROJECT** 08A: *Army Enterprise System Integration Program*

Exhibit R-4A, **RDT&E Schedule Details:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303141A: *Global Combat Support System*	**PROJECT** 08A: *Army Enterprise System Integration Program*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
MM Release 3.3	4	2012	4	2013
MM Release 3.4	1	2013	2	2013
MM Release 3.5	4	2012	4	2013
GCSS-Army Release 1.1 - Full Deployment Decision (FDD)	1	2013	1	2013
GCSS-Army Release 1.1 - Fielding	1	2013	2	2015

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303142A: *SATCOM Ground Environment (SPACE)*

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	-	11.765	15.756	18.197	-	18.197	18.428	10.635	10.054	16.000	Continuing	Continuing
253: *Dscs-Dcs (Phase II)*	-	5.607	5.730	5.559	-	5.559	5.509	5.325	5.402	5.515	Continuing	Continuing
456: *MILSATCOM System Engineering*	-	6.158	10.026	12.638	-	12.638	12.919	5.310	4.652	10.485	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: FY14 Increase supports Protected Comm On The Move (COTM).

A. Mission Description and Budget Item Justification

Military Satellite Communication (MILSATCOM) systems are joint program/project efforts to satisfy ground mobile requirements for each Service, the Joint Chiefs of Staff (JCS), the National Command Authority, the combatant commanders, the Office of the Secretary of Defense, and other governmental, non-DoD users. The worldwide MILSATCOM systems are: the Super High Frequency (SHF) Defense Satellite Communications System (DSCS); the Wideband Global SATCOM (WGS); the MILSTAR Extremely High Frequency (EHF) Low Data Rate (LDR) and Medium Data Rate (MDR); the Advanced Extremely High Frequency (AEHF); and future MILSATCOM capabilities. All of these systems are required to support legacy, interim and emerging communication space architectures and Future Force requirements. The Army is responsible for materiel development, acquisition, product improvement, testing, fielding and integrated logistics support of ground satellite terminals and SATCOM control subsystems and all associated equipment used to provide range extension of Mission Command Networks and Systems. The Army also participates in the development of MILSATCOM programs, including architectures, payloads, waveforms, antennas and terminal developments to ensure US Army equities are appropriately addressed with our sister services. This includes technology assessment efforts associated with the integration of MILSATCOM components to US Army Landwarnet. This responsibility also includes maintaining the life cycle logistics support required to achieve end-to-end connectivity and interoperability, satisfying JCS network operations in support of the President, JCS, combatant commanders, Military Departments, Department of State, and other government Departments and Agencies.

This program is designated as a DoD Space Program.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303142A: *SATCOM Ground Environment (SPACE)*

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	12.085	15.756	16.616	-	16.616
Current President's Budget	11.765	15.756	18.197	-	18.197
Total Adjustments	-0.320	0.000	1.581	-	1.581
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.320	-			
• Adjustments to Budget Years	-	-	1.581	-	1.581

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303142A: *SATCOM Ground Environment (SPACE)*	PROJECT 253: *Dscs-Dcs (Phase II)*	

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
253: *Dscs-Dcs (Phase II)*	-	5.607	5.730	5.559	-	5.559	5.509	5.325	5.402	5.515	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 funds to develop Satellite Communication (SATCOM) ground subsystem equipment and software in support of Joint Chiefs of Staff (JCS) validated Mission Command Network and Systems requirements for the worldwide Defense Enterprise Wideband SATCOM System (DEWSS). DEWSS is composed of the Super High Frequency (SHF) Defense Satellite Communications System (DSCS) and Wideband Global SATCOM (WGS) programs, which are required to support legacy, interim and emerging communication space architectures and future Force requirements. Expansion of the WGS constellation and upgrades to both DSCS and WGS are vital to support the Army's emerging power projection and rapid deployment role. DSCS and WGS provide multiple channels of tactical end-to-end connectivity and interoperability with strategic networks and national decision-makers, satisfying JCS network operations in support of the President, JCS, combatant commanders, military departments, Department of State and other government departments and agencies.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: Netcentric System Engineering and Analysis	5.607	5.730	2.017
Articles:	0	0	
Description: Funding is provided for the following effort: ***FY 2012 Accomplishments:*** Conduct Netcentric System Engineering and Analysis ***FY 2013 Plans:*** Continue to conduct Netcentric System Engineering and Analysis ***FY 2014 Plans:*** Fund analysis for Netcentric System Engineering			
Title: Jam Resistant Secure Communications (JRSC)	0.000	0.000	1.970
Description: Funding is provided for the following effort: ***FY 2014 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303142A: *SATCOM Ground Environment (SPACE)*	**PROJECT** 253: *Dscs-Dcs (Phase II)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Fund Jam Resistant Secure Communications (JRSC risk mitigation modem pilot program to address Anti-Jam (AJ) and Anti-Scintillation (AS) for the WGS constellation.			
Title: Future analysis of Wideband SATCOM Operational Management System (WSOMS) database consolidation effort. ***Description:*** Funding is provided for the following effort: ***FY 2014 Plans:*** WSOMS database consolidation effort to evaluate existing database schemas (structure) for each independent Wideband Control subsystem. The result of the analysis will be to define a structure of a consolidated database along with a transition plan. The desired impact will be to reduce total cost of ownership for multiple subsystems in terms of recurring annual licensing costs and shorten logistics trail with associated database storage equipment.	0.000	0.000	1.572
Accomplishments/Planned Programs Subtotals	5.607	5.730	5.559

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
• 24: *Defense Enterprise Wideband SATCOM Systems (DEWSS) (BB8500)*	123.859	151.636	137.047		137.047	117.430	132.994	145.308		Continuing	Continuing

Remarks

D. Acquisition Strategy

FY14 funding finances Project Manager, Defense Communications and Army Transmission Systems (PM DCATS) netcentric systems engineering, modem risk mitigation, and DoD Information Assurance Certification Accreditation Process (DIACAP) support. Funding provides for SATCOM terminal upgrades, enhancement of baseband throughput capabilities, technology insertion and upgrades which enhance decision support capabilities, allowing for full utilization of Wideband Global SATCOM (WGS) capabilities. Both the Wideband SATCOM Operational Management System (WSOMS) and the Enterprise Wideband SATCOM Terminal System (EWSTS) Capability Production Documents (CPDs) contain Netcentric-Ready Key Performance Parameters (NR-KPPs) as required by CJCSI 6212.01C. Netcentric efforts are required to facilitate the migration from the current trunk-based communications systems to Internet Protocol (IP) based systems and to engineer, test and integrate IP based capabilities into EWSTS and WSOMS systems. Studies, risk mitigation, system integration and advanced demonstrations for netcentric baseband and policy based control will accommodate technology insertion, data sharing, remote operations, architecture efforts and use of commercial technology, thus ensuring the life of the Defense Enterprise Wideband System (DEWSS) terminal family beyond 2025 and reducing lifecycle costs and enterprise requirements on the WGS and Defense Satellite Communication System (DSCS) satellites in the future.

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303142A: *SATCOM Ground Environment (SPACE)*	**PROJECT** 253: *Dscs-Dcs (Phase II)*

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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303142A: *SATCOM Ground Environment (SPACE)*	**PROJECT** 253: *Dscs-Dcs (Phase II)*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PM Admin	C/IDIQ	TBD:TBD	8.622	0.662	Feb 2012	1.107		0.310		-		0.310	Continuing	Continuing	Continuing
		Subtotal	8.622	0.662		1.107		0.310		0.000		0.310			

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
RMCE Integration	C/IDDQ	Johns Hopkins University/Applied Physics Laboratory (JHU/APL):Laurel, MD	2.900	-		-		-		-		-	Continuing	Continuing	Continuing
RMCE GSCCE	C/IDDQ	The Boeing Company:Anaheim, CA	4.600	-		-		-		-		-	Continuing	Continuing	Continuing
Software/Prototypes	C/IDIQ	TBD:TBD	0.000	0.541	Feb 2012	1.283		2.154		-		2.154	0.000	3.978	0.000
		Subtotal	7.500	0.541		1.283		2.154		0.000		2.154			

Remarks

JHU/APL - John Hopkins University/Applied Physics Laboratory

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Netcentric Systems Engineering and Program Mgmt	C/IDIQ	TBD:TBD	13.808	3.162	Feb 2012	1.556		1.256		-		1.256	Continuing	Continuing	Continuing
Core Government Support	Allot	PM Defense Communication and Army Tranmission Systems:Ft. Belvoir, VA	7.753	0.850	Dec 2011	0.884		0.939		-		0.939	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303142A: *SATCOM Ground Environment (SPACE)*	**PROJECT** 253: *Dscs-Dcs (Phase II)*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	21.561	4.012		2.440		2.195		0.000		2.195			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Joint SATCOM Engineering Center (Government Facility)	IA	Communications-Electronics Research Development and Engineering Center (CERDEC):APG, MD	11.670	0.392	Feb 2012	0.900		0.900		-		0.900	Continuing	Continuing	Continuing
		Subtotal	11.670	0.392		0.900		0.900		0.000		0.900			

	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	49.353	5.607		5.730		5.559		0.000		5.559			

Remarks

Exhibit R-4, **RDT&E Schedule Profile:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303142A: *SATCOM Ground Environment (SPACE)*	**PROJECT** 253: *Dscs-Dcs (Phase II)*

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303142A: *SATCOM Ground Environment (SPACE)*	**PROJECT** 253: *Dscs-Dcs (Phase II)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Jam Resistant Secure Communications (JRSC)	1	2014	4	2016
Conduct Analysis of WSOMS Database Consolidation	1	2014	4	2015
WSOMS Net Migration	1	2016	4	2016

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303142A: *SATCOM Ground Environment (SPACE)*	PROJECT 456: *MILSATCOM System Engineering*	

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
456: *MILSATCOM System Engineering*	-	6.158	10.026	12.638	-	12.638	12.919	5.310	4.652	10.485	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

Protected Communications on the Move (COTM) Terminal Prototype:
Continue development/testing of Protected COTM terminal prototype using Advanced Extremely High Frequency (AEHF) Extreme Data Rate (XDR) waveform. Leverages/transitions Communications-Electronics Research Development and Engineering Center (CERDEC) investment in low profile COTM Ka/Q band antenna technology. Provides technology maturation and risk reduction for a protected COTM capability that can be inserted into Project Manager Warfighter Informtaion Network-Tactical (PM WIN-T).

Low Size Weight and Power (SWaP) Ku/Ka SATCOM Antenna for Wideband Global SATCOM (WGS) :
-Multiband low cost low profile Ku/Ka antenna development - invests in and leverages tech base development efforts to provide smaller and lower cost antennas suitable for both existing and future combat vehicles such as M-1/Bradley and Ground Combat Vehicle (GCV). Reduces technical programmatic risk for integration into WIN-T.

A. Mission Description and Budget Item Justification

Military Satellite Communications (MILSATCOM) System Engineering (SE) provides centralized funding for US Army participation in the joint development of MILSATCOM programs. This includes engineering, technical and costs related analyses supporting architecture, payloads, network and terminal requirement and design decisions across all MILSATCOM programs.

MILSATCOM System Engineering also supports experimentation and/or development of new and emerging SATCOM related technologies and standards. This includes prototyping efforts to address technology gaps identified by US Army Programs of Record (POR) in the US Army Technology Transition Matrix.

Transportable Tactical Command Communications (T2C2) supports company-sized early entry units with robust voice and data communications capabilities in the early phases of joint operations. T2C2 also provides transportable communication systems to enable integration into a higher capacity network. T2C2 transitions Global Rapid Response Information Package (AN/PSC-15 GRRIP systems), Secret Internet Protocol Router Network (SIPRNet)/Non-Secure Internet Protocol Routing Network (NIPRNet) Access Point (SNAP), Very Small Aperture Terminal (VSAT) capabilities procured through operational needs statements to a formal Army program. T2C2 Variant 1 enables situational awareness for early entry and initial phases of Joint operations. The T2C2 Variant 2 supports the small command post in phases three through five of Joint operations.

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303142A: *SATCOM Ground Environment (SPACE)*	**PROJECT** 456: *MILSATCOM System Engineering*

FY 2014 funds support efforts in the area of both Wideband/Commercial and Protected Communications related efforts.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: Protected Advanced EHF (AEHF) Communications System Engineering	1.870	2.075	2.075
Articles:	0	0	
Description: Protected Advanced EHF (AEHF) Communications System Engineering ***FY 2012 Accomplishments:*** Protected Advanced EHF (AEHF) Communications System Engineering ***FY 2013 Plans:*** Protected Advanced EHF (AEHF) Communications System Engineering ***FY 2014 Plans:*** Protected Advanced EHF (AEHF) Communications System Engineering			
Title: Wideband Global SATCOM (WGS) Communications System Engineering	1.650	1.901	1.725
Articles:	0	0	
Description: Wideband Global SATCOM (WGS) Communications System Engineering ***FY 2012 Accomplishments:*** Wideband Global SATCOM (WGS) Communications System Engineering and Intelligence, Surveillance, Reconnaissance (ISR) Migration ***FY 2013 Plans:*** Wideband Global SATCOM (WGS) Communications System Engineering and Intelligence, Surveillance, Reconnaissance (ISR) Migration ***FY 2014 Plans:*** Wideband Global SATCOM (WGS) Communications System Engineering to improve Ku/Ka antenna SWAP			
Title: Experimentation, development, testing and certification of critical SATCOM and Satellite-On-The-Move (SOTM) communication and network technologies.	1.438	1.538	2.553
Articles:	0	0	
Description: Experimentation, development, testing and certification of critical SATCOM and SOTM communication and network technologies.			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303142A: *SATCOM Ground Environment (SPACE)*	**PROJECT** 456: *MILSATCOM System Engineering*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
FY 2012 Accomplishments: Experimentation, development, testing and certification of critical SATCOM and SOTM communication and network technologies. ***FY 2013 Plans:*** Experimentation, development, testing and certification of critical SATCOM and SOTM communication and network technologies. ***FY 2014 Plans:*** Experimentation, development, testing and certification of critical SATCOM and SOTM communication and network technologies.			
Title: Federal Communications Commission/ International Telecommunciations Union (FCC/ITU) Satellite Communications On the Move (SOTM) Regulatory Proposals/Analyses/Modifications	0.700	0.605	0.600
Articles:	0	0	
Description: Federal Communications Commission/ International Telecommunciations Union (FCC/ITU) SOTM Regulatory Proposals/Analyses/Modifications ***FY 2012 Accomplishments:*** Federal Communications Commission/ International Telecommunciations Union (FCC/ITU) SOTM Regulatory Proposals/ Analyses/Modifications ***FY 2013 Plans:*** Federal Communications Commission/ International Telecommunciations Union (FCC/ITU) SOTM Regulatory Proposals/ Analyses/Modifications ***FY 2014 Plans:*** Federal Communications Commission/ International Telecommunciations Union (FCC/ITU) SOTM Regulatory Proposals/ Analyses/Modifications			
Title: Protected Terminal COTM and Wide Area Network (WAN) Prototyping	0.500	0.425	1.475
Articles:	0	0	
Description: Protected Wide Area Network (WAN) and Terminal Prototyping ***FY 2012 Accomplishments:*** Protected Terminal COTM and Wide Area Network (WAN) Prototyping ***FY 2013 Plans:*** Protected Terminal COTM and Wide Area Network (WAN) Prototyping ***FY 2014 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303142A: *SATCOM Ground Environment (SPACE)*	**PROJECT** 456: *MILSATCOM System Engineering*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Protected Terminal COTM and Wide Area Network (WAN) Prototyping			
Title: Transportable Tactical Command Communications (T2C2)	0.000	3.482	4.210
Articles:		0	
Description: T2C2 Development: Achieve Materiel Development Decision (MDD), Conduct Analysis of Alternatives (AoA), Preparation for Milestone C, procure Low Rate Initial Production (LRIP), conduct Initial Operational Testing and Evaluation (IOT&E), Support Full Rate Production Decision ***FY 2013 Plans:*** T2C2 Development: Achieve Material Development Decision (MDD), Conduct Analysis of Alternatives (AoA), Preparation for Milestone C, Support Full Rate Production Decision ***FY 2014 Plans:*** T2C2: Preparation for Milestone C, procure Low Rate Initial Production (LRIP), conduct Initial Operational Testing and Evaluation (IOT&E), Support Full Rate Production Decision			
Accomplishments/Planned Programs Subtotals	6.158	10.026	12.638

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

This project funds advanced systems engineering, research, development, test and evaluation of new and emerging technologies to optimize terminal performance and communications control. Once the technologies are mature and deemed feasible, funding and management responsibility for implementation of the technology will transition to Army PORs.

The funds provided for T2C2 will be used to conduct an Analysis of Alternatives (AoA),and produce documentation in support of Milestone C 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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303142A: *SATCOM Ground Environment (SPACE)*	**PROJECT** 456: *MILSATCOM System Engineering*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Oversight	MIPR	PM WIN T:PEO C3T	1.514	0.400		0.500		0.500		-		0.500	Continuing	Continuing	Continuing
Advanced Architecture/ Advanced Wideband System Architecture	MIPR	MIT Lincoln Labs:Lexington , MA	11.474	-		-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	12.988	0.400		0.500		0.500		0.000		0.500			

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Protected Advanced EHF and WGS Communications Syststem Engineering	TBD	PEO C3T PM WIN-T:Various	24.820	0.900		1.100		1.050		-		1.050	Continuing	Continuing	Continuing
Experimentation, development , testing & certification of SATCOM & SOTM communciation & networking.	MIPR	PM WIN-T:Various	21.251	0.800		1.150		1.438		-		1.438	Continuing	Continuing	Continuing
FCC/ITU SOTM Regulatory Proposals/ Analyses/Modifications	MIPR	John Hopkins Universtiy Applied Physics Lab:Laurel, MD	0.800	0.650		0.605		0.600		-		0.600	Continuing	Continuing	Continuing
Protected COTM Tactical Reference Terminal Prototyping and Protected Wide Area Network Prototyping	TBD	PEO C3T PM WIN-T:Various	19.200	0.250		0.300		1.000		-		1.000	Continuing	Continuing	Continuing
Purchase of prototype hardware and engineering studies	C/CR	PEO C3T:PM WIN-T	0.000	-		1.200		-		-		-	Continuing	Continuing	Continuing
T2C2 Development Analysis of AoA activity associated with the	TBD	PEO C3T:PM WIN-T	0.000	-		0.750		-		-		-	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303142A: *SATCOM Ground Environment (SPACE)*	PROJECT 456: *MILSATCOM System Engineering*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
evaluation and award of T2C2 contract															
Includes conducting market research on T2C2 candidate technologies	TBD	PEO C3T:PM WIN-T	0.000	-		0.100		0.250		-		0.250	0.000	0.350	0.100
T2C2 preparation of Milestone C Documentation	TBD	PEO C3T:PM WIN T	0.000	-		-		1.700		-		1.700	0.000	1.700	0.000
		Subtotal	66.071	2.600		5.205		6.038		0.000		6.038			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering (In House)	MIPR	PEO C3T PM WIN T:Core, Matrix	22.990	1.048		1.250		1.900		-		1.900	Continuing	Continuing	Continuing
Engineering Contractors Support	C/CPFF	PEO C3T PM WIN-T:Linquest, Janus, Booze Allen Hamilton	37.035	0.600		0.700		0.600		-		0.600	Continuing	Continuing	Continuing
System Architecture & Analysis	Various	CERDEC:PM WIN T	16.663	0.530		0.143		0.165		-		0.165	Continuing	Continuing	Continuing
T2C2 preparation for Milestone C; Request for Proposal and solcitation preparation	TBD	PEO C3T PM WIN T:Various	0.000	-		0.400		0.300		-		0.300	Continuing	Continuing	Continuing
		Subtotal	76.688	2.178		2.493		2.965		0.000		2.965			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303142A: *SATCOM Ground Environment (SPACE)*	**PROJECT** 456: *MILSATCOM System Engineering*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Terminal Testing and Evaluation System Engineering	FFRDC	PEO C3T WIN T:MITRE	1.554	0.150		0.500		0.300		-		0.300	Continuing	Continuing	Continuing
Test Support	MIPR	MATRIX:PM WIN T	21.382	0.380		0.396		0.375		-		0.375	Continuing	Continuing	Continuing
Testing, Certification	MIPR	CERDEC Support Technical Testing:PM WIN T	5.300	0.450		0.400		0.500		-		0.500	Continuing	Continuing	Continuing
Test support to study the feasibility of moving small terminal activity from COMSATCOMO to MILSATCOM	C/CR	PEO C3T:PM WIN-T	0.000	-		0.532		-		-		-	Continuing	Continuing	Continuing
T2C2 complete Intitial Operational Test and Evaluation	TBD	PEO C3T:PM WIN-T	0.000	-		-		1.960		-		1.960	0.000	1.960	0.000
		Subtotal	28.236	0.980		1.828		3.135		0.000		3.135			

	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	183.983	6.158		10.026		12.638		0.000		12.638			

Remarks

Exhibit R-4, **RDT&E Schedule Profile:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303142A: *SATCOM Ground Environment (SPACE)*	**PROJECT** 456: *MILSATCOM System Engineering*

	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
T2C2 Product delvelopment and M/S C preparation																												
T2C2 IOT&E & MS C																												

Exhibit R-4A, **RDT&E Schedule Details:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303142A: *SATCOM Ground Environment (SPACE)*	**PROJECT** 456: *MILSATCOM System Engineering*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
T2C2 Product delvelopment and M/S C preparation	3	2013	4	2014
T2C2 IOT&E & MS C	4	2014	3	2015

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303150A: *WWMCCS/Global Command and Control System*

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	-	22.658	14.443	14.215	-	14.215	14.843	14.982	13.182	13.314	Continuing	Continuing
C86: *ARMY GLOBAL C2 SYSTEM*	-	22.658	14.443	14.215	-	14.215	14.843	14.982	13.182	13.314	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 increased to continue development of GCCS-A modernization to include necessary components to be compliant with Common Operating Environment (COE) and Global Force Management Data Initiative (GFMD-I).

