Department of Defense
Fiscal Year (FY) 2016 President's Budget Submission

February 2015

Army

Justification Book of

Research, Development, Test & Evaluation, Army

RDT&E − Volume II, Budget Activity 5B

RESEARCH, DEVELOPMENT, TEST AND EVALUATION, ARMY

APPROPRIATION LANGUAGE

For expenses necessary for basic and applied scientific research, development, test and evaluation, including maintenance, rehabilitation, lease, and operation of facilities and equipment, $6,926,459,000.00 to remain available for obligation until September 30, 2017.

The following Justification Books were prepared at a cost of $1,187,353.84: Aircraft (ACFT), Missile (MSLS), Weapons & Tracked Combat Vehicles (WTCV), Ammunition (AMMO), Other Procurement Army (OPA) 1 - Tactical & Support Vehicles, Other Procurement Army (OPA) 2 – Communications & Electronics, Other Procurement Army (OPA) 3 & 4 - Other Support Equipment & Spares, Research, Development, Test and Evaluation (RDTE) for: Budget Activity 1, Budget Activity 2, Budget Activity 3, Budget Activity 4, Budget Activity 5A, Budget Activity 5B, Budget Activity 6, and Budget Activity 7.

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Department of Defense
FY 2016 President's Budget
Exhibit R-1 FY 2016 President's Budget
Total Obligational Authority
(Dollars in Thousands)

15 Jan 2015

Appropriation	FY 2014 (Base & OCO)	FY 2015 Base Enacted	FY 2015 OCO Enacted	FY 2015 Total Enacted	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Research, Development, Test & Eval, Army	7,124,298	6,673,146	2,000	6,675,146	6,924,959	1,500	6,926,459
Total Research, Development, Test & Evaluation	7,124,298	6,673,146	2,000	6,675,146	6,924,959	1,500	6,926,459

Department of Defense
FY 2016 President's Budget
Exhibit R-1 FY 2016 President's Budget
Total Obligational Authority
(Dollars in Thousands)

15 Jan 2015

Summary Recap of Budget Activities	FY 2014 (Base & OCO)	FY 2015 Base Enacted	FY 2015 OCO Enacted	FY 2015 Total Enacted	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Basic Research	425,321	460,268		460,268	425,079		425,079
Applied Research	930,900	981,421		981,421	879,685		879,685
Advanced Technology Development	1,044,919	1,113,149		1,113,149	895,747		895,747
Advanced Component Development & Prototypes	424,652	302,922	2,000	304,922	498,659	1,500	500,159
System Development & Demonstration	1,955,833	1,622,353		1,622,353	2,068,950		2,068,950
RDT&E Management Support	1,317,280	1,015,139		1,015,139	1,027,542		1,027,542
Operational Systems Development	1,025,393	1,177,894		1,177,894	1,129,297		1,129,297
Total Research, Development, Test & Evaluation	7,124,298	6,673,146	2,000	6,675,146	6,924,959	1,500	6,926,459
Summary Recap of FYDP Programs							
Strategic Forces	58,383						
General Purpose Forces	581,979	716,615		716,615	693,053		693,053
Intelligence and Communications	201,878	165,416		165,416	163,446		163,446
Research and Development	6,222,823	5,710,126	2,000	5,712,126	6,015,482	1,500	6,016,982
Central Supply and Maintenance	54,392	76,187		76,187	48,442		48,442
Administration and Associated Activities	126						
Classified Programs	4,717	4,802		4,802	4,536		4,536
Total Research, Development, Test & Evaluation	7,124,298	6,673,146	2,000	6,675,146	6,924,959	1,500	6,926,459

R-1C1: FY 2016 President's Budget (Published Version of PB Position), as of January 15, 2015 at 09:20:53

Department of the Army
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(Dollars in Thousands)

15 Jan 2015

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Department of the Army
FY 2016 President's Budget
Exhibit R-1 FY 2016 President's Budget
Total Obligational Authority
(Dollars in Thousands)