A. Mission Description and Budget Item Justification

Global Command and Control System-Army (GCCS-A): This project is the Army component system that directly supports the implementation of the Global Command and Control System Family of Systems. GCCS-A provides automated command and control tools for Army Strategic and Operational Theater Commanders to enhance warfighter capabilities throughout the spectrum of conflict during joint and combined operations in support of the National Security. The GCCS-A developed software systems dramatically improves the Army's ability to analyze courses of action; develop and manage Army Forces; and ensure feasibility of war plans. GCCS-A provides a client-server layered architecture and is moving towards a common operating environment (COE) that will enable secure and interoperable applications to be rapidly developed and executed across a variety of computing environments to develop a totally integrated component of the Global Command and Control System Family of Systems that integrates the GCCS-Joint picture with the Army Battle Command Systems (ABCS). GCCS-A strategic tools for readiness reporting have been modernized and replaced with the Defense Readiness Reporting System - Army (DRRS-A), a suite of web based applications for Army Readiness, Force Registration and Force Projection.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303150A: *WWMCCS/Global Command and Control System*

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	23.899	14.443	13.995	-	13.995
Current President's Budget	22.658	14.443	14.215	-	14.215
Total Adjustments	-1.241	0.000	0.220	-	0.220
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.620	-			
• SBIR/STTR Transfer	-0.621	-			
• Adjustments to Budget Years	-	-	0.220	-	0.220

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303150A: *WWMCCS/Global Command and Control System*	PROJECT C86: *ARMY GLOBAL C2 SYSTEM*	

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
C86: *ARMY GLOBAL C2 SYSTEM*	-	22.658	14.443	14.215	-	14.215	14.843	14.982	13.182	13.314	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

Global Command and Control System-Army (GCCS-A): This project is the Army component of the Global Command and Control System (GCCS) Family of Systems (FoS). GCCS-A provides automated command and control tools, including Force readiness, planning and movement, and situational awareness, for Army Strategic and Operational Theater commanders to enhance warfighter capabilities throughout the spectrum of conflict during Joint and combined operations in support of National Security. GCCS-A dramatically improves the Army's ability to analyze courses of action, develop and manage Army forces and execute war plans. GCCS-A links the GCCS-Joint Common Operating Picture with the Army Mission Command systems. GCCS-A will be modernized to meet evolving requirements to enterprise and web based architectures to enable secure and interopable applications to be rapidly developed and executed across a variety of computing environments. GCCS-A strategic tools for readiness reporting have been modernized and replaced with the Defense Readiness Reporting System - Army (DRRS-A), a suite of web based applications for Army Readiness, Force Registration and Force Projection. DRRS-A is currently implementing the Global Force Management Data Initiative (GFMD-I) for consumption of authoritative force structure data.

Based on Congressional direction (Section 247 of Fiscal Year 2010 National Defense Authorization Act (NDAA)), the Secretary of Defense submitted reports to the congressional defense committees detailing the consolidation of the NECC system with the GCCS FoS. As part of that effort, it was determined that GCCS-A will be included in the modernization of the command and control systems within the DoD under the Joint C2 framework. While sustaining and synchronizing current fielded operations, the Army will modernize and enhance current capabilities to support both the Service and
Joint warfighters as part of a synchronized, orchestrated DoD wide effort that will transition the GCCS FoS into a more agile, net-centric, service oriented environment."

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: GCCS-A/DRRS-A Software and System Engineering (Common Operating Environment (COE) System Engineering)	0.317	0.317	0.317
Articles:	0	0	
Description: Software and System Engineering for GCCS-A and DRRS-A Modernization			
FY 2012 Accomplishments: Software and System Engineering for GCCS-A and DRRS-A Modernization			
FY 2013 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303150A: *WWMCCS/Global Command and Control System*	**PROJECT** C86: *ARMY GLOBAL C2 SYSTEM*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Software and System Engineering for GCCS-A and DRRS-A Modernization ***FY 2014 Plans:*** Software and System Engineering for GCCS-A and DRRS-A Modernization			
Title: GCCS-A/DRRS-A Data Engineering (COE Data Engineering)	1.385	1.005	1.385
Articles:	0	0	
Description: Data Engineering for GCCS-A and DRRS-A Modernization ***FY 2012 Accomplishments:*** Data Engineering for GCCS-A and DRRS-A Modernization ***FY 2013 Plans:*** Data Engineering for GCCS-A and DRRS-A Modernization ***FY 2014 Plans:*** Data Engineering for GCCS-A and DRRS-A Modernization			
Title: GCCS-A/DRRS-A Software Development of Automated Command and Control Tools (COE Automated Command and Control Tools)	19.370	11.535	10.927
Articles:	0	0	
Description: Software Development of Automated Command and Control Tools for GCCS-A and DRRS-A Modernization ***FY 2012 Accomplishments:*** Software Development of Automated Command and Control Tools for GCCS-A and DRRS-A Modernization ***FY 2013 Plans:*** Software Development of Automated Command and Control Tools for GCCS-A and DRRS-A Modernization ***FY 2014 Plans:*** Software Development of Automated Command and Control Tools for GCCS-A and DRRS-A Modernization			
Title: GCCS-A/DRRS-A Test and Evaluation	0.643	0.643	0.643
Articles:	0	0	
Description: Test and Evaluation for GCCS-A and DRRS-A Modernization ***FY 2012 Accomplishments:***			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303150A: *WWMCCS/Global Command and Control System*	**PROJECT** C86: *ARMY GLOBAL C2 SYSTEM*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Test and Evaluation for GCCS-A and DRRS-A Modernization ***FY 2013 Plans:*** Test and Evaluation for GCCS-A and DRRS-A Modernization ***FY 2014 Plans:*** Test and Evaluation for GCCS-A and DRRS-A Modernization			
Title: GCCS-A/DRRS-A Program Support and Management	0.943	0.943	0.943
Articles:	0	0	
Description: Support and Management for GCCS-A and DRRS-A Modernization ***FY 2012 Accomplishments:*** Program Support and Management for GCCS-A and DRRS-A Modernization ***FY 2013 Plans:*** Program Support and Management for GCCS-A and DRRS-A Modernization ***FY 2014 Plans:*** Support and Management for GCCS-A and DRRS-A Modernization			
Accomplishments/Planned Programs Subtotals	22.658	14.443	14.215

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
• BA8250A: *Global Command & Control System-Army (GCCS-A)*	18.788	10.848	17.590		17.590	13.920	13.999	14.237	14.350	Continuing	Continuing

Remarks

D. Acquisition Strategy

GCCS-A was slated for replacement by the future DoD Command and Control (C2) system, the Net Enabled Command Capability (NECC) program. The NECC program was cancelled by the Defense Acquisition Executive (DAE) on 2 November 2009. Under current plans, GCCS-A will be modernized to meet the requirements defined in the Joint C2 Capability Development Document (CDD), as well as align with the Joint and Army Enterprise architectures and Common Operating Environment (COE) standards.

GCCS-A must be maintained as a system until replaced by a new joint command and control capability. GCCS-A will be modernized as part of the Joint Command and Control (C2) way forward. In accordance with the Joint Requirements Oversight Committee (JROC) Memorandum (JROCM) 145-09 which states, "The JROC endorses efforts to develop and implement programmatic recommendations to support the "Do No Harm" Strategy", GCCS-A continues to sustain, synchronize and modernize along with the GCCS Family of Systems (FoS). In FY11 the Joint C2 Overarching Integrated Product Team concurred with the Analysis of Alternatives (AoA) results and endorsed the proposed modernization of the GCCS FoS. In FY12 the Under Secretary of Defense, Acquisition, Technology, and Logistics approved the Joint C2 Capability AoA recommendations to implement the Joint C2 sustainment and modernization strategy based on creating and maintaining a federated Joint C2 Family of Programs.

On May 17, 2012 the Under Secretary of Defense, Acquisition, Technology, and Logistics approved the Joint C2 Capability AoA recommendations to implement the Joint C2 sustainment and modernization strategy based on creating and maintaining a federated Joint C2 Family of Programs. An Acquisition Decision Memorandum (ADM) was prepared by Assistant Secretary of the Army for Acquisition, Logistics, and Technology (ASA(ALT)) and signed by the Army Acquisition Executive (AAE) on September 7, 2012. The ADM directs that the Modernization Strategy will consist of two separate program efforts. (1) A three-year (Fiscal Years 2012-2015) (FY12-15) Bridge effort, Acquisition Category (ACAT) III level with Milestone Decision Authority (MDA) and authority to conduct a Materiel Development Decision (MDD) delegated down to Program
Executive Office (PEO) Command, Control, Communications - Tactical (C3T), and (2) a Modernization development effort for the Army's Joint and Strategic command and Control capabilities and Common Operating Environment (COE) infrastructure software products, with an MDD no later than (NLT) FY2015 at which time ACAT level will be determined.

In accordance with the Training and Doctrine Command (TRADOC) requirements document approved in 2011, entitled Net Enabled Mission Command (NeMC) Initial Capabilities Document (ICD), software capability will be developed in 2-year increments as capability sets designed to Collaborate, Collapse and Converge Mission Command products. The product development funded under this R-Form is an integral part of the Mission Command System of Systems, under a strategy designed to optimize opportunity for improved interoperability among the systems, to capture the benefits of competition where possible and to ensure the rapid integration of new capability into warfighter systems. This strategy is designed to reduce the physical footprint, logistics support requirements and increase operational efficiency.

E. Performance Metrics

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

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303150A: *WWMCCS/Global Command and Control System*	**PROJECT** C86: *ARMY GLOBAL C2 SYSTEM*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Office Management	Various	PM Mission Command:Aberdeen Proving Ground, Maryland	12.221	0.943		0.943		0.943		-		0.943	Continuing	Continuing	Continuing
		Subtotal	12.221	0.943		0.943		0.943		0.000		0.943			

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development (Completed Contracts)	Various	Lockheed Martin Corp (LMC):Springfield, VA	156.206	-		-		-		-		-	0.000	156.206	156.206
GCCS-A and DRRS-A Modernization Software Development (Completed Contract)	C/CPAF	Lockheed Martin Corp (LMC):Springfield, VA	9.457	11.855		-		-		-		-	0.000	21.312	21.312
GCCS-A/DRRS-A Modernization Software Development (Current Contract)	Various	Software Engineering Center:Aberdeen Proving Ground, MD	0.000	6.142		10.162		-		-		-	0.000	16.304	16.304
Defense Readiness Reporting System-Army Software Development (Current Contract)	Various	Software Engineering Center:APG, MD	8.217	1.000		1.000		-		-		-	0.000	10.217	10.217
GCCS-A Modernization Software Development (Future Contract)	TBD	TBD:APG, MD	0.000	-		-		4.893	Oct 2014	-		4.893	Continuing	Continuing	Continuing
DRRS-A Software Development (Future Contract)	TBD	TBD:APG, MD	0.000	-		-		5.731	Oct 2014	-		5.731	Continuing	Continuing	Continuing
Matrix	Various	CECOM:Aberdeen Proving Ground, MD	6.106	0.373		0.373		0.303		-		0.303	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303150A: *WWMCCS/Global Command and Control System*	**PROJECT** C86: *ARMY GLOBAL C2 SYSTEM*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
System Engineering	Various	Various:Various	5.774	0.317		0.317		0.317		-		0.317	Continuing	Continuing	Continuing
		Subtotal	185.760	19.687		11.852		11.244		0.000		11.244			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Support Contractors	C/FP	Various:Various	12.880	1.385		1.005		1.385		-		1.385	Continuing	Continuing	Continuing
		Subtotal	12.880	1.385		1.005		1.385		0.000		1.385			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ATEC/JTIC/CTSF/SEC	MIPR	Various:Various	2.897	0.643		0.643		0.643		-		0.643	Continuing	Continuing	Continuing
		Subtotal	2.897	0.643		0.643		0.643		0.000		0.643			

	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	213.758	22.658		14.443		14.215		0.000		14.215			

Remarks

Exhibit R-4, **RDT&E Schedule Profile:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303150A: *WWMCCS/Global Command and Control System*	**PROJECT** C86: *ARMY GLOBAL C2 SYSTEM*

Exhibit R-4A, **RDT&E Schedule Details:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303150A: *WWMCCS/Global Command and Control System*	**PROJECT** C86: *ARMY GLOBAL C2 SYSTEM*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Integration & Test COE 1	1	2013	4	2013
GCCS-A and DRRS-A Modernization Software Development COE 2	1	2013	4	2014
Integration & Test COE 2	1	2015	4	2015
GCCS-A and DRRS-A Modernization Software Development COE 3	1	2015	4	2016
Integration & Test COE 3	1	2017	4	2017
GCCS-A and DRRS-A Modernization Software Development COE 4	1	2017	4	2018

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305204A: *Tactical Unmanned Aerial Vehicles*

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	-	26.508	31.303	33.533	-	33.533	26.261	19.944	11.731	12.881	Continuing	Continuing
11A: *Advanced Payload Develop & Spt (MIP)*	-	15.910	6.247	5.557	-	5.557	8.361	8.113	3.094	3.310	Continuing	Continuing
11B: *Tsp Development (MIP)*	-	6.282	20.730	24.691	-	24.691	13.125	7.247	4.437	4.747	Continuing	Continuing
123: *Joint Technology Center System Integration*	-	4.316	4.326	3.285	-	3.285	4.775	4.584	4.200	4.824	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

Project 11A: The Advanced Payloads Development project line is a shared funding line between multiple Payload programs. These Payload programs support the Army's transformation by developing Reconnaissance, Surveillance and Target Acquisition (RSTA) and Intelligence, Surveillance and Reconnaissance (ISR) payload systems for Brigade Combat Teams, Divisions, and Corps Unmanned Aircraft Systems (UAS). This is in accordance with Headquarters Department of the Army (HQDA) and Training and Doctrine Command (TRADOC) UAS priorities.

Small Tactical Radar - Lightweight (STARLite) Synthetic Aperture Radar/Ground Moving Target Indicator (SAR/GMTI) is a lightweight, high performance, all weather, multi-functional radar system for the Gray Eagle Unmanned Aircraft System (UAS). The STARLite system provides wide area, near real time Reconnaissance, Surveillance and Target Acquisition (RSTA) capabilities. It operates throughout the UAS flight mission profile in adverse weather and through battlefield obscurants. The SAR mode generates quality images for the battlefield commander for detection, classification and location of stationary commercial wheeled vehicle-size targets. The GMTI mode detects moving ground targets, to include man-sized detection, and provides location information and performs cross-cue with the Electro-Optic/ Infrared (EO/IR) sensors.

Common Sensor Payload (CSP) - Electro Optical / Infra Red / Laser Designator (EO/IR/LD) provides High Definition (HD) Full Motion Video (FMV) in both the Electro Optical and Mid Wave IR spectrums with day/night capability to collect and display continuous imagery with the ability to designate targets of interest for attack by laser guided precision weapons. It is the EO/IR/LD sensor for Gray Eagle UAS which supports force applications, battlespace awareness, force protection, and net-centric operations across the battlefield to provide wide area, near real time RSTA capabilities. Additional initiatives will continue to focus on the transition of technologies directly supporting emerging requirements and the Army's Current and Future Force. CSP is being procured for the Gray Eagle UAS program and has potential application to other platforms.

Project 11B: The Tactical Signals Intelligence (SIGINT) Payload (TSP) is a SIGINT sensor, currently under development for the Gray Eagle that detects radio frequency (RF) emitters. The TSP system will provide a SIGINT capability to the tactical commander. The TSP system will be a modular, scalable payload using an architecture that is software reconfigurable to allow for growth and flexibility as technology, and as the adversaries use of technology, changes. This flexible

architecture allows for third party software applications to be integrated into the TSP system. The TSP system is a complementary system to the aerial and terrestrial Intelligence, Surveillance, and Reconnaissance (ISR) layers through direct interface with the Distributed common Ground system - Army (DCGS-A) Information and Intelligence Enterprise (DI2E). It supports Manned/Unmanned (MUM) teaming with Brigade Combat Team ground SIGINT Terminal Guidance (STG) teams and manned airborne assets. The TSP system improves situational awareness and shortens the targeting cycle by detecting and identifying emitters associated with high value targets (HVTs). The TSP system is capable of processing conventional signals, standard military signals, and modern signals of interest. This includes detection recognition, identification, direction finding, and high confidence geo-location. The TSP system operates in two modes, passive and active to provide an enhanced Aerial Precision Geolocation (APG) capability.

Project 123: The Unmanned Aircraft System (UAS) Joint Technology Center/Systems Integration Laboratory (JTC/SIL) is a Joint facility that develops, integrates, and supports the enhancement of its Multiple Unified Simulation Environment (MUSE) capability for Army systems and operational concepts. The JTC/SIL conducts prototype hardware and software development, builds the UAS Institutional Mission Simulator (IMS) trainers for the Shadow, Hunter, and Gray Eagle programs, and provides modeling and simulation support. The MUSE is a real-time, operator in-the-loop simulation that may be integrated with larger simulations in support of Army and Joint training and exercises. The MUSE is also employed as a Mission Rehearsal Tool for ongoing combat operations. This project funds the management of the JTC/SIL and MUSE enhancements. This system supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	26.508	31.303	16.860	-	16.860
Current President's Budget	26.508	31.303	33.533	-	33.533
Total Adjustments	0.000	0.000	16.673	-	16.673
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	16.673	-	16.673

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army												DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*					R-1 ITEM NOMENCLATURE PE 0305204A: *Tactical Unmanned Aerial Vehicles*				PROJECT 11A: *Advanced Payload Develop & Spt (MIP)*			
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
11A: *Advanced Payload Develop & Spt (MIP)*	-	15.910	6.247	5.557	-	5.557	8.361	8.113	3.094	3.310	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 Advanced Payloads Development project is a shared funding line between multiple Payload programs. These Payload programs support the Army's transformation by developing Reconnaissance, Surveillance and Target Acquisition (RSTA) and Intelligence, Surveillance and Reconnaissance (ISR) payload systems for Brigade Combat Teams, Divisions, and Corps Unmanned Aircraft Systems (UAS). This is in accordance with Headquarters Department of the Army (HQDA) and Training and Doctrine Command (TRADOC) UAS priorities.

Small Tactical Radar - Lightweight (STARLite) Synthetic Aperture Radar/Ground Moving Target Indicator (SAR/GMTI) is a lightweight, high performance, all weather, multi-functional radar system for the Gray Eagle Unmanned Aircraft System (UAS). The STARLite system provides wide area, near real time Reconnaissance, Surveillance and Target Acquisition (RSTA) capabilities. It operates throughout the UAS flight mission profile in adverse weather and through battlefield obscurants. The SAR mode generates quality images for the battlefield commander for detection, classification and location of stationary commercial wheeled vehicle-size targets. The GMTI mode detects moving ground targets, to include man-sized detection, and provides location information and performs cross-cue with the Electro-Optic/ Infrared (EO/IR) sensors.

Common Sensor Payload (CSP) - Electro Optical / Infra Red / Laser Designator (EO/IR/LD) provides High Definition (HD) Full Motion Video (FMV) in both the Electro Optical and Mid Wave IR spectrums with day/night capability to collect and display continuous imagery with the ability to designate targets of interest for attack by laser guided precision weapons. It is the EO/IR/LD sensor for Gray Eagle UAS which supports force applications, battlespace awareness, force protection, and net-centric operations across the battlefield to provide wide area, near real time RSTA capabilities. Additional initiatives will continue to focus on the transition of technologies directly supporting emerging requirements and the Army's Current and Future Force. CSP is being procured for the Gray Eagle UAS program and has potential application to other platforms.

FY 2014 base development dollars in the amount of $5.557 million is for software development to improve CSP and STARLite Sensor Processing and Exploitation.

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305204A: *Tactical Unmanned Aerial Vehicles*	**PROJECT** 11A: *Advanced Payload Develop & Spt (MIP)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: CSP High Definition (HD) - EO/IR/LD	14.281	3.567	0.000
Articles:	0	0	
Description: Development, testing and integration ***FY 2012 Accomplishments:*** CSP HD Development, testing and integration ***FY 2013 Plans:*** CSP HD Development, testing and integration			
Title: CSP HD Target Location Accuracy (TLA) - EO/IR/LD	0.000	2.680	0.000
Articles:		0	
Description: Target Location Accuracy (TLA) - Non Recurring Engineering (NRE), design, integrate and test of TLA ***FY 2013 Plans:*** Contract Prep Work - RFP, SOW and contract award for FY14 TLA Development			
Title: STARLite ER (Extended Range) - SAR/GMTI	1.629	0.000	0.000
Articles:	0		
Description: STARLite (SAR/GMTI) - Design, build, test and integrate 3 STARLite ER integration and test systems (Larger Antenna = Extended Range and Increased Reliability) onto the host platform (Gray Eagle). ***FY 2012 Accomplishments:*** Finalize testing events and integration onto host platform (Gray Eagle)			
Title: Software Development to improve CSP and STARLite Sensor Processing and Exploitation	0.000	0.000	5.557
Description: Development, Testing and Integration ***FY 2014 Plans:*** Software Development to improve CSP and STARLite Sensor Processing and Exploitation			
Accomplishments/Planned Programs Subtotals	15.910	6.247	5.557

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305204A: *Tactical Unmanned Aerial Vehicles*	**PROJECT** 11A: *Advanced Payload Develop & Spt (MIP)*

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
• A00020: *MQ-1 PAYLOAD - UAS - A00020*	146.983	231.508	97.781		97.781	72.009	59.680	53.900	11.200	Continuing	Continuing

Remarks

MQ-1 PAYLOAD - UAS - A00020: Shared Aircraft Procurement, Army (APA) procurement funding line for CSP,STARLite, Tactical Signals Intelligence (SIGINT) Payload (TSP) and Advanced Payloads.

D. Acquisition Strategy

STARLite SAR/GMTI is a threshold requirement for the Gray Eagle UAS. The acquisition strategy for STARLite program was based on a full and open competition for the Army. A five year competitive production contract was awarded in April 2008 to Northrop Grumman for the build, integration, test and delivery of STARLite systems with preplanned improvements for Extended Range and Increased Reliability. A follow-on production and sustainment contract is planned for award in August 2013 for 3 years that will procure all the remaining STARLite Payloads required for the Gray Eagle platform and provide system sustainment. FRP is scheduled for FY13 while S/W improvements to the current sensors are planned for FY14.

Common Sensor Payload (CSP) EO/IR/LD is a KPP (Key Performance Parameter) requirement for the Gray Eagle UAS. The acquisition strategy for the CSP program was based on a full and open competition for the Army. It was briefed and approved at the Army Systems Acquisition Review Council (ASARC) in Dec 2006. A competitive contract was awarded in Nov 2007 to Raytheon for the build, integration, test and delivery of the CSP. FRP is scheduled for FY13 while improvements to the current sensors are planned for FY14. CSP High Definition (HD) is being cut into the existing payload with a retrofit schedule planned for award in FY13 to bring all of the previously procured CSP baseline systems up to the HD configuration.

The acquisition strategy for FY14 software development to improve CSP and STARLite Sensor Processing and Exploitation is to utilize existing contract 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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305204A: *Tactical Unmanned Aerial Vehicles*	**PROJECT** 11A: *Advanced Payload Develop & Spt (MIP)*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Mgmt Personnel	Various	PM RUS:Aberdeen, MD	7.086	0.871	Dec 2011	0.567	Dec 2012	0.500	Dec 2013	-		0.500	Continuing	Continuing	Continuing
PM ARES Funding for TSP	Allot	PM, ARES:Aberdeen, MD	11.255	-		-		-		-		-	0.000	11.255	11.255
		Subtotal	18.341	0.871		0.567		0.500		0.000		0.500			

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
STARLite Extended Range (ER) (SAR/GMTI)	C/CPFF	Northrop Grumman:Linthicum, MD	6.786	-		-		-		-		-	0.000	6.786	6.786
CSP EO/IR/LD	C/FFP	Raytheon:McKinney, TX	48.500	-		-		-		-		-	0.000	48.500	48.500
CSP HD (High Definition)	MIPR	NSWC Crane:Crane, IN	3.000	7.850	Feb 2012	-		-		-		-	0.000	10.850	10.850
CSP TLA - NRE, Build and Test - Contract Closeout	MIPR	NSWC Crane:Crane, IN	22.000	-		2.680		-		-		-	0.000	24.680	Continuing
Improvements to Sensor Processing and Exploitation	TBD	TBD:TBD	0.000	-		-		5.057	Mar 2014	-		5.057	Continuing	Continuing	Continuing
		Subtotal	80.286	7.850		2.680		5.057		0.000		5.057			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Gray Eagle Integration Support (STARLite, CSP, HD & TLA)	MIPR	PM UAS / General Atomics:Huntsville, AL	20.344	4.191	Feb 2012	1.500		-		-		-	Continuing	Continuing	Continuing
		Subtotal	20.344	4.191		1.500		0.000		0.000		0.000			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305204A: *Tactical Unmanned Aerial Vehicles*	**PROJECT** 11A: *Advanced Payload Develop & Spt (MIP)*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
STARLite ER (Extended Range) - SAR/GMTI	MIPR	Various:Linthicum, MD	12.250	-		-		-		-		-	0.000	12.250	12.250
CSP (EO/IR/LD)	MIPR	Various:Various	13.779	-		-		-		-		-	0.000	13.779	13.779
CSP HD	MIPR	TBD:TBD	0.000	2.998	Feb 2012	1.500		-		-		-	0.000	4.498	4.498
		Subtotal	26.029	2.998		1.500		0.000		0.000		0.000	0.000	30.527	30.527

	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	145.000	15.910		6.247		5.557		0.000		5.557			

Remarks

Exhibit R-4, **RDT&E Schedule Profile:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305204A: *Tactical Unmanned Aerial Vehicles*	**PROJECT** 11A: *Advanced Payload Develop & Spt (MIP)*

Exhibit R-4A, **RDT&E Schedule Details:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305204A: *Tactical Unmanned Aerial Vehicles*	**PROJECT** 11A: *Advanced Payload Develop & Spt (MIP)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
CSP HD (EO/IR/LD) Development	2	2012	2	2013
CSP HD (EO/IR/LD) Testing	1	2013	3	2013
CSP HD (EO/IR/LD) Production	2	2013	2	2016
Improvements to Sensor Processing and Exploitation	1	2014	4	2015

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305204A: *Tactical Unmanned Aerial Vehicles*	PROJECT 11B: *Tsp Development (MIP)*	

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
11B: *Tsp Development (MIP)*	-	6.282	20.730	24.691	-	24.691	13.125	7.247	4.437	4.747	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

TSP efforts in FY11 and prior years were carried in both Projects 11A (Advanced Payload Development) and 11B (TSP Development). All TSP funding in FY12 and beyond is carried in Project 11B.

A. Mission Description and Budget Item Justification

The Tactical Signals Intelligence (SIGINT) Payload (TSP) is a SIGINT sensor, currently under development for the Gray Eagle that detects radio frequency (RF) emitters. The TSP system will provide a SIGINT capability to the tactical commander. The TSP system will be a modular, scalable payload using an architecture that is software reconfigurable to allow for growth and flexibility as technology, and as the adversaries use of technology, changes. This flexible architecture allows for third party software applications to be integrated into the TSP system. The TSP system is a complementary system to the aerial and terrestrial Intelligence, Surveillance, and Reconnaissance (ISR) layers through direct interface with the Distributed Common Ground System - Army (DCGS-A) Information and Intelligence Enterprise (DI2E). It supports Manned/Unmanned (MUM) teaming with Brigade Combat Team ground SIGINT Terminal Guidance (STG) teams and manned airborne assets. The TSP system improves situational awareness and shortens the targeting cycle by detecting and identifying emitters associated with high value targets (HVTs).

The TSP system is capable of processing conventional signals, standard military signals, and modern signals of interest. This includes detection, recognition, identification, direction finding, and high confidence geo-location. The TSP system operates in two modes, passive and active to provide an enhanced Aerial Precision Geolocation (APG) capability.

FY2014 Base funding in the amount of $24.691 Million supports TSP Engineering and Manufacturing Development (EMD) phase contract as well as test and evaluation, program management and engineering costs.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: EMD Non-Recurring Engineering (NRE), Training Development, Other Licensing and Equipment.	6.282	20.730	24.691
Articles:	0	0	
Description: EMD NRE, Training Development, Other Licensing and Equipment.			
FY 2012 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305204A: *Tactical Unmanned Aerial Vehicles*	**PROJECT** 11B: *Tsp Development (MIP)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Continued EMD NRE, Training Development, Other Licensing and Equipment. ***FY 2013 Plans:*** Continues TSP Block 1, Increment 1 EMD Phase, Commences EMD Test and Evaluation (Contractor Flight Test, Limited User Test). ***FY 2014 Plans:*** Complete TSP Block 1, Increment 1 EMD Phase. Commences TSP Block 1, Increment 2 EMD Phase.			
Accomplishments/Planned Programs Subtotals	6.282	20.730	24.691

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
• NSA: *NSA MIP (TSP)*	6.813	2.892	1.769		1.769					0.000	11.474
• A00020: *MQ-1 Payload*		231.508	97.871		97.871	72.009	59.680	53.900	11.200	0.000	526.168

Remarks

MQ-1 Payload - UAS - A00020: Shared Aircraft Procurement, Army (APA) procurement funding line for CSP, STARLite, TSP, and Advanced Payloads.

D. Acquisition Strategy

TSP is a threshold requirement for the MQ-1C Gray Eagle UAS. The TSP program entered the Engineering and Manufacturing Development (EMD) phase with a Milestone B decision in September 2011. The TSP Program EMD contract award was based on full-and-open competition and was focused on integration and test onto the Gray Eagle platform and integration and test of TSP software into the Distributed Common Ground System-Army (DCGS-A). The TSP EMD program is a derivative of systems that are currently fielded on the Hunter UAS and a variety of other manned platforms. The demonstrated scalability of these fielded materiel solutions allows the TSP EMD program to leverage effort that directly supports the TSP EMD program.

The TSP programs Acquisition Strategy has been modified to accommodate the FY 2012 Appropriation that reduced the 11B Funding Line by $14.100 Million. The TSP program is following an incremental Acquisition Strategy with a TSP Block 0, Block 1 and Block 2. Schedule adjusted in accordance with the TSP Acquistion Decision Memorandum dated 22 Mar 2012.

The TSP Block 0 will provide an early TSP operational capability for the Gray Eagle program.

The TSP Block 1 is the current Program of Record that entered EMD in FY 2011.

The TSP Block 2 effort will address System enhancements and upgrades as the threat and technology evolves.

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305204A: *Tactical Unmanned Aerial Vehicles*	**PROJECT** 11B: *Tsp Development (MIP)*

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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305204A: *Tactical Unmanned Aerial Vehicles*	**PROJECT** 11B: *Tsp Development (MIP)*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management-Gov	RO	PM ARES:APG	5.412	0.810	Dec 2011	1.264	Dec 2012	1.005	Dec 2013	-		1.005	Continuing	Continuing	Continuing
Program Management Support	MIPR	Various:APG	2.830	0.350	Dec 2011	0.396	Mar 2013	0.792	Mar 2014	-		0.792	Continuing	Continuing	Continuing
FFRDC Support	FFRDC	MITRE:APG	0.286	0.358	Feb 2012	1.260	Mar 2013	0.215	Mar 2014	-		0.215	Continuing	Continuing	0.000
		Subtotal	8.528	1.518		2.920		2.012		0.000		2.012			

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TSP EMD	C/CPIF	BAE Systems,:Nashua, NH	2.841	3.544	Mar 2012	6.953	Mar 2013	16.083	Dec 2013	-		16.083	Continuing	Continuing	Continuing
		Subtotal	2.841	3.544		6.953		16.083		0.000		16.083			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering Support	MIPR	Various:...	1.250	0.540	Mar 2012	1.000	Mar 2013	0.750	Mar 2014	-		0.750	Continuing	Continuing	Continuing
		Subtotal	1.250	0.540		1.000		0.750		0.000		0.750			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test and Activities	MIPR	Various:ATEC/APG	4.139	0.680	May 2012	4.600	Mar 2013	2.960	Jan 2014	-		2.960	Continuing	Continuing	Continuing
Operational Testing	MIPR	ATEC:APG	0.500	-		3.247	Mar 2013	0.400	Jan 2014	-		0.400	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305204A: *Tactical Unmanned Aerial Vehicles*	**PROJECT** 11B: *Tsp Development (MIP)*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Range & Aircraft Support	MIPR	Lakehurst, Ft Huachuca, others:Various	0.000	-		2.010	Mar 2013	2.486	Jan 2014	-		2.486	Continuing	Continuing	Continuing
		Subtotal	4.639	0.680		9.857		5.846		0.000		5.846			

	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	17.258	6.282		20.730		24.691		0.000		24.691			

Remarks

Exhibit R-4, **RDT&E Schedule Profile:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305204A: *Tactical Unmanned Aerial Vehicles*	**PROJECT** 11B: *Tsp Development (MIP)*

Exhibit R-4A, **RDT&E Schedule Details:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305204A: *Tactical Unmanned Aerial Vehicles*	**PROJECT** 11B: *Tsp Development (MIP)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
TSP Block 0 (LRIP) Milestone C Preparation	1	2013	3	2013
TSP Block 1, Inc 1 Development Test and Evaluation	2	2013	1	2014
TSP Block 1, Inc 2 Option Award	2	2014	2	2014
TSP Block 1, Inc 2 System Integration and Test	2	2014	4	2014
TSP Block 1, Inc 2 Development Test and Evaluation	1	2015	1	2015
TSP Block 1, Inc 2 Initial Operational Test and Evaluation	2	2015	2	2015
TSP Blk 1 Full Rate Production Decision	3	2015	3	2015

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305204A: *Tactical Unmanned Aerial Vehicles*	PROJECT 123: *Joint Technology Center System Integration*	

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
123: *Joint Technology Center System Integration*	-	4.316	4.326	3.285	-	3.285	4.775	4.584	4.200	4.824	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 Unmanned Aircraft System (UAS) Joint Technology Center/Systems Integration Laboratory (JTC/SIL) is a Joint facility that develops, integrates, and supports the enhancement of its Multiple Unified Simulation Environment (MUSE) capability for Army systems and operational concepts. The JTC/SIL conducts prototype hardware and software development, builds the UAS Institutional Mission Simulator (IMS) trainers for the Shadow, Hunter, and Gray Eagle programs, and provides modeling and simulation support. The MUSE is a real-time, operator in-the-loop simulation that may be integrated with larger simulations in support of Army and Joint training and exercises. The MUSE is also employed as a Mission Rehearsal Tool for ongoing combat operations. This project funds the management of the JTC/SIL and MUSE enhancements.

This system supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: Product Development	1.800	1.840	1.700
Articles:	0	0	

Description: Funding is provided for the following efforts.

FY 2012 Accomplishments:
Released MUSE 8.8 software which contained advanced weaponization, improvements for software for integrating third party software to meet user requirements such as mapping and visualization softwre, advanced mission planning capabilities, ease of use enhancements to assist users in operation of the system, network environment, entity handling software improvements and Windows 7 64 bit operations.

FY 2013 Plans:
Integration of a government owned visualization package. Develop more ease of use enhancements including standardized set up packages for the aircraft simulation. Evaluate Ground Control Station simulation improvements for fidelity and realism. Design, develop, implement, and release Build 8.8.

FY 2014 Plans:

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305204A: *Tactical Unmanned Aerial Vehicles*	**PROJECT** 123: *Joint Technology Center System Integration*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Move to smart phone or more portable computing capabilities. Evaluate the adaptable environment that gives the user more flexibility by choosing which components to use for a more customized environment. Incorporate new sensor technologies. Incorporate new aircraft and avionics. Design, develop, implement, and release Build 9.04			
Title: Support OSD Joint UAS Interoperability Requirements and Activities	2.000	2.000	1.141
Articles:	0	0	
Description: Funding is provided for the following efforts. ***FY 2012 Accomplishments:*** Established the JSIL as a legitimate Joint test organization by forging relationships with Test Resources Management Center (TRMC) and Joint Interoperability Test Center (JITC). continued to move the UAS Control Segment Working Group (UCS WG) forward to include coordinating and integrating a tri-service demonstration of the architecture. Developed of UCS Architecture related tools and training aids. Maintained Unmanned Systems Interoperability Profile (USIP) Management Plan which governs the USIP process. ***FY 2013 Plans:*** Develop UCS Architecture environment and compliance tools. Develop and publish multiple new USIPs based on OSD prioritization. Provide technical and administrative support to I IPT and associated WGs. ***FY 2014 Plans:*** Continue development of UCS Architecture environment and compliance tools. Continue to develop and publish multiple new USIPs based on OSD prioritization. Continue to provide technical and administrative support to I IPT and associated WGs.			
Title: Management Services	0.516	0.486	0.444
Articles:	0	0	
Description: Funding is provided for the following efforts. ***FY 2012 Accomplishments:*** Provided coordination and oversight of MUSE product development and OSD Interoperability Requirements and Tood development. ***FY 2013 Plans:*** Continue coordination and oversight of MUSE product development and OSD Interoperability Requirements and tool development. ***FY 2014 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305204A: *Tactical Unmanned Aerial Vehicles*	**PROJECT** 123: *Joint Technology Center System Integration*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Continue coordination and oversight of MUSE product development and OSD Interoperability Requirements and Tool development.			
Accomplishments/Planned Programs Subtotals	4.316	4.326	3.285

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 0603261N Navy: *PE 0603261N Navy*	3.573	2.000	2.000		2.000	2.000				Continuing	Continuing
• PE 0305206F Air Force: *PE 0305206F Air Force*	3.235	3.464	2.472		2.472	3.983	4.044	3.455	3.507	Continuing	Continuing

Remarks

The JTC/SIL and the MUSE receive funding from the Air Force and Navy through their POM processes. This effort is a continuing effort in support of Service UAS programs.