15 Jan 2015

Appropriation: 2040A Research, Development, Test & Eval, Army

Line No	Program Element Number	Item	Act	FY 2014 (Base & OCO)	FY 2015 Base Enacted	FY 2015 OCO Enacted	FY 2015 Total Enacted	FY 2016 Base	FY 2016 OCO	FY 2016 Total	Sec
1	0601101A	In-House Laboratory Independent Research	01	21,255	13,427		13,427	13,018		13,018	U
2	0601102A	Defense Research Sciences	01	216,774	248,283		248,283	239,118		239,118	U
3	0601103A	University Research Initiatives	01	76,682	89,776		89,776	72,603		72,603	U
4	0601104A	University and Industry Research Centers	01	110,610	108,782		108,782	100,340		100,340	U
		Basic Research		425,321	460,268		460,268	425,079		425,079	
5	0602105A	Materials Technology	02	45,243	46,000		46,000	28,314		28,314	U
6	0602120A	Sensors and Electronic Survivability	02	42,677	46,258		46,258	38,374		38,374	U
7	0602122A	TRACTOR HIP	02	35,493	16,358		16,358	6,879		6,879	U
8	0602211A	Aviation Technology	02	54,667	63,414		63,414	56,884		56,884	U
9	0602270A	Electronic Warfare Technology	02	17,464	18,500		18,500	19,243		19,243	U
10	0602303A	Missile Technology	02	58,426	62,180		62,180	45,053		45,053	U
11	0602307A	Advanced Weapons Technology	02	25,310	38,513		38,513	29,428		29,428	U
12	0602308A	Advanced Concepts and Simulation	02	23,364	27,423		27,423	27,862		27,862	U
13	0602601A	Combat Vehicle and Automotive Technology	02	63,476	72,861		72,861	68,839		68,839	U
14	0602618A	Ballistics Technology	02	73,906	85,575		85,575	92,801		92,801	U
15	0602622A	Chemical, Smoke and Equipment Defeating Technology	02	4,378	3,970		3,970	3,866		3,866	U
16	0602623A	Joint Service Small Arms Program	02	7,592	6,850		6,850	5,487		5,487	U
17	0602624A	Weapons and Munitions Technology	02	52,013	63,057		63,057	48,340		48,340	U
18	0602705A	Electronics and Electronic Devices	02	68,062	73,422		73,422	55,301		55,301	U

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15 Jan 2015

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19	0602709A	Night Vision Technology	02	42,624	44,935		44,935	33,807		33,807	U
20	0602712A	Countermine Systems	02	30,019	29,428		29,428	25,068		25,068	U
21	0602716A	Human Factors Engineering Technology	02	21,118	23,778		23,778	23,681		23,681	U
22	0602720A	Environmental Quality Technology	02	22,333	15,653		15,653	20,850		20,850	U
23	0602782A	Command, Control, Communications Technology	02	33,580	33,807		33,807	36,160		36,160	U
24	0602783A	Computer and Software Technology	02	10,232	10,761		10,761	12,656		12,656	U
25	0602784A	Military Engineering Technology	02	69,192	67,302		67,302	63,409		63,409	U
26	0602785A	Manpower/Personnel/Training Technology	02	17,395	23,288		23,288	24,735		24,735	U
27	0602786A	Warfighter Technology	02	30,950	32,044		32,044	35,795		35,795	U
28	0602787A	Medical Technology	02	81,386	76,044		76,044	76,853		76,853	U
	Applied Research			930,900	981,421		981,421	879,685		879,685	
29	0603001A	Warfighter Advanced Technology	03	64,337	78,109		78,109	46,973		46,973	U
30	0603002A	Medical Advanced Technology	03	100,646	106,264		106,264	69,584		69,584	U
31	0603003A	Aviation Advanced Technology	03	78,513	102,950		102,950	89,736		89,736	U
32	0603004A	Weapons and Munitions Advanced Technology	03	72,934	72,908		72,908	57,663		57,663	U
33	0603005A	Combat Vehicle and Automotive Advanced Technology	03	146,486	147,485		147,485	113,071		113,071	U
34	0603006A	Space Application Advanced Technology	03	10,706	6,880		6,880	5,554		5,554	U
35	0603007A	Manpower, Personnel and Training Advanced Technology	03	6,145	13,574		13,574	12,636		12,636	U

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Department of the Army
FY 2016 President's Budget
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(Dollars in Thousands)