D. Acquisition Strategy

Continued MUSE development will be accomplished through a combination of Government in-house functional directorate support using a variety of existing contract 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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305204A: *Tactical Unmanned Aerial Vehicles*	**PROJECT** 123: *Joint Technology Center System Integration*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management	MIPR	AMC, AMCOM, AMRDEC, SED:Redstone Arsenal, AL	0.796	0.516	Dec 2011	0.486		0.444		-		0.444	Continuing	Continuing	Continuing
		Subtotal	0.796	0.516		0.486		0.444		0.000		0.444			

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MUSE Development	MIPR	AMC, AMCOM, AMRDEC, SED:Redstone Arsenal, AL	3.687	1.800	Dec 2011	1.840		1.700	Dec 2013	-		1.700	Continuing	Continuing	Continuing
		Subtotal	3.687	1.800		1.840		1.700		0.000		1.700			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Interoperability Support	MIPR	AMC, RDECOM, AMRDEC:Redstone Arsenal, AL	2.000	2.000	Dec 2011	2.000		1.141	Dec 2013	-		1.141	Continuing	Continuing	0.000
		Subtotal	2.000	2.000		2.000		1.141		0.000		1.141			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	6.483	4.316		4.326		3.285		0.000		3.285			

Remarks

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305208A: *Distributed Common Ground/Surface Systems*

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	-	31.401	40.876	27.622	-	27.622	29.986	26.285	26.571	27.023	Continuing	Continuing
956: *Distributed Common Ground System (MIP)*	-	31.401	40.876	27.622	-	27.622	18.857	0.431	0.000	0.000	Continuing	Continuing
D07: *DCGS-A Common Modules (MIP)*	-	0.000	0.000	0.000	-	0.000	11.129	25.854	26.571	27.023	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

Project D07 was created to clearly delineate between the DCGS-A Increment 1 and Increment 2 development efforts beginning in FY15. D07 does not represent a New Start program; the funding in D07 has previously been included in Project 956.

A. Mission Description and Budget Item Justification

Distributed Common Ground System - Army (DCGS-A) is the Intelligence, Surveillance and Reconnaissance (ISR) System of Systems (SoS) for Joint, Interagency, Allied, Coalition, and National data analysis, sharing and collaboration. The core functions of DCGS-A are: the vertical and horizontal synchronization of ISR Processing, Exploitation and Dissemination (PED) efforts; operations in a networked environment at multiple security levels; the control of select Army and joint sensor systems; the fusion of all acquired data and information, and distribution of relevant red (threat), gray (non-aligned), and environmental (weather and terrain) information; and providing the Warfighters' early warning and targeting capability. DCGS-A provides a single integrated ISR ground processing system composed of common components that are interoperable with sensors, other information sources, all Warfighting Functions, and the Defense Information & Intelligence Enterprise (DI2E). DCGS-A is fielded in Fixed and Mobile configurations emphasizing the use of reach and split based operations by improving accessibility of data in order to reduce forward deployed footprint. As enhanced capabilities are developed and tested, annual software releases are integrated into Army Common/commodity hardware and fielded to units IAW the Army Force Generation (ARFORGEN) process.

The Army Acquisition Executive designated to PEO IEW&S and DCGS-A as the Command Post Computing Environment (CPCE) Lead. As such, DCGS-A is defining the architecture to fit within the Common Operating Environment (COE) as described by the ASA(ALT) COE Implementation Plan. This is in accordance with the G-3/5/7 priority to align all Army networks, procurements, and enhancements under one COE and one vision leveraging intelligence community investments.

DCGS-A consolidates, enhances, and modernizes the Tasking, Processing, Exploitation, and Dissemination (TPED) capabilities formerly found in nine Army intelligence programs of record and two Quick Reaction Capabilities. DCGS-A provides these technologically advanced PED capabilities in tailored and scalable mobile and fixed configurations in all maneuver and maneuver support units from Company Intelligence Support Team to Army Service Component Command, and in select maneuver sustainment units battalion and above. The program also will develop software packages to be embedded in mission command and other select systems to provide required ISR/analytic capabilities. DCGS-A is a key component of the DoD ISR Task Force modernization efforts and a critical Army priority.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305208A: *Distributed Common Ground/Surface Systems*

DCGS-A software will be tailored by echelon and scalable to each unit's mission. DCGS-A provides commanders and staffs the ability to maintain an accurate and up to date understanding of the operational environment. DCGS-A's contributions to commanders' visualization and situational awareness, rapid planning, and the synchronization of all warfighting functions, enable Army units to operate within the enemy's decision cycle. This capability enhances tactical and operational maneuver and the conduct of full spectrum operations across the range of military operations from humanitarian to major combat operations.

The DCGS-A configurations range from laptops to systems integrated in tactical shelters and mounted on tactical vehicles to large commodity servers operating in a Cloud Processing Architecture. Main Cloud nodes are placed in data centers strategically located across the globe, while tactical edge Cloud nodes will be integrated within select existing equipment currently on units' Modified Tables of Organization & Equipment (MTOE). The fundamental intent and tenet of this approach is to reduce forward deployed equipment/footprint by co-locating the advanced analytics capabilities within the DCGS-A baseline with the regional data centers, where the data is stored. This infrastructure consolidation simultaneously reduces processor and communications requirements in tactical units by limiting the number of large data files transported across tactical communications systems. The first DCGS-A Cloud node reached its initial operating capability in Operation Enduring Freedom (OEF) in FY11. Following a successful operational assessment and Milestone C in 2QFY12/Full Deployment Decision in 1QFY13, DCGS-A Increment 1 Release 1 Software Baseline capability will be deployed throughout the Army.

FY14 Base funding in the amount of $27.622 million will be used for the development and testing of the DCGS-A Increment 1 Software Releases as well as the continued development and testing of the of the Command Post Computing Environment (CPCE) as it fits into the Army's overarching Common Operating Environment (COE) construct. The COE has been directed by the ASA(ALT) and concurred by the Army G3/5/7 as a priority effort to align all Army networks, procurements, and enhancements under one COE vision. Funds used for efforts associated with the develo

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	31.649	40.876	25.655	-	25.655
Current President's Budget	31.401	40.876	27.622	-	27.622
Total Adjustments	-0.248	0.000	1.967	-	1.967
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-0.248	-	1.967	-	1.967

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305208A: *Distributed Common Ground/Surface Systems*	PROJECT 956: *Distributed Common Ground System (MIP)*	

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
956: *Distributed Common Ground System (MIP)*	-	31.401	40.876	27.622	-	27.622	18.857	0.431	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

Beginning in FY15, a portion of the Project 956 funding was shifted to Project D07 in order to clearly delineate between DCGS-A Increment 1 and Increment 2 development efforts. The overall DCGS-A development program is not expected to end in 2016.

A. Mission Description and Budget Item Justification

Distributed Common Ground System - Army (DCGS-A) is the Intelligence, Surveillance and Reconnaissance (ISR) System of Systems (SoS) for Joint, Interagency, Allied, Coalition, and National data analysis, sharing and collaboration. The core functions of DCGS-A are: the vertical and horizontal synchronization of ISR Processing, Exploitation and Dissemination (PED) efforts; operations in a networked environment at multiple security levels; the control of select Army and joint sensor systems; the fusion of all acquired data and information, and distribution of relevant red (threat), gray (non-aligned), and environmental (weather and terrain) information; and providing the Warfighters' early warning and targeting capability. DCGS-A provides a single integrated ISR ground processing system composed of common components that are interoperable with sensors, other information sources, all Warfighting Functions, and the Defense Information & Intelligence Enterprise (DI2E). DCGS-A is fielded in Fixed and Mobile configurations emphasizing the use of reach and split based operations by improving accessibility of data in order to reduce forward deployed footprint. As enhanced capabilities are developed and tested, annual software releases are integrated into Army Common/commodity hardware and fielded to units IAW the Army Force Generation (ARFORGEN) process.

The Army Acquisition Executive designated to PEO IEW&S and DCGS-A as the Command Post Computing Environment (CPCE) Lead. As such, DCGS-A is defining the architecture to fit within the Common Operating Environment (COE) as described by the ASA(ALT) COE Implementation Plan. This is in accordance with the G-3/5/7 priority to align all Army networks, procurements, and enhancements under one COE and one vision leveraging intelligence community investments.

DCGS-A consolidates, enhances, and modernizes the Tasking, Processing, Exploitation, and Dissemination (TPED) capabilities formerly found in nine Army intelligence programs of record and two Quick Reaction Capabilities. DCGS-A provides these technologically advanced PED capabilities in tailored and scalable mobile and fixed configurations in all maneuver and maneuver support units from Company Intelligence Support Team to Army Service Component Command, and in select maneuver sustainment units battalion and above. The program also will develop software packages to be embedded in mission command and other select systems to provide required ISR/analytic capabilities. DCGS-A is a key component of the DoD ISR Task Force modernization efforts and a critical Army priority.

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305208A: *Distributed Common Ground/Surface Systems*	**PROJECT** 956: *Distributed Common Ground System (MIP)*

DCGS-A software will be tailored by echelon and scalable to each unit's mission. DCGS-A provides commanders and staffs the ability to maintain an accurate and up to date understanding of the operational environment. DCGS-A's contributions to commanders' visualization and situational awareness, rapid planning, and the synchronization of all warfighting functions, enable Army units to operate within the enemy's decision cycle. This capability enhances tactical and operational maneuver and the conduct of full spectrum operations across the range of military operations from humanitarian to major combat operations.

The DCGS-A configurations range from laptops to systems integrated in tactical shelters and mounted on tactical vehicles to large commodity servers operating in a Cloud Processing Architecture. Main Cloud nodes are placed in data centers strategically located across the globe, while tactical edge Cloud nodes will be integrated within select existing equipment currently on units' Modified Tables of Organization & Equipment (MTOE). The fundamental intent and tenet of this approach is to reduce forward deployed equipment/footprint by co-locating the advanced analytics capabilities within the DCGS-A baseline with the regional data centers, where the data is stored. This infrastructure consolidation simultaneously reduces processor and communications requirements in tactical units by limiting the number of large data files transported across tactical communications systems. The first DCGS-A Cloud node reached its initial operating capability in Operation Enduring Freedom (OEF) in FY11. Following a successful operational assessment and Milestone C in 2QFY12/Full Deployment Decision in 1QFY13, DCGS-A Increment 1 Release 1 Software Baseline capability will be deployed throughout the Army.

FY14 Base funding in the amount of $27.622 million will be used for the development and testing of the DCGS-A Increment 1 Software Releases as well as the continued development and testing of the of the Command Post Computing Environment (CPCE) as it fits into the Army's overarching Common Operating Environment (COE) construct. The COE has been directed by the ASA(ALT) and concurred by the Army G3/5/7 as a priority effort to align all Army networks, procurements, and enhancements under one COE vision. Funds used for efforts associated with the development of the CPCE/COE will include the continued merger/collapse of capabilities across multiple Battlefield Functional Areas (BFAs) and the consolidation of hardware used across the BFAs. Funds used for efforts associated with the development of DCGS-A software releases will include continued security enhancements in order to achieve Protection Level (PL) 2 and PL 3 compliance, as well as further investment into capabilities and widget development supporting All Source Intelligence, Human Intelligence (HUMINT), Signals Intelligence (SIGINT), Geospatial Intelligence (GEOINT) and emerging architectural and infrastructure enhancements. The DCGS-A test program will show a growth from previous years. The program office will be funding and conducting multiple test events for two distinct software releases. Testing activities requiring these funds will include Developmental Testing (DT)for Release 3; Operational Testing (OT) for Release 2 and Operational Test Prep for Release 3; Participation in Network Integration Evaluation and Exercises such as Eempire Challence and ULCHI Freedom; and Certification tests for each software release. The result of these activities all serve to prove out the capabilities in Increment 1 Release 2 and Release 3, and COE Version 2 (COE V2) and COE V3.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: Design and Development of DCGS-A enterprise level net-centric architecture	3.164	26.712	13.979
Articles:	0	0	
Description: Continue design and development of DCGS-A enterprise level net-centric architecture to include: Development & Integration of DCGS-A Software; DT/OT, Mobile Basic Contract Deliverables, and Program Management support costs. Global Unified Data Environment (Cloud) - development - to create direct Data Ingest of varying intelligence data types and development of analytical tools to exploit single -INT data, further enhancing Cloud Enterprise Account Management load distribution of			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305208A: *Distributed Common Ground/Surface Systems*	**PROJECT** 956: *Distributed Common Ground System (MIP)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
enterprise level complex searches. Development of Cloud to Cloud Data Synchronization technologies and enhanced data management applications between Cloud and Edge nodes. ***FY 2012 Accomplishments:*** Continue and complete design and development of DCGS-A enterprise level net-centric architecture to include: Development & Integration of DCGS-A Software; IOT&E, Developmental Testing, DCGS-A and Program Management support costs ***FY 2013 Plans:*** Continue design and development of DCGS-A enterprise level net-centric architecture to include: Development & Integration of DCGS-A Software; DT/OT and Program Management support costs. Global Unified Data Environment (Cloud) - development - to create direct Data Ingest of varying intelligence data types and development of analytical tools to exploit single -INT data, further enhancing Cloud Enterprise Account Management load distribution of enterprise level complex searches. Development of Cloud to Cloud Data Synchronization technologies and enhanced data management applications between Cloud and Edge nodes. ***FY 2014 Plans:*** Continue design and development of DCGS-A enterprise level net-centric architecture to include: Development & Integration of DCGS-A Software; DT/OT and Program Management support costs. Global Unified Data Environment (Cloud) - development - to create direct Data Ingest of varying intelligence data types and development of analytical tools to exploit single -INT data, further enhancing Cloud Enterprise Account Management load distribution of enterprise level complex searches. Development of Cloud to Cloud Data Synchronization technologies and enhanced data management applications between Cloud and Edge nodes. COE convergence of Ops and Intel capabilities.			
Title: Cloud development ***Articles:*** ***Description:*** Global Unified Data Environment (Cloud) development - creates near real-time multi-intelligence analytics environment, extends access and reduces analytic response time. ***FY 2012 Accomplishments:*** Global Unified Data Environment (Cloud) - development - to create near real time multi-intelligence analytics environment, extend Cloud Enterprise access and reduces Intelligence Product production time.	21.500 0	0.000	0.000
Title: Matrix Support including SIL S/W Support ***Articles:*** ***Description:*** Matrix Support including SIL S/W Support ***FY 2013 Plans:***	0.000	4.554 0	4.082

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305208A: *Distributed Common Ground/Surface Systems*	**PROJECT** 956: *Distributed Common Ground System (MIP)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Matrix Support including SIL S/W Support ***FY 2014 Plans:*** Matrix Support including SIL S/W Support			
Title: Army and Joint Testing/Development/Operational Test Support	4.551	6.507	8.520
Articles:	0	0	
Description: Ongoing Army and Joint interoperability testing and evaluation to include Operational Assessment (Network Integration Evaluation (NIE) Operational Assessment), JITC, and Operational Test ***FY 2012 Accomplishments:*** Ongoing Army and Joint interoperability testing and evaluation to include Operational Assessment (NIE Operational Assessment), JITC, and Operational Test ***FY 2013 Plans:*** Ongoing Army and Joint interoperability testing and evaluation to include Operational Assessment (NIE Operational Assessment), JITC, and Operational Test ***FY 2014 Plans:*** Ongoing Army and Joint interoperability testing and evaluation to include NIE events, DCGS Software Baseline Operational Test, Common Operational Environment Command Post Computing Environment; Unified View, Ulchi Freedom Guardian, Enterprise Resolve Operational Assessment; Army Interoperablity Certification Test with JITC and CTSF.			
Title: Support Costs and Management Services	2.186	3.103	1.041
Articles:	0	0	
Description: Funding is provided for the following effort/Project Management Support ***FY 2012 Accomplishments:*** Provide matrix support and PMO efforts ***FY 2013 Plans:*** Provide matrix support and PMO efforts ***FY 2014 Plans:*** Provide matrix support and PMO efforts.			
Accomplishments/Planned Programs Subtotals	31.401	40.876	27.622

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305208A: *Distributed Common Ground/Surface Systems*	**PROJECT** 956: *Distributed Common Ground System (MIP)*

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
• DCGS-A (MIP) Procurement: *BZ7316*	207.548	274.362	267.214		267.214	285.167	322.399	297.200	302.252	Continuing	Continuing
• DCGS-A Increment 2 RDTE: *0305208A / D07*						11.067	25.665	26.332	26.765	Continuing	Continuing

Remarks

D. Acquisition Strategy

The Distributed Common Ground System-Army (DCGS-A) program was created in response to the Department of Defense (DoD) Distributed Common Ground/ Surface System (DCGS) Mission Area Initial Capabilities Document (MA ICD) dated 13 Aug 2004, which captured the overarching requirements for an Intelligence, Surveillance, and Reconnaissance (ISR) Family of Systems (FoS) that will contribute to Joint and combined Warfighter needs. That ICD was updated as the Distributed Common Ground/Surface System (DCG/SS) Enterprise ICD, and approved by the Joint Requirements Oversight Council (JROC) 27 Feb 2009. The Army requirements were refined in the DCGS-A Capabilities Development Document (CDD), and approved by the JROC 31 Oct 2005. The DCGS-A program is currently in the Production and Deployment phase and was designated as a Major Automated Information System (MAIS) in OSD (AT&L) Memorandum, 29 Mar 2010.

DCGS-A is following an evolutionary acquisition approach to develop and field system capabilities over time to satisfy the requirements of the DCGS-A Capability Development Document (CDD). Following this approach, the first increment was defined and a Capability Production Document (CPD) was created with full consideration of all of the preceding supporting documents and analysis. As part of its initial staffing, a Cost Benefit Analysis was completed in support of the DCGS-A CPD. This analysis projected a significant cost avoidance/savings over the life cycle by not limiting the hardware configuration to a one size fits all unit types design but rather integrating the DCGS-A SW capabilities into common servers and other IT components fielded at that echelon. This approach was included in the CPD and updated DCGS-A Acquisition Strategy. The CPD was approved by the JROC on 20 Dec 2011.

The DCGS-A System Engineering Plan (SEP) updated the current development plan and was approved by OASD (R&E) on 5 Dec 2011. The DCGS-A Revised Acquisition Strategy (AS) was approved by the Defense Acquisition Executive (DAE) on 21 Mar 2012. The DCGS-A Acquisition Program Baseline was approved on 29 Mar 12. The DCGS-A program received a milestone C decision on 29 Feb 2012 and an operational test was completed in Jun 2012. A successful Full Deployment Decision (FDD) for Release 1 Initial Minimum Capability was obtained December 2012.

PM DCGS-A has been designated as the Command Post Computing Environment (CPCE) Lead for PEO IEW&S. As such, DCGS-A is currently aligning it's architecture to fit within the Common Operating Environment (COE) as described by the ASA(ALT) COE Implementation Plan. This alignment is in accordance with the G-3/5/7 priority to align all Army networks, procurements, and enhancements under one COE and one vision. Our acquisition strategy supports this initiative as we continue to collapse PORs and reduce footprint following our capability migration path and iterative development of software releases which continue to increase capabilities to satisfy the remaining CPD requirements beyond Initial Minimal Capability. As DCGS-A continues the path through Increment 1 and beyond, each release will focus on the COE and continually align the Command Post activities with DCGS-A Cloud and POR migration activities. The program office expects to continue as

the DCGS-A System Integrator for software development and hardware integration, and will continue to access multiple vendors by leveraging a variety of competitively awarded 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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305208A: *Distributed Common Ground/Surface Systems*	**PROJECT** 956: *Distributed Common Ground System (MIP)*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Management	Various	PM, DCGS-A:APG, MD	22.552	2.186		3.103		1.041		-		1.041	Continuing	Continuing	Continuing
		Subtotal	22.552	2.186		3.103		1.041		0.000		1.041			

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Metadata Catalog	Various	MITRE,:various	17.865	-		-		-		-		-	Continuing	Continuing	Continuing
Design & Develop DCGS-A Architecture	Various	Northrup Grumman, Various:Linthicum, MD, Various	220.204	3.164		26.712		-		-		-	0.000	250.080	0.000
Design & Develop DCGS-A Incr 1 Software	Various	TBD, Various:TBD	0.000	-		-		13.979	Dec 2013	-		13.979	Continuing	Continuing	0.000
Secure Common Data Link (SCDL)	Various	CUBIC:Orlando, Fla.	0.788	-		-		-		-		-	Continuing	Continuing	0.000
Global Unified Data Environment (Cloud) Development	Various	CERDEC/SEC:APG, MD	0.000	21.500		-		-		-		-	Continuing	Continuing	0.000
		Subtotal	238.857	24.664		26.712		13.979		0.000		13.979			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Matrix Support Government Test & Integration Lab	Various	CECOM:CECOM	14.180	-		4.554		4.082	Feb 2014	-		4.082	Continuing	Continuing	Continuing
		Subtotal	14.180	0.000		4.554		4.082		0.000		4.082			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305208A: *Distributed Common Ground/Surface Systems*	**PROJECT** 956: *Distributed Common Ground System (MIP)*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Operational Test Support for DCGS-A Rel 2 and Rel 3 OT Prep	Various	ATEC, OTC, Various:APG, MD, EPG, Various	2.738	-		6.507	Mar 2013	4.376	Nov 2013	-		4.376	Continuing	Continuing	Continuing
Developmental Testing for Release 3	Various	I2WD, Various:APG, MD, Various	0.000	-		-		2.528	Nov 2013	-		2.528	0.000	2.528	0.000
NIE for Rel 2 and CPCE COE V2	Various	NIE:Ft. Bliss	8.636	1.651		-		0.800	Nov 2013	-		0.800	Continuing	Continuing	Continuing
Operational Assessments/ Joint Demo for Inc 1 and CPCE	Various	Empire Challenge, ULCHI Freedom Guardia, Unified Vision:AZ, KO, EU	0.000	1.800		-		0.300	Jun 2014	-		0.300	0.000	2.100	0.000
Certification Test	Various	JITC/CTSF:ATEC	0.000	1.100		-		0.516		-		0.516	0.000	1.616	0.000
		Subtotal	11.374	4.551		6.507		8.520		0.000		8.520			

	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	286.963	31.401		40.876		27.622		0.000		27.622			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305208A: *Distributed Common Ground/Surface Systems*	**PROJECT** 956: *Distributed Common Ground System (MIP)*

Exhibit R-4A, **RDT&E Schedule Details:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305208A: *Distributed Common Ground/Surface Systems*	**PROJECT** 956: *Distributed Common Ground System (MIP)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
IOT&E DCGS-A Inc 1 Rel 1 Software Baseline	3	2012	3	2012
Full Deployment Decision	1	2013	1	2013
Developmental Test/Operational Test Inc 1 Rel 2	3	2013	3	2014
Developmental Test/Operational Test Inc 1 Rel 3	4	2014	3	2015
Developmental Test/Operational Test Inc 1 Rel 4	4	2015	3	2016
Fielding & Training Inc 1 Rel 1	3	2013	4	2014
Inc 1 Rel 1 Initial Operational Capability	3	2013	3	2013
Fielding & Training Inc 1 Rel 2	4	2014	2	2016
Fielding & Training Inc 1 Rel 3	3	2016	4	2017

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305208A: *Distributed Common Ground/Surface Systems*	PROJECT D07: *DCGS-A Common Modules (MIP)*	

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
D07: *DCGS-A Common Modules (MIP)*	-	0.000	0.000	0.000	-	0.000	11.129	25.854	26.571	27.023	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

Distributed Common Ground System - Army (DCGS-A) will serve as the primary ground system of systems for airborne and ground sensor platforms defined as Objective Force systems. DCGS-A enables the commander to achieve situational understanding by leveraging multiple sources of data, information, and intelligence to synchronize the elements of Joint and Combined Arms combat power (maneuver, maneuver support and maneuver sustainment support). The core functions of DCGS-A are: collection and processing of space, airborne, ground and maritime Intelligence, Surveillance and Reconnaissance (ISR) sensor data; control of select Army and joint ISR sensor systems; intelligence synchronization; ISR planning, reconnaissance and surveillance (R&S) integration; fusion of sensor information, and direction and distribution/dissemination of sensor information. It draws information from a wide variety of automated and manual sources; on-board sensors, space platforms, unattended air and ground vehicles, existing and new ISR capabilities, and an assortment of databases to enable the land component commander to execute battle command, synchronize fires and effects, rapidly shift battle focus, achieve situational understanding, protect the force, and employ his forces more effectively. DCGS-A allows commanders at all levels to visualize and understand the threat and environment, predict threat intentions, execute targeting through targeting support, conduct ISR integration and support Information Operations.

This project provides for the design, development, integration and test of the DCGS-A system of systems at all echelons, from embedded DCGS-A up to Fixed Site operations. The effort includes system engineering, software integration and development, test & evaluation, and use of Modeling and Simulation (M&S) to develop DCGS-A Mobile systems with common multi-function hardware and software combinations (i.e. user workstations) capable of performing all DCGS-A functions. Development will focus on common module hardware and software that is scaleable to allow commanders increased flexibility in the intelligence force package deployed such that it can be tailored to the echelon, location, and mission that DCGS-A will be required to support. Included in the development will be the stand-up of a Federated Systems Integration Lab (SIL) to assess and implement existing and new candidate software applications and components into the DCGS-A baseline design. A common set of ISR Analysis Tools to support collaboration, exploitation, fusion and collection management will be developed that operate within the construct of distributed, reach operations within the DCGS-A enterprise in order to maximize data access and minimize forward footprint. This will ultimately result in a DCGS-A design that reduces physical and logistics footprint, eases training burden, and decreases sustainability requirements.

FY09 funds development of Technology Insertion modules providing DCGS-A capabilities into Current Force systems, common module multi-function hardware, Battle Command interoperability and integration and test of new software applications.

Funding for this effort continues under Project 956 beginning in FY 2010.

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305208A: *Distributed Common Ground/Surface Systems*	**PROJECT** D07: *DCGS-A Common Modules (MIP)*

B. Accomplishments/Planned Programs ($ in Millions)

N/A

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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305208A: *Distributed Common Ground/Surface Systems*	**PROJECT** D07: *DCGS-A Common Modules (MIP)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TBD	TBD	TBD:TBD	0.000	-		-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	0.000	0.000		0.000		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	0.000	0.000		0.000		0.000		0.000		0.000			

Remarks

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305219A: *MQ-1 Gray Eagle - Army UAV (MIP)*

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	-	121.846	74.618	10.901	-	10.901	17.609	25.237	25.569	13.331	Continuing	Continuing
MQ1: *MQ-1 GRAY EAGLE - ARMY UAV (MIP)*	-	121.846	74.618	10.901	-	10.901	17.609	25.237	25.569	13.331	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

Gray Eagle provides the Division Commander a dedicated, assured, multi-mission Unmanned Aircraft System (UAS) for the tactical flight assigned to Combat Aviation Brigade (CAB), Army Special Operations Aviation Command, (ARSOAC), and Aerial Exploitation Battalions (AEB) in support of the Division Fires, Battlefield Surveillance Brigades (BSB) and Brigade Combat Teams (BCT), based upon the Division Commander's priorities. Provides Reconnaissance, Surveillance, and Target Acquisition (RSTA), command and control, communications relay, Signals Intelligence (SIGINT), and battle damage assessment capability. The MQ-1C Gray Eagle UAS will be fielded to (15) units. A Gray Eagle unit consists of either 9 or 12 Aircraft and a Standard Equipment Package (SEP) and Payloads to include: Electro-Optical/Infrared Laser Range Finder/Laser Designator (EO/IR/RF/LD), communication relay, and up to (4) HELLFIRE Missiles. The Combat Aviation Brigades (CAB) consist of Soldiers, (9) Aircraft, (5) Universal Ground Control Stations (UGCS), (6) Universal Ground Data Terminals (UGDT), (1) Mobile Ground Control Station (MGCS), (1) Satellite Communication (SATCOM) Ground Data Terminal (SGDT), (9) Satellite Airborne Data Terminals (SADT), (3) Automatic Take-off and Landing Systems (ATLS), and Ground Support Equipment (GSE). The Aerial Exploitation Battalions (AEB) consist of (9) Aircraft, (5) Universal Ground Control Stations (UGCS), (6) Universal Ground Data Terminals (UGDT), (1) Mobile Ground Control Station (MGCS), (1) Satellite Communication (SATCOM) Ground Data Terminal (SGDT), (9) Satellite Airborne Data Terminals (SADT), (3) Automatic Take-off and Landing Systems (ATLS), and Ground Support Equipment (GSE). The number of soldiers assigned to each of the AEB units will be determined upon issuance of the Force Design Update in the summer of 2013. The Army Special Operations Aviation Command (ARSOAC) units consist of Soldiers, (12) Aircraft, (6) Universal Ground Control Stations (UGCS), (7) Universal Ground Data Terminals (UGDT), (3) Mobile Ground Control Stations (MGCS), (3) Satellite Communication (SATCOM) Ground Data Terminals (SGDT), (12) Satellite Airborne Data Terminals (SADT), (3) Automatic Take-off and Landing Systems (ATLS), and Ground Support Equipment (GSE). Deployed units also receive (4) Ka Satellite Communication (SATCOM) Ground Data Terminals (SGDT) and (12) Ka Satellite Communications (SATCOM) Airborne Data Terminals (SADT) for access to military (Ka band) satellites while OCONUS.

Justification: FY 2014 funding of $10.901 million will provide funding for development of SW Version 4.3.2 and planning of the PPT4 and FOTE test events. FOTE is currently scheduled for the first quarter of FY 2015.

FY 2014 funds will also provide for Ground Based Sense and Avoid (GBSAA) development, testing, and integration into the Gray Eagle System.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army					DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*		**R-1 ITEM NOMENCLATURE** PE 0305219A: *MQ-1 Gray Eagle - Army UAV (MIP)*			
B. Program Change Summary ($ in Millions)	**FY 2012**	**FY 2013**	**FY 2014 Base**	**FY 2014 OCO**	**FY 2014 Total**
Previous President's Budget	121.846	74.618	14.705	-	14.705
Current President's Budget	121.846	74.618	10.901	-	10.901
Total Adjustments	0.000	0.000	-3.804	-	-3.804
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	-3.804	-	-3.804

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305219A: *MQ-1 Gray Eagle - Army UAV (MIP)*	PROJECT MQ1: *MQ-1 GRAY EAGLE - ARMY UAV (MIP)*	

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
MQ1: *MQ-1 GRAY EAGLE - ARMY UAV (MIP)*	-	121.846	74.618	10.901	-	10.901	17.609	25.237	25.569	13.331	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

Gray Eagle IOT&E being conducted August 2012. FY2013 plan program elements changes maybe required based on outcome of IOT&E.

A. Mission Description and Budget Item Justification

Gray Eagle provides the Division Commander a dedicated, assured, multi-mission Unmanned Aircraft System (UAS) for the tactical flight assigned to Combat Aviation Brigade (CAB), Army Special Operations Aviation Command, (ARSOAC), and Aerial Exploitation Battalions (AEB) in support of the Division Fires, Battlefield Surveillance Brigades (BSB) and Brigade Combat Teams (BCT), based upon the Division Commander's priorities. Provides Reconnaissance, Surveillance, and Target Acquisition (RSTA), command and control, communications relay, Signals Intelligence (SIGINT), and battle damage assessment capability. The MQ-1C Gray Eagle UAS will be fielded to (15) units. A Gray Eagle unit consists of either 9 or 12 Aircraft and a Standard Equipment Package (SEP) and Payloads to include: Electro-Optical/Infrared Laser Range Finder/Laser Designator (EO/IR/RF/LD), communication relay, and up to (4) HELLFIRE Missiles. The Combat Aviation Brigades (CAB) consist of Soldiers, (9) Aircraft, (5) Universal Ground Control Stations (UGCS), (6) Universal Ground Data Terminals (UGDT), (1) Mobile Ground Control Station (MGCS), (1) Satellite Communication (SATCOM) Ground Data Terminal (SGDT), (9) Satellite Airborne Data Terminals (SADT), (3) Automatic Take-off and Landing Systems (ATLS), and Ground Support Equipment (GSE). The Aerial Exploitation Battalions (AEB) consist of (9) Aircraft, (5) Universal Ground Control Stations (UGCS), (6) Universal Ground Data Terminals (UGDT), (1) Mobile Ground Control Station (MGCS), (1) Satellite Communication (SATCOM) Ground Data Terminal (SGDT), (9) Satellite Airborne Data Terminals (SADT), (3) Automatic Take-off and Landing Systems (ATLS), and Ground Support Equipment (GSE). The number soldiers assigned to each of the AEB units will be determined upon issuance of the Force Design Update in the summer of 2013. The Army Special Operations Aviation Command (ARSOAC) units consist of Soldiers, (12) Aircraft, (6) Universal Ground Control Stations (UGCS), (7) Universal Ground Data Terminals (UGDT), (3) Mobile Ground Control Stations (MGCS), (3) Satellite Communication (SATCOM) Ground Data Terminals (SGDT), (12) Satellite Airborne Data Terminals (SADT), (3) Automatic Take-off and Landing Systems (ATLS), and Ground Support Equipment (GSE). Deployed units also receive (4) Ka Satellite Communication (SATCOM) Ground Data Terminals (SGDT) and (12) Ka Satellite Communications (SATCOM) Airborne Data Terminals (SADT) for access to military (Ka band) satellites while OCONUS.

Justification: FY 2014 funding of $10.901 million will provide funding for development of SW Version 4.3.2 and planning of the PPT4 and FOTE test events. FOTE is currently scheduled for the first quarter of FY 2015.

FY 2014 funds will also provide for Ground Based Sense and Avoid (GBSAA) development, testing, and integration into the Gray Eagle System.

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305219A: *MQ-1 Gray Eagle - Army UAV (MIP)*	**PROJECT** MQ1: *MQ-1 GRAY EAGLE - ARMY UAV (MIP)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: Gray Eagle EMD System including Electro-Optical / Infrared, synthetic Aperture Radar, and communications Relay Payloads	33.327	14.213	0.000
Articles:	0	0	
Description: Gray Eagle EMD System including Electro-Optical / Infrared, synthetic Aperture Radar, and communications Relay Payloads ***FY 2012 Accomplishments:*** Continuing efforts include executing the remaining System Development & Demonstration (SDD) efforts and the Initial Operation Test and Evaluation (IOT&E). Deployed the First Unit Equipped F/227 March 2012, Successful Manned Unmanned Systems Integration Capability (MUSIC), Completed Production Prove-Out Test (PPT-3), Achieved Type II Business Case Analysis (BCA) Approval fromthe Army Acquisition Executive (AAE). Successful Logistics Demonstration (LOGDEMO-3) for soldier's ability to maintain, fault isolate and repair system ***FY 2013 Plans:*** Continuing efforts include executing the remaining System Development & Demonstration (SDD) efforts and the Initial Operation Test and Evaluation (IOT&E). Deployed the First Unit Equipped F/227 March 2012, Successful Manned Unmanned Systems Integration Capability (MUSIC), Completed Production Prove-Out Test (PPT-3), Achieved Type II Business Case Analysis (BCA) Approval fromthe Army Acquisition Executive (AAE). Successful Logistics Demonstration (LOGDEMO-3) for soldier's ability to maintain, fault isolate and repair system			
Title: Gray Eagle Software / Hardware Development	31.740	12.506	1.624
Articles:	0	0	
Description: Gray Eagle Software / Hardware Development ***FY 2012 Accomplishments:*** Gray Eagle Software / Hardware Development: Development of Software Version 4.4.0 ***FY 2013 Plans:*** Gray Eagle Software / Hardware Development: Development of Software Version 4.4.0 ***FY 2014 Plans:*** Gray Eagle Software / Hardware Development: Development of Software			
Title: Government Test support including IOT&E, LUT, Logistics Demonstration Operational Tempo (OPTEMPO)	18.165	14.200	3.462
Articles:	0	0	

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305219A: *MQ-1 Gray Eagle - Army UAV (MIP)*	**PROJECT** MQ1: *MQ-1 GRAY EAGLE - ARMY UAV (MIP)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Description: Government Test support including IOT&E, LUT, Logistics Demonstration Operational Tempo (OPTEMPO) ***FY 2012 Accomplishments:*** MQ-1C Gray Eagle Initial Operational Test and Evaluation ***FY 2013 Plans:*** Government Test support including IOT&E, LUT, Logistics Demonstration Operational Tempo (OPTEMPO); Efforts include Electromagnetic Environmental Effects (E3), Environmental Testing, Transportability/Mobility Testing and Production Prove-Out Test #4 ***FY 2014 Plans:*** Gray Eagle Software and Hardware Development; Government Pre FOT&E and Post Production Test 4.			
Title: Gray Eagle System Training and Training Equipment Development	35.013	23.091	0.000
Articles:	0	0	
Description: Gray Eagle System Training and Training Equipment Development ***FY 2012 Accomplishments:*** Training of Crews and Maintenance Personnel to operate and maintain the MQ-1 Gray Eagle System; Converted WY205 Air Vehicle to a Maintenance Asset and Developing a Maintenance Training Suite ***FY 2013 Plans:*** Gray Eagle System Training and Training Equipment Development; Execute training development, beyond the threshold capability in FY12 for an equipment capability intoduced			
Title: Gray Eagle Support including Engineering and Program Management	3.601	2.915	0.000
Articles:	0	0	
Description: Gray Eagle Support including Engineering and Program Management ***FY 2012 Accomplishments:*** Implement reliability improvements and corrections for IOT&E as well as integration of office wide interoperability initiatives. Corrected deficiencies for Limited User Test (LUT) and developed/tested capabilities in support of IOT&E including the Air Data Relay and the SAR/GMTI payload ***FY 2013 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305219A: *MQ-1 Gray Eagle - Army UAV (MIP)*	**PROJECT** MQ1: *MQ-1 GRAY EAGLE - ARMY UAV (MIP)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Implement reliability improvements and corrections for IOT&E as well as integration of office wide interoperability initiatives.			
Title: Ground Base Sense and Avoid (GBSAA)	0.000	7.693	5.815
Articles:		0	
Description: Ground Base Sense and Avoid (GBSAA)			
FY 2013 Plans: Ground Base Sense and Avoid (GBSAA); Development of the GBSAA software and perform testing			
FY 2014 Plans: Ground Base Sense and Avoid (GBSAA)			
Accomplishments/Planned Programs Subtotals	121.846	74.618	10.901

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
• MQ-1 UAV / APA (A00005):	550.798	518.088	518.460		518.460	232.321	1.000	14.000	100.334	Continuing	Continuing
MQ-1 UAV / APA (A00005) -OCO											

Remarks

D. Acquisition Strategy

Extended Range Multi-Purpose (ERMP) Operational Requirement Document (ORD) was approved by the Joint Requirement Oversight Council (JROC) 6 Apr 2005, Milestone B occurred 20 Apr 2005, and the System Development and Demonstration contract was awarded 8 Aug 2005, as a result of a competitive solicitation which included a vendor system capabilities demonstration. Capabilities Production Document was approved 14 Mar 09. To meet the required capability, evolutionary acquisition has been employed to implement the incremental approach outlined in the CPD. The Gray Eagle UAS is being matured during the System Development and Demonstration (SDD) phase, which includes the development and integration of key components such as the Tactical Common Data Link (TCDL), Link-16, and integration of Government Furnished Equipment (GFE), payloads, appropriate Common Aviation Ground Support Equipment and the One System GCS. PM JAMS is developing the P+ model of the HELLFIRE missile and participating in the integration and test activities for the entire Gray Eagle system. PM JAMS is budgeting for the procurement of missiles for the fielded systems. PM Night Vision/Reconnaissance, Surveillance, and Target Acquisition (RSTA) under PEO Intelligence and Electronic Warfare Systems (IEWS) develops, manages, and competes in the POM and is responsible for meeting all ERMP costs associated for payloads, payload integration, and payload sustainment. Field Tests at the Electronic Proving Grounds in Ft Huachuca, AZ, and integration tests at the Central Technical Support Facility in Ft Hood, TX, are examples of the tests planned to reduce risk in the SDD phase.