15 Jan 2015

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36	0603008A	Electronic Warfare Advanced Technology	03	40,345	44,851		44,851				U
37	0603009A	TRACTOR HIKE	03	9,161	7,492		7,492	7,502		7,502	U
38	0603015A	Next Generation Training & Simulation Systems	03	13,168	16,740		16,740	17,425		17,425	U
39	0603020A	TRACTOR ROSE	03	10,662	14,483		14,483	11,912		11,912	U
40	0603125A	Combating Terrorism - Technology Development	03	14,546	24,257		24,257	27,520		27,520	U
41	0603130A	TRACTOR NAIL	03	3,192	3,440		3,440	2,381		2,381	U
42	0603131A	TRACTOR EGGS	03	2,366	2,406		2,406	2,431		2,431	U
43	0603270A	Electronic Warfare Technology	03	24,652	26,046		26,046	26,874		26,874	U
44	0603313A	Missile and Rocket Advanced Technology	03	81,951	79,934		79,934	49,449		49,449	U
45	0603322A	TRACTOR CAGE	03	11,857	11,105		11,105	10,999		10,999	U
46	0603461A	High Performance Computing Modernization Program	03	213,238	221,518		221,518	177,159		177,159	U
47	0603606A	Landmine Warfare and Barrier Advanced Technology	03	22,233	13,070		13,070	13,993		13,993	U
48	0603607A	Joint Service Small Arms Program	03	4,902	7,318		7,318	5,105		5,105	U
49	0603710A	Night Vision Advanced Technology	03	43,459	44,119		44,119	40,929		40,929	U
50	0603728A	Environmental Quality Technology Demonstrations	03	11,540	11,445		11,445	10,727		10,727	U
51	0603734A	Military Engineering Advanced Technology	03	23,838	17,606		17,606	20,145		20,145	U
52	0603772A	Advanced Tactical Computer Science and Sensor Technology	03	34,042	39,149		39,149	38,163		38,163	U

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53	0603794A	C3 Advanced Technology	03					37,816		37,816	U
		Advanced Technology Development		1,044,919	1,113,149		1,113,149	895,747		895,747	
54	0603305A	Army Missle Defense Systems Integration	04	23,117	25,795		25,795	10,347		10,347	U
55	0603308A	Army Space Systems Integration	04	13,448	13,996		13,996	25,061		25,061	U
56	0603619A	Landmine Warfare and Barrier - Adv Dev	04					49,636		49,636	U
57	0603627A	Smoke, Obscurant and Target Defeating Sys-Adv Dev	04					13,426		13,426	U
58	0603639A	Tank and Medium Caliber Ammunition	04	31,580	29,318		29,318	46,749		46,749	U
59	0603653A	Advanced Tank Armament System (ATAS)	04	54,259							U
60	0603747A	Soldier Support and Survivability	04	11,513	6,997	2,000	8,997	6,258	1,500	7,758	U
61	0603766A	Tactical Electronic Surveillance System - Adv Dev	04	10,390	8,953		8,953	13,472		13,472	U
62	0603774A	Night Vision Systems Advanced Development	04	8,760	3,050		3,050	7,292		7,292	U
63	0603779A	Environmental Quality Technology - Dem/Val	04	2,544	7,826		7,826	8,813		8,813	U
64	0603782A	Warfighter Information Network-Tactical - DEM/VAL	04	118,256							U
65	0603790A	NATO Research and Development	04	3,743	2,952		2,952	6,075		6,075	U
66	0603801A	Aviation - Adv Dev	04	4,848							U
67	0603804A	Logistics and Engineer Equipment - Adv Dev	04	11,623	13,380		13,380	21,233		21,233	U
68	0603807A	Medical Systems - Adv Dev	04	17,524	23,647		23,647	31,962		31,962	U

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FY 2016 President's Budget
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15 Jan 2015