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305219A: *MQ-1 Gray Eagle - Army UAV (MIP)*	**PROJECT** MQ1: *MQ-1 GRAY EAGLE - ARMY UAV (MIP)*

FY2014 and beyond funding allows for the development and integration of Pre-Planned Product Improvements, such as interoperability compliance initiatives and a Universal Armament Interface, and Block upgrades. These improvements will be implemented through a CPFF engineering services contract and/or engineering change proposals with the Gray Eagle prime 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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305219A: *MQ-1 Gray Eagle - Army UAV (MIP)*	**PROJECT** MQ1: *MQ-1 GRAY EAGLE - ARMY UAV (MIP)*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management	MIPR	PM UAS:Redstone Arsenal, AL	5.465	3.601		2.915		-		-		-	Continuing	Continuing	Continuing
		Subtotal	5.465	3.601		2.915		0.000		0.000		0.000			

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Engineering	C/CPIF	General Atomics / ASI:San Diego, CA	116.521	33.327	Dec 2011	14.213	Dec 2012	-		-		-	Continuing	Continuing	Continuing
Prototype Manufacturing	Various	General Atomics / ASI:San Diego, CA	213.776	-		-		-		-		-	Continuing	Continuing	Continuing
Ground Support Equipment	C/CPIF	Various:Various	9.075	-		-		-		-		-	Continuing	Continuing	Continuing
Ground Base Sense & Avoid (GBSAA)	SS/CPFF	General Atomics / ASI:San Diego, CA	0.000	-		7.693	Dec 2013	5.815	Mar 2014	-		5.815	Continuing	Continuing	Continuing
Software / Hardware Development	SS/CPIF	General Atomics:San Diego, CA	0.000	31.740	Dec 2011	12.506		1.624	Dec 2013	-		1.624	Continuing	Continuing	Continuing
		Subtotal	339.372	65.067		34.412		7.439		0.000		7.439			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	MIPR	Ft. Huachuca:Ft. Huachuca	14.880	9.522		4.061		-		-		-	Continuing	Continuing	Continuing
Training and Training Equipment	MIPR	Ft. Huachuca:Ft. Huachuca	23.162	20.730		17.000		-		-		-	Continuing	Continuing	Continuing
Government Engineering Support	C/FFP	Various:Various	13.752	4.761		2.030		-		-		-	Continuing	Continuing	0.000
		Subtotal	51.794	35.013		23.091		0.000		0.000		0.000			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305219A: *MQ-1 Gray Eagle - Army UAV (MIP)*	**PROJECT** MQ1: *MQ-1 GRAY EAGLE - ARMY UAV (MIP)*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation	MIPR	Various Government Agencies:Various Government Agencies	30.914	18.165		14.200		3.462		-		3.462	Continuing	Continuing	Continuing
		Subtotal	30.914	18.165		14.200		3.462		0.000		3.462			

	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	427.545	121.846		74.618		10.901		0.000		10.901			

Remarks

Exhibit R-4, **RDT&E Schedule Profile:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305219A: *MQ-1 Gray Eagle - Army UAV (MIP)*	**PROJECT** MQ1: *MQ-1 GRAY EAGLE - ARMY UAV (MIP)*

Exhibit R-4A, **RDT&E Schedule Details:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305219A: *MQ-1 Gray Eagle - Army UAV (MIP)*	**PROJECT** MQ1: *MQ-1 GRAY EAGLE - ARMY UAV (MIP)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Initial Operational Test and Evaluation (IOT&E)	4	2012	4	2012
Full Rate Produciton Contract Award	3	2013	3	2013
Initial Operating Capability	1	2013	1	2013
Follow-on Operational Test and Evaluation	3	2015	3	2015
Post Production Test (4)	1	2015	1	2015

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305232A: *RQ-11 Raven*

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	-	1.935	4.039	2.321	-	2.321	3.335	3.263	3.077	3.200	Continuing	Continuing
RA7: *RQ-11 RAVEN (MIP)*	-	1.935	4.039	2.321	-	2.321	3.335	3.263	3.077	3.200	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

The Small Unmanned Aircraft Systems (SUAS) provides the battalion and below ground maneuver elements critical situational awareness and enhances force protection. The system provides the small unit commander an organic and responsive tactical Reconnaissance, Surveillance, and Target Acquisition capability through the ability to view real-time Full Motion Video and sensor data via the system ground control station. Other compatible receivers, such as the One System Remove Video Terminal and appropriately equipped manned platforms may also receive the SUAS products.

A SUAS includes three hand-launched aircraft that do not require an improved launch/recovery location. In addition to the aircraft, the system contains ground control equipment, which includes an interoperable hand controller. This equipment is fully transportable in or on rucksack type packs that are organic to the unit.

The SUAS RDT&E budget line includes funding for studies and incremental development/upgrade of current SUAS capabilities that will capitalize on new technology insertions based on identified user requirements. Past improvements include a Digital Data Link capability, introduced in 2010, which provided data link security, increased the number of communications channels allowing more aircraft to operate in close proximity, extended range through data link relay capability, and integrated gimbaled payloads. Future enhancements will follow the natural progression of technology and exploitation of improved payloads to meet Warfighter needs. FY 2014 and future improvements will address enhancements to the system to support Army modernization initiatives and the service emphasis on Squad- Foundation of the Decisive Force. Development of a government purpose rights control device compatible with current and future SUAS platforms and integrated into tactical networks is required. Compatibility with Nett Warrior elements will support seamless transmission of data between squad members and adjacent and higher commands. A communications relay capability for SUAS will extend the operational connectivity of the squad when ground based communications cannot support the ranges due terrain or atmospherics. The relay capability supports the Aerial Layer Network Transport Initial Capabilities Document for low altitude requirements. Development of a sensor to shooter capability will link forward edge combatants to organic and supporting fires networks with rapid dissemination of target information and imagery. Efforts to reduce the workload required to operate the SUAS will free the soldiers to perform their primary mission while retaining the advantages afforded by the SUAS. Improved autonomy, to include GPS and comms denied environments will be sought through leverage of software, processor, and communications enhancements.

Justification: FY2014 funds of $2.321 million will provide engineering services efforts and continue to focus on communication link encryption, network integration, interoperability, system vulnerability, and improved flight duration.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army					DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*		**R-1 ITEM NOMENCLATURE** PE 0305232A: *RQ-11 Raven*			
B. Program Change Summary ($ in Millions)	**FY 2012**	**FY 2013**	**FY 2014 Base**	**FY 2014 OCO**	**FY 2014 Total**
Previous President's Budget	1.935	4.039	2.917	-	2.917
Current President's Budget	1.935	4.039	2.321	-	2.321
Total Adjustments	0.000	0.000	-0.596	-	-0.596
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	-0.596	-	-0.596

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305232A: *RQ-11 Raven*	PROJECT RA7: *RQ-11 RAVEN (MIP)*	

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
RA7: *RQ-11 RAVEN (MIP)*	-	1.935	4.039	2.321	-	2.321	3.335	3.263	3.077	3.200	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 Small Unmanned Aircraft Systems (SUAS) provides the battalion and below ground maneuver elements critical situational awareness and enhances force protection. The system provides the small unit commander an organic and responsive tactical Reconnaissance, Surveillance, and Target Acquisition capability through the ability to view real-time Full Motion Video and sensor data via the system ground control station. Other compatible receivers, such as the One System Remove Video Terminal and appropriately equipped manned platforms may also receive the SUAS products.

A SUAS includes three hand-launched aircraft that do not require an improved launch/recovery location. In addition to the aircraft, the system contains ground control equipment, which includes an interoperable hand controller. This equipment is fully transportable in or on rucksack type packs that are organic to the unit.

The SUAS RDT&E budget line includes funding for studies and incremental development/upgrade of current SUAS capabilities that will capitalize on new technology insertions based on identified user requirements. Past improvements include a Digital Data Link capability, introduced in 2010, which provided data link security, increased the number of communications channels allowing more aircraft to operate in close proximity, extended range through data link relay capability, and integrated gimbaled payloads. Future enhancements will follow the natural progression of technology and exploitation of improved payloads to meet Warfighter needs. FY 2014 and future improvements will address enhancements to the system to support Army modernization initiatives and the service emphasis on Squad- Foundation of the Decisive Force. Development of a government purpose rights control device compatible with current and future SUAS platforms and integrated into tactical networks is required. Compatibility with Nett Warrior elements will support seamless transmission of data between squad members and adjacent and higher commands. A communications relay capability for SUAS will extend the operational connectivity of the squad when ground based communications cannot support the ranges due terrain or atmospherics. The relay capability supports the Aerial Layer Network Transport Initial Capabilities Document for low altitude requirements. Development of a sensor to shooter capability will link forward edge combatants to organic and supporting fires networks with rapid dissemination of target information and imagery. Efforts to reduce the workload required to operate the SUAS will free the soldiers to perform their primary mission while retaining the advantages afforded by the SUAS. Improved autonomy, to include GPS and comms denied environments will be sought through leverage of software, processor, and communications enhancements.

Justification: FY2014 funds of $2.321 million will provide engineering services efforts and continue to focus on communication link encryption, network integration, interoperability, system vulnerability, and improved flight duration.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: Base: Product Improvement Studies and Development	1.306	3.805	2.181

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305232A: *RQ-11 Raven*	**PROJECT** RA7: *RQ-11 RAVEN (MIP)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Articles:	0	0	
Description: Base: Product Improvement Studies and Development ***FY 2012 Accomplishments:*** Base: Product Improvement Studies and Development ***FY 2013 Plans:*** Base: Product Improvement Studies and Development ***FY 2014 Plans:*** Base: Product Improvement Studies and Development			
Title: Base: Program Management Support	0.229	0.234	0.140
Articles:	0	0	
Description: Program Management Support ***FY 2012 Accomplishments:*** Base: Program Management Support ***FY 2013 Plans:*** Base: Program Management Support ***FY 2014 Plans:*** Base: Program Management Support			
Title: Test and Evaluation	0.400	0.000	0.000
Articles:	0		
Description: Test and Evaluation ***FY 2012 Accomplishments:*** Test and Evaluation			
Accomplishments/Planned Programs Subtotals	1.935	4.039	2.321

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305232A: *RQ-11 Raven*	**PROJECT** RA7: *RQ-11 RAVEN (MIP)*

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
• RQ-11 (RAVEN) - A00010: *RQ-11 (RAVEN) - A00010*	86.062	25.798	10.772		10.772	33.359	31.001	26.375	15.000	0.000	228.367

Remarks

D. Acquisition Strategy

SUAS PdO intends to execute a single award best value IDIQ contract utilizing full and open competition. This contract will provide affordable access for a fully staffed Technical, Management, Training, and Logistics organization, over a five-year period of performance (three year base period and two, single year options). Contract award is anticipated during the third quarter of Fiscal Year 2013. The Government will make contract award based upon competitive source selection criteria.

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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305232A: *RQ-11 Raven*	**PROJECT** RA7: *RQ-11 RAVEN (MIP)*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Personnel	RO	PM UAS:PM UAS	0.030	0.229		0.234		0.741		-		0.741	Continuing	Continuing	0.000
		Subtotal	0.030	0.229		0.234		0.741		0.000		0.741			0.000

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Improvements Studies and Development	SS/CPFF	Aero Vironment, Simi Valley, CA:Aero Vironment, Simi Valley, CA	1.517	1.306	Aug 2012	3.805	Mar 2013	-		-		-	Continuing	Continuing	0.000
Product Improvement Studies and Development	C/IDIQ	TBD:TBD	0.000	-		-		1.580	Jan 2014	-		1.580	Continuing	Continuing	0.000
		Subtotal	1.517	1.306		3.805		1.580		0.000		1.580			0.000

Remarks

FY2014 funds will support the Competitive IDIQ Engineering Services Contract. Contractor, to be determined.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Other Government Agencies	MIPR	Various:Various	0.000	-		-		-		-		-	Continuing	Continuing	0.000
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000			0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305232A: *RQ-11 Raven*	**PROJECT** RA7: *RQ-11 RAVEN (MIP)*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation	MIPR	Various:Various	0.000	0.400		-		-		-		-	Continuing	Continuing	0.000
		Subtotal	0.000	0.400		0.000		0.000		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	1.547	1.935		4.039		2.321		0.000		2.321			0.000

Remarks

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305233A: *RQ-7 Shadow UAV*

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	-	31.896	31.158	12.031	-	12.031	29.735	27.594	18.991	22.100	Continuing	Continuing
RQ7: *RQ-7 SHADOW UAV*	-	31.896	31.158	12.031	-	12.031	29.735	27.594	18.991	22.100	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

The Tactical Unmanned Aerial Vehicle (TUAV) RQ-7 Shadow provides the Army Brigade Commander with dedicated Reconnaissance, Surveillance and Target Acquisition (RSTA), Intelligence, Battle Damage Assessment (BDA) and Force Protection. It also provides the Brigade Commander with critical battlefield intelligence and targeting information in the rapid cycle time required for success at the tactical level. The TUAV Shadow system air vehicle meets the required operating range of 50 kilometers and remains on station for up to nine hours. The TUAV Shadow system consists of four air vehicles (each configured with an Electro Optical/Infrared (EO/IR) sensor payload), launcher, ground control and support equipment including: power generation, communications equipment, automated recovery equipment, one system remote video terminals, vehicle mounted shelters, and High Mobility Multipurpose Wheeled Vehicles with trailer(s). Each system is equipped with one Maintenance Section Multifunctional (MSM) and is supported at the division level by a Mobile Maintenance Facility (MMF).

All 102 Shadow UAS systems have been procured and fielded. Shadow has amassed over 803,326 total flight hours, most of which were flown in support of Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF). Incremental upgrades are required for continued improvement and interoperability. Common Systems Integration is required to ensure interoperability with other manned and unmanned weapon systems, to include One System Remote Video Terminal (OSRVT). Continued developmental improvements are required to provide greater interoperability, increase operational capability and flexibility to the Brigade Combat Team. Modifications to the airframe, avionics, payloads, ground control equipment, and support equipment are based on documented requirements and lessons learned from units operating in OEF and OIF.

Justification: FY2014 RQ-7 UAV Base funding of $12.031 million will be used for capability and reliability improvements, specifically: Air Vehicle modifications (Engine Improvements, GPS Landing, System Vulnerability, and Redundant Avionics Development), and Ground Equipment (interoperability) improvements. Additionally, funds will be for System Engineering, Program Management, Software Architecture and Reliability Solutions, and System Test and Evaluation support. Funds will also be used to incorporate the Increment II OSRVT Bi-Directional capability, ensure interoperability, and applicable OSRVT test events.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305233A: *RQ-7 Shadow UAV*

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	31.896	31.158	23.634	-	23.634
Current President's Budget	31.896	31.158	12.031	-	12.031
Total Adjustments	0.000	0.000	-11.603	-	-11.603
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	-11.603	-	-11.603

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305233A: *RQ-7 Shadow UAV*	PROJECT RQ7: *RQ-7 SHADOW UAV*	

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
RQ7: *RQ-7 SHADOW UAV*	-	31.896	31.158	12.031	-	12.031	29.735	27.594	18.991	22.100	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 Unmanned Aerial Vehicle (TUAV) RQ-7 Shadow provides the Army Brigade Commander with dedicated Reconnaissance, Surveillance and Target Acquisition (RSTA), Intelligence, Battle Damage Assessment (BDA) and Force Protection. It also provides the Brigade Commander with critical battlefield intelligence and targeting information in the rapid cycle time required for success at the tactical level. The TUAV Shadow system air vehicle meets the required operating range of 50 kilometers and remains on station for up to nine hours. The TUAV Shadow system consists of four air vehicles (each configured with an Electro Optical/Infrared (EO/IR) sensor payload), launcher, ground control and support equipment including: power generation, communications equipment, automated recovery equipment, one system remote video terminals, vehicle mounted shelters, and High Mobility Multipurpose Wheeled Vehicles with trailer(s). Each system is equipped with one Maintenance Section Multifunctional (MSM) and is supported at the division level by a Mobile Maintenance Facility (MMF).

All 102 Shadow UAS systems have been procured and fielded. Shadow has amassed over 803,326 total flight hours, most of which were flown in support of Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF). Incremental upgrades are required for continued improvement and interoperability. Common Systems Integration is required to ensure interoperability with other manned and unmanned weapon systems, to include One System Remote Video Terminal (OSRVT). Continued developmental improvements are required to provide greater interoperability, increase operational capability and flexibility to the Brigade Combat Team. Modifications to the airframe, avionics, payloads, ground control equipment, and support equipment are based on documented requirements and lessons learned from units operating in OEF and OIF.

Justification: FY2014 RQ-7 UAV Base funding of $12.031 million will be used for capability and reliability improvements, specifically: Air Vehicle modifications (Engine Improvements, GPS Landing, System Vulnerability, and Redundant Avionics Development), and Ground Equipment (interoperability) improvements. Additionally, funds will be for System Engineering, Program Management, Software Architecture and Reliability Solutions, and System Test and Evaluation support. Funds will also be used to incorporate the Increment II OSRVT Bi-Directional capability, ensure interoperability, and applicable OSRVT test events.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: Air Vehicle Improvements	19.560	10.520	6.902
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2012 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305233A: *RQ-7 Shadow UAV*	**PROJECT** RQ7: *RQ-7 SHADOW UAV*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Continued funding for Air Vehicle Improvements ***FY 2013 Plans:*** Continued development of improved weatherization, triple redundant avionics suite, reliability improvements, and development of a larger, more reliable engine. ***FY 2014 Plans:*** Continued development of improved weatherization, triple redundant avionics suite, reliability improvements, and larger more reliable engine. Begins development of GPS landing and GPS denied operations.			
Title: Payload Improvements	2.750	6.000	0.000
Articles:	0	0	
Description: Funding is provided for the following effort ***FY 2012 Accomplishments:*** Funds SAR and SIGINT Payloads ***FY 2013 Plans:*** Continues to fund SAR Payload			
Title: Ground Equipment Improvements	4.498	2.768	0.917
Articles:	0	0	
Description: Funding is provided for the following effort ***FY 2012 Accomplishments:*** Continues to fund Ground Equipment Improvements. Continues development of interoperability capabilities through use of Universal Ground Data Terminals and Universal Ground Control Stations ***FY 2013 Plans:*** Continues development of interoperability capabilities through use of Universal Ground Data Terminals and Universal Ground Control Stations ***FY 2014 Plans:*** Continues to fund Ground Equipment Improvements. Continues development of interoperability capabilities through use of Universal Ground Data Terminals and Universal Ground Control Stations, and System Vulnerability			
Title: Test and Evaluation	0.000	1.996	0.792
Articles:		0	

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305233A: *RQ-7 Shadow UAV*	**PROJECT** RQ7: *RQ-7 SHADOW UAV*

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:*** Continues to fund Test and Evaluation ***FY 2014 Plans:*** Continues to fund Test and Evaluation.			
Title: System Engineering/Program Management	1.174	3.991	1.287
Articles:	0	0	
Description: System Engineering/Program Management ***FY 2012 Accomplishments:*** Continues to fund System Engineering/Program Management ***FY 2013 Plans:*** Continues to fund System Engineering/Program Management ***FY 2014 Plans:*** Continues to fund System Engineering/Program Management			
Title: One System Remote Video Terminal (OSRVT)	3.914	5.883	0.000
Articles:	0	0	
Description: Funding is provided for the following effort ***FY 2012 Accomplishments:*** Continues to fund One System Remote Video Terminal (OSRVT). Integrate Incremental II bi-directional functionality into the OSRVT ***FY 2013 Plans:*** Continues to fund One System Remote Video Terminal (OSRVT). Integrate Incremental II bi-directional functionality into the OSRVT. Develop Software Blocking and Interoperability improvements			
Title: One System Remote Video Terminal Test and Evaluation	0.000	0.000	2.133
Description: One System Remote Video Terminal Test and Evaluation ***FY 2014 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305233A: *RQ-7 Shadow UAV*	**PROJECT** RQ7: *RQ-7 SHADOW UAV*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Funds user evaluation and test activities.			
Accomplishments/Planned Programs Subtotals	31.896	31.158	12.031

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
• RQ-7 UAV MODS (A00018): *RQ-7 UAV MODS (A00018)*	165.139	104.339	121.902		121.902	167.186	141.196	139.992	151.100	Continuing	Continuing

Remarks

D. Acquisition Strategy

A System Capability Demonstration (SCD) was conducted with four contractors. The results from the SCD in conjunction with proposal evaluations resulted in the competitive down select of a Best Value TUAS. A successful Milestone II ASARC was conducted 21 Dec 99 and a Milestone III Decision 25 Sep 02. The full rate production contract was awarded 27 Dec 02 and all 102 systems were procured by FY2009. Continued development of the selected TUAV system will be accomplished through a series of modifications and retrofits such as Tactical Common Data Link (TCDL), Communications Relay, Laser Designator, High reliability engine, and reliability upgrades. Development/integration of these improved capabilities will be through individual efforts on a (mostly) sole source cost-plus fixed fee engineering services contract with the Shadow prime contractor. Development of the high reliability engine is being accomplished through a competitive process.

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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305233A: *RQ-7 Shadow UAV*	**PROJECT** RQ7: *RQ-7 SHADOW UAV*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Base: Program Management	RO	PM UAS:Redstone Arsenal, AL	0.475	1.174	Dec 2012	1.678	Dec 2012	0.600	Dec 2013	-		0.600	Continuing	Continuing	0.000
		Subtotal	0.475	1.174		1.678		0.600		0.000		0.600			0.000

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
OIF Improvements / Block Upgrades / Capability Improvements	SS/CPFF	AAI Corporation:Hunt Valley, MD	3.105	-		-		-		-		-	0.000	3.105	0.000
System Engineering / Reliability Solutions	SS/CPFF	AAI Corporation:Hunt Valley, MD	2.025	-		-		-		-		-	0.000	2.025	0.000
Ground Equipment Improvements	SS/CPFF	AAI Corporation, MD:AAI Corporation, MD	0.000	4.498	Jan 2012	2.768	Jan 2013	0.917	Dec 2013	-		0.917	Continuing	Continuing	0.000
Air Vehicle Improvements	SS/CPFF	AAI Corporation, MD:AAI Corporation, MD	0.000	19.560	Jan 2012	10.520	Jan 2013	6.902	Dec 2013	-		6.902	Continuing	Continuing	0.000
One System Remote Video Terminal (OSRVT)	SS/CPFF	AAI Corporation, MD:AAi Corporation, MD	0.000	3.914	Aug 2012	5.883	Apr 2013	-		-		-	Continuing	Continuing	0.000
Payload Improvements	SS/CPFF	Various:Various	0.000	2.750	Jan 2013	6.000	Jan 2014	-		-		-	Continuing	Continuing	0.000
		Subtotal	5.130	30.722		25.171		7.819		0.000		7.819			0.000

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	Various	Various:Various	0.300	-		1.550	Dec 2012	0.460	Dec 2013	-		0.460	Continuing	Continuing	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305233A: *RQ-7 Shadow UAV*	**PROJECT** RQ7: *RQ-7 SHADOW UAV*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Base: Government Engineering and Logistic Support	SS/CPFF	Various:Various	0.150	-		0.763	Nov 2012	0.227	Dec 2013	-		0.227	Continuing	Continuing	0.000
		Subtotal	0.450	0.000		2.313		0.687		0.000		0.687			0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
RQ-7 Developmental Testing	Various	Various:Various	1.400	-		1.896	Dec 2012	0.692	Dec 2013	-		0.692	Continuing	Continuing	0.000
RQ-7 Operational Testing	MIPR	Various:Various	0.100	-		0.100		0.100		-		0.100	Continuing	Continuing	0.000
OSRVT Developmental Testing	MIPR	Various:Various	0.000	-		-		0.100	Dec 2013	-		0.100	Continuing	Continuing	0.000
OSRVT - Operational Testing	MIPR	Various:Various	0.000	-		-		2.033	Dec 2013	-		2.033	0.000	2.033	0.000
		Subtotal	1.500	0.000		1.996		2.925		0.000		2.925			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	7.555	31.896		31.158		12.031		0.000		12.031			0.000

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305233A: *RQ-7 Shadow UAV*	**PROJECT** RQ7: *RQ-7 SHADOW UAV*

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305233A: *RQ-7 Shadow UAV*	**PROJECT** RQ7: *RQ-7 SHADOW UAV*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Redundant Avionics - Preliminary Design Review	3	2013	3	2013
Redundant Avionics - Critical Design Review	2	2014	2	2014
Redundant Avionics - Air Vehicle Integration and Qualification Testing	1	2015	4	2015
Redundant Avionics Fielding	1	2017	4	2018
Software Architecture - Development	1	2014	4	2016
Software Architecture - Fielding	1	2017	4	2018
Weatherization - Icing Systems Requirement Review	2	2013	2	2013
Weatherization Fielding Water Upgrades	4	2013	4	2018
Weatherization - Icing Preliminary Design Review	3	2013	3	2013
Weatherization - Icing Critical Design Review	4	2013	4	2013
Weatherization - Icing Qualification Test	4	2013	4	2013
Weatherization Fielding	1	2014	4	2018
High Reliability Engine - Vendor Down Select	2	2013	2	2013
High Reliability Engine - Phase II Contract Award	4	2013	4	2013
High Reliability Engine - Design-Reliability Growth and Qualification Test	3	2013	4	2013
High Reliability Engine - Production Contract Award	4	2015	4	2015
High Reliability Engine Fielding	1	2016	4	2018

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305235A: *UAS Modifications/Product Improvement Program*

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	-	4.000	2.387	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
P20: *MQ-18*	-	4.000	2.387	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

Funds transferred from 0603820/D20. FY2012, $3,500 taken by ABO as OMNIBUS bill payer.

A. Mission Description and Budget Item Justification

The Army has a requirement to provide Intelligence, Surveillance, and Reconnaissance (ISR) platforms capable of operating in and near unfriendly territories/areas of conflict. The system shall be a rotary wing unmanned vertical takeoff and landing(VTOL) aircraft system not conducive to standard airfields but forward deployable to support extended operations in austere environment. The aircraft system will be made up of multiple aircraft (minimum of 4) that incorporates high value technologies in the airframe, propulsion, datalink systems, communications systems, and avionics systems. The system will be common with the Army selection of the Line of Sight and Beyond Line of Sight Tactical Common Data Link and the Universal Ground Control Station. The aircraft will simultaneously carry multi-functional payloads such as SIGINT, EO/IR/LD, and Wide Area Surveillance without degrading time on station. This system will provide dramatic improvements in operational flexibility and mission performance.

FY 2014: No Funding

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	7.500	2.387	51.019	-	51.019
Current President's Budget	4.000	2.387	0.000	-	0.000
Total Adjustments	-3.500	0.000	-51.019	-	-51.019
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-3.500	-	-51.019	-	-51.019

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305235A: *UAS Modifications/Product Improvement Program*	PROJECT P20: *MQ-18*	

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
P20: *MQ-18*	-	4.000	2.387	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 Army has a requirement to provide Intelligence, Surveillance, and Reconnaissance (ISR) platforms capable of operating in and near unfriendly territories/areas of conflict. The system shall be a rotary wing unmanned vertical takeoff and landing (VTOL) aircraft system not conducive to standard airfields but forward deployable to support extended operations in austere environment. The aircraft system will be made up of multiple aircraft (minimum of 4) that incorporates high value technologies in the airframe, propulsion, datalink systems, communications systems, and avionics systems. The system will be common with the Army selection of the Line of Sight and Beyond Line of Sight Tactical Common Data Link and the Universal Ground Control Station. The aircraft will simultaneously carry multi-functional payloads such as SIGINT, EO/IR/LD, and Wide Area Surveillance without degrading time on station. This system will provide dramatic improvements in operational flexibility and mission performance.

FY 2014: No Funding

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: Program Management Support	1.500	2.387	0.000
Articles:	0	0	
Description: Funds Program Management to support Capabilities Development Document support, Milestone A Documentation Preparation, Industry Day, Request for Proposals, Statement of Work, Acquisition Documentation and Cost Analysis			
FY 2012 Accomplishments: Provide funding for program management support			
FY 2013 Plans: Provide funding for program management support			
Title: Analysis of Alternatives	2.500	0.000	0.000
Articles:	0		
Description: Analysis of Alternatives			
FY 2012 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305235A: *UAS Modifications/Product Improvement Program*	**PROJECT** P20: *MQ-18*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Analysis of Alternatives			
Accomplishments/Planned Programs Subtotals	4.000	2.387	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

VTOL UAS / APA (A00035)

D. Acquisition Strategy

The Army will conduct a full and open competition for the MRMP VTOL Program of Record. In accordance with the "Better Buying Power" initiatives, the Army intends to maximize competition for the Technology and Engineering and manufacturing Development (EMD) phases of the program. Final down-selection to a single vendor.

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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305235A: *UAS Modifications/Product Improvement Program*	**PROJECT** P20: *MQ-18*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management	Various	Various:Various	0.000	2.500		2.387		-		-		-	Continuing	Continuing	0.000
Analysis of Alternatives	MIPR	Various:Various	0.000	1.500	Feb 2012	-		-		-		-	0.000	1.500	0.000
		Subtotal	0.000	4.000		2.387		0.000		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	0.000	4.000		2.387		0.000		0.000		0.000			0.000

Remarks

Exhibit R-4, **RDT&E Schedule Profile:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305235A: *UAS Modifications/Product Improvement Program*	**PROJECT** P20: *MQ-18*

Exhibit R-4A, **RDT&E Schedule Details:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305235A: *UAS Modifications/Product Improvement Program*	**PROJECT** P20: *MQ-18*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Technology Development	1	2014	1	2016
Technology System Readiness Review	2	2014	2	2014
Tschnology Preliminary Design Review	2	2014	2	2014
Milestone A	1	2013	1	2013
Milestone B	4	2015	4	2015
Technology Development PDR	3	2014	3	2014

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0307665A: *Biometrics Enabled Intelligence*

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	-	15.018	15.248	12.449	-	12.449	17.233	3.252	2.214	2.252	Continuing	Continuing
BI7: *BIOMETRICS ENABLED INTELLIGENCE - MIP*	-	15.018	15.248	12.449	-	12.449	17.233	3.252	2.214	2.252	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

Joint Personnel Identification version 2 (JPIv2) will provide an Army tactical biometric collection capability to capture an adversary or neutral person's biometric data and enroll them into the Department of Defense (DoD) enterprise authoritative biometric database to positively identify and verify the identity of actual or potential adversaries. JPIv2 development will be informed by prototype collection capabilities. U.S. forces are currently operating unilaterally or in combination with joint, multinational, and interagency partners, to identify unknown individuals and verify the identity of person(s) across the full spectrum of military operations, to include Overseas Contingency Operations. Capabilities proposed for JPIv2 will be configurable for multiple operational mission environments.

FY2014 Core funding supports development activities under an Engineering and Manufacturing Development (EMD) contract for JPIv2 program. EMD efforts include: define system of system functionality and interface requirements; complete preliminary design to include both hardware and software; define and develop system maturity, reliability and technical performance measures; develop operational deployment sustainability, suitability and survivability plans; and conduct technical reviews consistent with required system capability. Funds will support Test & Evaluation (T&E) activities under an EMD contract for JPIv2 POR. EMD T&E efforts include: development of test plans against system requirements: conducting preliminary testing of system of system functionality; production of test reports to inform developmental activities; and providing T&E support to scheduled technical reviews. T&E funds will support Army Test and Evaluation Command (ATEC) continuous evaluation of the EMD contractor; test and analysis of the EMD contractor test report; Joint Interoperability Test Command (JITC) support, and analysis of developmental testing and reports related to interoperability. Additionally, funding will support government civilian labor and operations to include travel, training, supplies, infrastructure, and facility costs.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0307665A: *Biometrics Enabled Intelligence*

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	15.018	15.248	15.240	-	15.240
Current President's Budget	15.018	15.248	12.449	-	12.449
Total Adjustments	0.000	0.000	-2.791	-	-2.791
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 1	-	-	-2.791	-	-2.791

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0307665A: *Biometrics Enabled Intelligence*	PROJECT BI7: *BIOMETRICS ENABLED INTELLIGENCE - MIP*	

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
BI7: *BIOMETRICS ENABLED INTELLIGENCE - MIP*	-	15.018	15.248	12.449	-	12.449	17.233	3.252	2.214	2.252	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

Joint Personnel Identification version 2 (JPIv2) will provide an Army tactical biometric collection capability to capture an adversary or neutral person's biometric data and enroll them into the Department of Defense (DoD) enterprise authoritative biometric database to positively identify and verify the identity of actual or potential adversaries. JPIv2 development will be informed by prototype collection capabilities. U.S. forces are currently operating unilaterally or in combination with joint, multinational, and interagency partners, to identify unknown individuals and verify the identity of person(s) across the full spectrum of military operations, to include Overseas Contingency Operations. Capabilities proposed for JPIv2 will be configurable for multiple operational mission environments.

FY2014 Core funding supports development activities under an Engineering and Manufacturing Development (EMD) contract for JPIv2 program. EMD efforts include: define system of system functionality and interface requirements; complete preliminary design to include both hardware and software; define and develop system maturity, reliability and technical performance measures; develop operational deployment sustainability, suitability and survivability plans; and conduct technical reviews consistent with required system capability. Funds will support Test & Evaluation (T&E) activities under an EMD contract for JPIv2 POR. EMD T&E efforts include: development of test plans against system requirements: conducting preliminary testing of system of system functionality; production of test reports to inform developmental activities; and providing T&E support to scheduled technical reviews. T&E funds will support Army Test and Evaluation Command (ATEC) continuous evaluation of the EMD contractor; test and analysis of the EMD contractor test report; Joint Interoperability Test Command (JITC) support, and analysis of developmental testing and reports related to interoperability. Additionally, funding will support government civilian labor and operations to include travel, training, supplies, infrastructure, and facility costs.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: Joint Personnel Identification version 2 (JPIv2)	15.018	15.248	12.449
Articles:	0	0	
Description: JPIv2 program development and management			
FY 2012 Accomplishments: Efforts and accomplishment included acquisition strategy development; requirements analysis and decomposition; market research; continued planning, development and preparation of Army and Office of the Secretary of Defense (OSD) level documentation consistent with DoD Instruction 5000.02, The Defense Acquisition System, and compliant with existing statutory			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0307665A: *Biometrics Enabled Intelligence*	**PROJECT** BI7: *BIOMETRICS ENABLED INTELLIGENCE - MIP*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
and regulatory policy for a Milestone B decision in FY 2014; preparation for System Requirements Review (SRR) and System Functional Review (SFR); and planning and preparation for a pre-EMD review in FY 2014. ***FY 2013 Plans:*** Funding provides system engineering activities to include execution of System Requirements Review (SRR) and System Functional Review (SFR); development of the performance specification; continued market research and trade study analysis. Additionally, funding will provide support for pre-EMD planning and preparation activities. Support will also be provided for contracts planning and preparation in conjunction with a planned contract award in FY 2014. Funds will also provide Product Manager contractor support to continue planning, developing and preparing Army and Office of the Secretary of Defense (OSD) level documentation consistent with DoD Instruction 5000.02, The Defense Acquisition System, and compliant with existing statutory and regulatory policy in preparation and a Milestone B decision in FY 2014. T&E costs are for ATEC T&E planning support and development of an operational assessment for MS B, and JITC for information support planning and interoperability planning and support. ***FY 2014 Plans:*** FY 2014 Core funding supports development activities under an Engineering and Manufacturing Development (EMD) contract for JPIv2 program. EMD efforts include: define system of system functionality and interface requirements; complete preliminary design to include both hardware and software; define and develop system maturity, reliability and technical performance measures; develop operational deployment sustainability, suitability and survivability plans; and conduct technical reviews consistent with required system capability. Funds will support Test & Evaluation (T&E) activities under an EMD contract for JPIv2 POR. EMD T&E efforts include: development of test plans against system requirements: conducting preliminary testing of system of system functionality; production of test reports to inform developmental activities; and providing T&E support to scheduled technical reviews. T&E funds will support Army Test and Evaluation Command (ATEC) continuous evaluation of the EMD contractor; test and analysis of the EMD contractor test report; Joint Interoperability Test Command (JITC) support, and analysis of developmental testing and reports related to interoperability. Additionally, funding will support government civilian labor and operations to include travel, training, supplies, infrastructure, and facility costs.			
Accomplishments/Planned Programs Subtotals	15.018	15.248	12.449

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0307665A: *Biometrics Enabled Intelligence*	**PROJECT** BI7: *BIOMETRICS ENABLED INTELLIGENCE - MIP*

D. Acquisition Strategy

The JPIv2 program is projected to achieve a Milestone B decision and Engineering and Manufacturing Development (EMD) contract award in FY 2014, conduct an EMD contract beginning in late FY 2014 through FY 2016, and achieve Initial Operational Capability (IOC) in FY 2017. JPIv2 will entail selecting a commercial off the shelf (COTS) device, modifying the hardware and developing, improving and enhancing the software, in order to meet the warfighter's needs based on the Capability Development Document (CDD).

The EMD contract will be awarded using full and open competition to include small business teaming goals. This decision is based on results of the JPIv2 Program Office Request for Information (RFI) W15QKN-13-R-0013 of 5 November 2012. PM JPI will glean additional information through on-going market research, such as release of draft Request for Proposal (RFP) documentation to Industry, and Industry Day.

Low Rate Initial Production (LRIP) may be a sole source contract award to the EMD developer. LRIP contract deliverables will include a full Technical Data Package (TDP) and Government rights for technology solutions. Full Rate Production (FRP) will be a competitively awarded build-to-print 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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0307665A: *Biometrics Enabled Intelligence*	**PROJECT** BI7: *BIOMETRICS ENABLED INTELLIGENCE - MIP*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PM Management Services	Various	Various:Various	0.000	4.795		4.592		3.563		-		3.563	Continuing	Continuing	Continuing
		Subtotal	0.000	4.795		4.592		3.563		0.000		3.563			

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Base Products Development	C/IDIQ	Various:TBD	0.000	7.077	Feb 2012	7.216		5.049		-		5.049	24.951	44.293	0.000
		Subtotal	0.000	7.077		7.216		5.049		0.000		5.049	24.951	44.293	0.000

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PM Civilian Personnel and Other Support Costs	Various	Various:Various	2.069	3.146	Dec 2011	3.140		3.220		-		3.220	24.951	36.526	0.000
		Subtotal	2.069	3.146		3.140		3.220		0.000		3.220	24.951	36.526	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
IA, T&E, Threat Assessment, Interoperabiity Certifications	Various	Various:TBD	0.000	-		0.300		0.617		-		0.617	Continuing	Continuing	Continuing
		Subtotal	0.000	0.000		0.300		0.617		0.000		0.617			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0307665A: *Biometrics Enabled Intelligence*	**PROJECT** BI7: *BIOMETRICS ENABLED INTELLIGENCE - MIP*

	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	2.069	15.018		15.248		12.449		0.000		12.449			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0307665A: *Biometrics Enabled Intelligence*	**PROJECT** BI7: *BIOMETRICS ENABLED INTELLIGENCE - MIP*

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0307665A: *Biometrics Enabled Intelligence*	**PROJECT** BI7: *BIOMETRICS ENABLED INTELLIGENCE - MIP*

	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 Report																								■				
Initial Operational Capability (IOC)																								■				
Full Rate Production Decision Review (FRPDR)																								■				
FRP Contract Award																									■			

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0307665A: *Biometrics Enabled Intelligence*	**PROJECT** BI7: *BIOMETRICS ENABLED INTELLIGENCE - MIP*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
System Requirements Review	2	2013	2	2013
Capability Development Document (CDD)	2	2013	2	2013
System Functional Review	3	2013	3	2013
EMD RFP Release	1	2014	1	2014
Milestone B Decision	3	2014	3	2014
Engineering & Manufacturing Development (EMD) Contract Award (CA)	3	2014	3	2014
System Development/Testing	3	2014	4	2016
Preliminary Design Review	1	2015	1	2015
Test Readiness Review (TRR) #1	3	2015	3	2015
Critical Design Review	3	2015	3	2015
Test Readiness Review (TRR) #2	4	2015	4	2015
Developmental Test (DT)	4	2015	3	2016
Capability Production Document (CPD)	1	2016	1	2016
Operational Assessment (OA)	1	2016	3	2016
Test Readiness Review (TRR) #3	1	2016	1	2016
Limited User Test (LUT)	2	2016	2	2016
Low Rate Initial Production (LRIP) RFP Release	3	2016	3	2016
Test Report	3	2016	3	2016
Milestone C Decision	4	2016	4	2016
Operational TRR	1	2017	1	2017
Full Rate Production (FRP) RFP Release	1	2017	1	2017
LRIP Contract Award (CA)	1	2017	1	2017

Exhibit R-4A, **RDT&E Schedule Details:** PB 2014 Army		**DATE:** April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0307665A: *Biometrics Enabled Intelligence*	**PROJECT** BI7: *BIOMETRICS ENABLED INTELLIGENCE - MIP*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Operational Test & Evaluation (T&E)	1	2017	4	2017
Operational Test Report	4	2017	4	2017
Initial Operational Capability (IOC)	4	2017	4	2017
Full Rate Production Decision Review (FRPDR)	4	2017	4	2017
FRP Contract Award	1	2018	1	2018

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0708045A: *End Item Industrial Preparedness Activities*

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	-	57.607	59.908	56.136	-	56.136	60.866	59.787	60.006	60.592	Continuing	Continuing
E25: *MFG SCIENCE & TECH*	-	57.607	59.908	56.136	-	56.136	60.866	59.787	60.006	60.592	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 (PE) develops and demonstrates manufacturing processes that enable improvements in producibility and affordability of emerging and enabling components and subsystems of Army air, ground, Soldier, and command/control/communications systems. Initiatives within the PE result in cost savings and reduced risk of transitioning military-unique manufacturing processes into production. Project E25 fosters the transfer of new/improved manufacturing technologies to the industrial base, including manufacturing efforts that have potential for high payoff across the spectrum of Army systems.

Work in this PE is related to, and fully coordinated with, PE 0603710A (Night Vision Advanced Technology), PE 0602303A (Missile Technology), PE 0602105A (Materials Technology), PE 0602618A (Ballistics Technology), PE 0602601A (Combat Vehicle and Automotive Technology), and PE 0603005A (Combat Vehicle and Automotive Advanced Technology) and PE 0602705A (Electronics and Electronic Devices).

The cited work is consistent with the Assistant Secretary of Defense, Research and Engineering Science and Technology focus areas and the Army Modernization Strategy.

Work in this PE is performed by the Army Research, Development, and Engineering Command (RDECOM) and efforts are executed by the Army Research Laboratory (ARL) and appropriate Army Research, Development, and Engineering Centers (RDECs).

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0708045A: *End Item Industrial Preparedness Activities*

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	59.297	59.908	59.952	-	59.952
Current President's Budget	57.607	59.908	56.136	-	56.136
Total Adjustments	-1.690	0.000	-3.816	-	-3.816
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.690	-			
• Adjustments to Budget Years	-	-	-3.816	-	-3.816

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0708045A: *End Item Industrial Preparedness Activities*	PROJECT E25: *MFG SCIENCE & TECH*	

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
E25: *MFG SCIENCE & TECH*	-	57.607	59.908	56.136	-	56.136	60.866	59.787	60.006	60.592	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 develops and demonstrates manufacturing processes that enable improvements in producibility and affordability of emerging and enabling components and subsystems of Army air, ground, Soldier and command/control/communications/intelligence systems. Focus is on components and subsystems such as advanced armor, power and energy devices, rotors, sensors, displays, propellants and gun tubes. In addition, work is conducted to advance the state of the art in processing and fabrication techniques for coatings, multifunctional materials and structural elements for Army specific applications.

Work supports all Army S&T portfolios. Work in this PE is related to and fully coordinated with PE 0602105A (Materials Technology), PE 0602211A (Aviation Technology, PE 0602303A (Missile Technology), PE 0602601A (Combat Vehicle and Automotive Technology), PE 0602618A (Ballistics Technology), PE 0602705A (Electronics and Electronic Devices), PE 0603003 (Aviation Advanced Technology), PE 0603005A (Combat Vehicle and Automotive Advanced Technology) and PE 0603710A (Night Vision Advanced Technology).

The cited work is consistent with the Assistant Secretary of Defense for Research and Engineering S&T focus areas and the Army Modernization Strategy.

Work in this project is performed by the Army Research, Development and Engineering Command (RDECOM) and efforts are executed by the Army Research Laboratory (ARL) and appropriate Army Research, Development and Engineering Centers (RDECs).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: Air Systems	11.632	13.112	4.000
Articles:	0	0	
Description: This effort funds manufacturing technology advances needed for more affordable manned and unmanned aircraft components and subsystems. Work focuses on addressing challenges in areas such as engine performance and life, rotor and blade durability, reliable component integration/attachment, structural durability at low weight, and reduced corrosion.			
FY 2012 Accomplishments: Applied erosion coating materials onto UH-60 and AH-64 rotor-blades to decrease the number of blades repaired from 48 to 24 a year and reduce coating costs from $18 thousands - $14 thousands per rotor-blade. Developed novel tooling approaches and manufacturing processes to increase UAV heavy fuel engine performance, fuel efficiency and reliability, which reduces			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0708045A: *End Item Industrial Preparedness Activities*	**PROJECT** E25: *MFG SCIENCE & TECH*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
overall UAV life cycle costs. Integrated improved heavy fuel engine manufacturing processes into UAV platforms to demonstrate effectiveness. Developed cost effective processes for manufacturing nano-composite coatings which increases performance, durability and reliability of UH-60 and AH-64 components. Automated nano-composite application processes and equipment to reduce coating costs. Manufactured high performance flexible airborne antennas substrates using both chemical and riveting techniques. Improved auto clave, bonding lines and joints to increase yield rates which reduced antenna manufacturing costs. Demonstrated improved cost effective Environmental Barrier Coating (EBC) deposition methods and combined materials, process improvements to reduce fabrication labor and weight for T-700 helicopter engine shrouds. ***FY 2013 Plans:*** Demonstrate an advanced ceramic manufacturing process for the fabrication of Ceramic Matrix Composite (CMC) and Stage High Pressure Turbine (HPT) Shrouds for helicopter engines to reduce overall system weight and improve fuel consumption and reliability; develop manufacturing processes for the use of direct metal laser sintering to reduce cost and increase performance of complex components such as UAV turbine engine recuperators; demonstrate machining of rotary engine side seal grooves which will increase the reliability and performance of rotary engines for UAV applications; demonstrate a chemical etching technique for high performance flexible airborne antenna substrates by using lay-up processes to reduce touch labor and riveting issues resulting in significantly increased yield and reduced cost per missile; develop and demonstrate automated Plasma Assisted Chemical Vapor Deposition equipment and manufacturing procedures for the application of nanocrystalline diamond and amorphous carbon coatings for improved optical transmission for infrared devices, improved corrosion resistance, increased surface hardness, reduced friction, and increased wear performance on critical AH-64 and UH-60 helicopter components. ***FY 2014 Plans:*** Will develop machining, finishing and assembly processes for drive train and propulsion system components; will demonstrate and transition an automated production system for applying nanocrystalline diamond and amorphous carbon coatings to Army aviation systems; will develop advanced manufacturing and repair processes for composite structures; will develop and demonstrate cost-effective repair of high-value drive shafts and power-train components using additive manufacturing techniques.			
Title: Ground Systems	6.381	9.945	27.412
Articles:	0	0	
Description: This effort funds manufacturing technology advances needed for more affordable components and subsystems for tactical and combat vehicles and weapons systems. Work focuses on addressing challenges in areas such as advanced armor, gun barrel life, insensitive propellants, precision munitions and vehicle power devices. ***FY 2012 Accomplishments:*** Developed aluminum oxide manufacturing processes for sintered Spinel powder applications. Improved transparent armor production using a sintered technique which lowers the cost from $3k to $1.2k a square foot. Developed improved manufacturing			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0708045A: *End Item Industrial Preparedness Activities*	**PROJECT** E25: *MFG SCIENCE & TECH*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
processes and process controls to lower the cost, weight and material flaws for low rate production of combat vehicle modular armor. ***FY 2013 Plans:*** Scale-up manufacturing of high optical clarity Spinel armor plates up to 14 x 14 in size by using a sintered process to address both size and cost; develop low cost production and assembly processes of complex passive kinetic energy armors for combat vehicle systems; exploit forming/forging/joining technologies to enable fabrication of a single under-body design of high performance/ strength alloys for a blast resistant lower hull and underbody kits for combat vehicle systems; develop explosive loading processes, requiring no post-machining, inside warhead molding of insensitive munitions and fragment generating sleeves for the EAPS and next generation cluster munitions; develop a manufacturing process to reduce the cost and time associated with applying Ta-10W liners for medium and large caliber Chromium free cannon barrels; develop initial manufacturing processes for automated production of low cost, high power battery and fuel cell systems for manned and unmanned ground systems. ***FY 2014 Plans:*** Will demonstrate successful application of Ta-10W liners for medium and small-caliber barrels through live-fire demonstrations and evaluation of liner wear, will transition the Ta-10W liner application process to Watervliet Arsenal for implementation; will demonstrate increased yield and reduced missile antenna manufacturing cost through limited production runs and deliver process and technical data to the Cruise Missile Defense Systems Program Office for implementation on future missile systems; will demonstrate safer and more cost effective processes for loading explosives in the 120mm Advanced Multi-Purpose munition through limited production runs and will transition robust processes for the use of nano-particle field assisted sintering technologies (FAST) to reduce variability and improve fragmentation and performance of warhead liners for the extended area protection system (EAPS) program; demonstrate a domestic production capability for producing Spinel powder materials and initiate pilot line production runs of sintered Spinel plates followed by integration of the Spinel plates into laminated transparent armor solutions for performance evaluation and production cost validation; will scale up manufacturing of low-cost alumina-based ceramic tiles, improve 3D weaving technologies to integrate ceramic tiles of varying thicknesses and demonstrate production of large, single-piece underbody armor solutions to meet objective threat level ballistic requirements, demonstrating manufacturing process maturity for each technology through limited production runs; develop mature manufacturing processes for utilizing metal and polymer-based additive manufacturing processes to reduce prototyping and production times through rapid manufacturing, multi-material structures and rapid tooling development for ground vehicles.			
Title: Precision Munitions and Armament Systems	9.699	6.568	0.000
Articles:	0	0	
Description: The Precision Munitions and Armament Systems focus area consists of Advanced Weapon Systems, Fire Control, Logistics, Emerging Technologies and Advanced Energetics and Warheads. Future efforts in this area are moved to the Ground Systems portfolio.			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0708045A: *End Item Industrial Preparedness Activities*	**PROJECT** E25: *MFG SCIENCE & TECH*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
FY 2012 Accomplishments: Developed a manufacturing process for molding the frag-sleeve into a warhead body for decreased manufacturing time and cost. Developed field assisted spark technology and embedded tungsten fragment molding processes which will reduce production man-hours and lower cost. Developed processes for residence time, temperature, agitation rate and order of feeds to optimize IMX 104 manufacturing process and transitioned to PM-CAS. Manufactured a crown breach design using a hexavalent chromium free cladding process for large and medium caliber gun barrels. Developed a tantalum tungsten alloy protective bore coating to enable higher performance ammunition. Demonstrated M-Charge liner improvements, billet fabrication and warhead case fabrication which reduces costs from $6 thousands to $5 thousands per warhead and increases yield from 75% to 98%. ***FY 2013 Plans:*** Develop the manufacturing process to reduce the cost and time associated with applying Ta-10W liners for medium and large caliber Chromium free cannon barrels. Develop explosive loading processes, requiring no post-machining, inside warhead molding of insensitive munitions and fragment generating sleeves for the EAPS and Next Generation Cluster Munitions.			
Title: Command, Control, Communications and Intelligence Systems	18.419	20.465	13.756
Articles:	0	0	
Description: This effort funds manufacturing technology advances needed for more affordable components and subsystems for intelligence, surveillance, reconnaissance and targeting sytems, mission command systems, electronic warfare and improved Explosive Device detect/defeat systems. Work focuses on addressing challenges in areas such as large format multi-color focal plane arrays, flexible displays, night vision sensors, target detectors, advanced antennas and sensors. ***FY 2012 Accomplishments:*** Developed a production capacity for low cost, very large, affordable infrared (IR) focal plane arrays (FPA) using III-V epitaxial materials. Improved HgCdTe pilot lines by increasing the diameters of substrates and reduce material waste, decreasing costs for FPA production. Developed single-layer crystal yield and demonstrated improved polishing processes for more uniformed FPA substrates. Reduced propagate density and decreased surface roughness of FPA substrate and transition to PEO. Manufactured the final components package, demonstrated limited production of chip scale atomic clock power sources and began transition to Air Force GPS Wing and PEO C3T. Developed full color organic light emitting diodes (OLEDS) from a fully integrated flexible display pilot production line for demonstrations to system integrators. Manufactured processing station for night vision sensor optimization to reduce costs and increase reliability from 1200 to 10000 hours per sensor. ***FY 2013 Plans:*** Optimize the production of the Automated Exhaust Station (AES) to increase yield and demonstrate increased median photocathode response for improved low-light-level sensor performance; demonstrate lot-sized production of 200 and 325 sqcm focal plane array (FPA) wafers, improving yield and small pixel processing/hybridization; manufacture and evaluate sample			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
batches of 640x480, 1920x1280 and 1280x720 pixel FPAs to validate improved yield for affordable high definition, multi-band, multi-color FPAs grown on low-cost substrate for target acquisition and vision systems; demonstrate lot-sized production of 49 sqcm wafers for high-operating temperature FPAs, reducing surface defects and improving contrast ratio for wide area coverage of persistent surveillance systems; integrate OLEDS into the Gen II production line for 6.4-12 inch diagonal flexible displays to achieve a resolution of 600x800 super video graphics array (SVGA). ***FY 2014 Plans:*** Will demonstrate improved yield and reliability for low light level sensor over multiple production runs; will demonstrate manufacturing of large sized high-operating temperature FPAs, will increase growth, processing and hybridization yields and will deliver 640x480 FPAs for system integration; will develop manufacturing processes for reducing the cost and improving performance and reliability of short wave infrared sensors.			
Title: Flexible Display Technology ***Articles:*** ***Description:*** Future efforts in this area are moved to the Command, Control, Communications and Intelligence Systems portfolio. ***FY 2012 Accomplishments:*** Developed full color OLEDS from fully integrated GEN II pilot line for demonstrators to system integrators.	5.011 0	0.000	0.000
Title: Soldier Systems ***Articles:*** ***Description:*** This effort funds manufacturing technology advances needed for more affordable components and subsystems for combat feeding, aerial delivery of supplies, expeditionary basing, Soldier-borne sensors, clothing and protective equipment. Work focuses on addressing challenges in areas such as multifunctional fabrics for shelters, uniforms and portage equipment; affordable, non-contaminating packaging for rations; and lightweight materials for body armor. ***FY 2012 Accomplishments:*** Developed manufacturing processes for nano-pigment and additives and improved dispersion of the resins to increase performance and reliability of chemical/biological (CB) resistant shelters. Fabricated and demonstrated multiple 600 ft tent structures that meet joint expeditionary collective protection requirements. Developed new generation of scalable and affordable manufacturing processes for lightweight body armor. Demonstrated stacked tooling which reduces costs for bulk manufacturing of organic composite materials and co-curing processes for the X-SAPI body armor system. ***FY 2013 Plans:***	3.386 0	3.966 0	6.500

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Complete the manufacturing of T6 laminate at 14oz/yd2 for Low Rate Initial Production of shelter fabric; complete and demonstrate the low rate initial production (LRIP) process for lightweight x-SAPI plates for a flexible hybridized body armor solution; demonstrate low-cost rapid prototyping and injection molding techniques for protective mask systems. ***FY 2014 Plans:*** Will demonstrate mature manufacturing processes supporting the production of light-weight x-SAPI plates for flexible hybridized body armor and transition process data to PM SPIE for procurement; will develop manufacturing processes to reduce the cost of developing and producing advanced field medical systems; will develop novel processing techniques for utilizing advanced materials to reduce the weight and increase the performance of Soldier-born systems.			
Title: Advanced Manufacturing Initiatives	3.079	5.852	4.468
Articles:	0	0	
Description: This effort funds manufacturing technology advances needed for affordable model based manufacturing, network centric manufacturing data environments, collaborative manufacturing modeling and simulation, and advanced manufacturing technologies. Work focuses on addressing challenges in areas such as 3D technical data packages for armor systems; providing digital manufacturing capabilities to depots and laboratories, processes and models for data transfer and prototype production; and advanced laser manufacturing techniques for repairing components. ***FY 2012 Accomplishments:*** Developed fully annotated 3D digital technical data packages (TDP) for vehicle passive and protective armor systems that can be used in design and manufacturing production lines. Supported the digital capabilities to depots and labs to facilitate integration, refit and rebuild operations. Developed advanced manufacturing environment. ***FY 2013 Plans:*** Integrate depot planning and rebuild operations within a 3Dimensional TDP; establish interactive S1000D publications (International specification for technical publications utilizing a Common Source Database), manuals and work instructions; identify Type 1 NSNs to link with the 3D TDPs; develop processes and models for demonstrating data transfer and prototype production within a collaborative environment. ***FY 2014 Plans:*** Will transition process for developing and using Digital Work Instruction to select depots to support production operations, will demonstrate the use of MIL-STD-31000 for weapon system production data management; will demonstrate integration of manufacturing planning and machining technologies at select Army organic manufacturing sites.			
Accomplishments/Planned Programs Subtotals	57.607	59.908	56.136

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C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Not applicable for this item.

D. Acquisition Strategy

Not applicable for this item.

E. Performance Metrics

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

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TBD	TBD	TBD:TBD	0.000	57.607	Mar 2013	59.908		56.136	Mar 2014	-		56.136	Continuing	Continuing	Continuing
		Subtotal	0.000	57.607		59.908		56.136		0.000		56.136			

	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	57.607		59.908		56.136		0.000		56.136			

Remarks