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69	0603827A	Soldier Systems - Advanced Development	04	13,844	6,828		6,828	22,194		22,194	U
70	0603850A	Integrated Broadcast Service	04	79							U
71	0604100A	Analysis Of Alternatives	04		9,910		9,910	9,805		9,805	U
72	0604115A	Technology Maturation Initiatives	04	10,741	44,214		44,214	40,917		40,917	U
73	0604120A	Assured Positioning, Navigation and Timing (PNT)	04	7,500	9,925		9,925	30,058		30,058	U
74	0604319A	Indirect Fire Protection Capability Increment 2-Intercept (IFPC2)	04	76,559	96,131		96,131	155,361		155,361	U
75	0604785A	Integrated Base Defense (Budget Activity 4)	04	4,324							U
		Advanced Component Development & Prototypes		424,652	302,922	2,000	304,922	498,659	1,500	500,159	
76	0604201A	Aircraft Avionics	05	64,396	41,236		41,236	12,939		12,939	U
77	0604220A	Armed, Deployable Helos	05	26,000							U
78	0604270A	Electronic Warfare Development	05	134,260	5,999		5,999	18,843		18,843	U
79	0604280A	Joint Tactical Radio	05	30,752	9,827		9,827	9,861		9,861	U
80	0604290A	Mid-tier Networking Vehicular Radio (MNVR)	05	22,553	9,725		9,725	8,763		8,763	U
81	0604321A	All Source Analysis System	05	4,837	5,532		5,532	4,309		4,309	U
82	0604328A	TRACTOR CAGE	05	28,229	19,929		19,929	15,138		15,138	U
83	0604601A	Infantry Support Weapons	05	82,332	34,575		34,575	74,128		74,128	U
84	0604604A	Medium Tactical Vehicles	05	2,068	210		210				U
85	0604611A	JAVELIN	05	4,471	4,164		4,164	3,945		3,945	U
86	0604622A	Family of Heavy Tactical Vehicles	05	23,944	12,906		12,906				U

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15 Jan 2015

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87	0604633A	Air Traffic Control	05	514	16,756		16,756	10,076		10,076	U
88	0604641A	Tactical Unmanned Ground Vehicle (TUGV)	05		2,769		2,769	40,374		40,374	U
89	0604710A	Night Vision Systems - Eng Dev	05	47,811	65,299		65,299	67,582		67,582	U
90	0604713A	Combat Feeding, Clothing, and Equipment	05	1,874	3,034		3,034	1,763		1,763	U
91	0604715A	Non-System Training Devices - Eng Dev	05	22,168	8,943		8,943	27,155		27,155	U
92	0604741A	Air Defense Command, Control and Intelligence - Eng Dev	05	38,412	15,898		15,898	24,569		24,569	U
93	0604742A	Constructive Simulation Systems Development	05	19,596	4,394		4,394	23,364		23,364	U
94	0604746A	Automatic Test Equipment Development	05	6,498	11,079		11,079	8,960		8,960	U
95	0604760A	Distributive Interactive Simulations (DIS) - Eng Dev	05	12,193	10,022		10,022	9,138		9,138	U
96	0604780A	Combined Arms Tactical Trainer (CATT) Core	05	26,720	34,712		34,712	21,622		21,622	U
97	0604798A	Brigade Analysis, Integration and Evaluation	05	91,427	85,246		85,246	99,242		99,242	U
98	0604802A	Weapons and Munitions - Eng Dev	05	16,770	14,998		14,998	21,379		21,379	U
99	0604804A	Logistics and Engineer Equipment - Eng Dev	05	43,497	24,566		24,566	48,339		48,339	U
100	0604805A	Command, Control, Communications Systems - Eng Dev	05	7,131	4,431		4,431	2,726		2,726	U
101	0604807A	Medical Materiel/Medical Biological Defense Equipment - Eng Dev	05	33,890	30,384		30,384	45,412		45,412	U
102	0604808A	Landmine Warfare/Barrier - Eng Dev	05	87,895	57,674		57,674	55,215		55,215	U

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103	0604814A	Artillery Munitions - EMD	05	6,352							U
104	0604818A	Army Tactical Command & Control Hardware & Software	05	22,900	29,675		29,675	163,643		163,643	U
105	0604820A	Radar Development	05	1,796	5,221		5,221	12,309		12,309	U
106	0604822A	General Fund Enterprise Business System (GFEBS)	05	3,218				15,700		15,700	U
107	0604823A	Firefinder	05	17,734	23,480		23,480	6,243		6,243	U
108	0604827A	Soldier Systems - Warrior Dem/Val	05	25,477	6,155		6,155	18,776		18,776	U
109	0604854A	Artillery Systems - EMD	05	117,241	1,911		1,911	1,953		1,953	U
110	0605013A	Information Technology Development	05	59,329	69,728		69,728	67,358		67,358	U
111	0605018A	Integrated Personnel and Pay System-Army (IPPS-A)	05	34,400	68,434		68,434	136,011		136,011	U
112	0605028A	Armored Multi-Purpose Vehicle (AMPV)	05	27,345	92,309		92,309	230,210		230,210	U
113	0605030A	Joint Tactical Network Center (JTNC)	05	65,849	8,436		8,436	13,357		13,357	U
114	0605031A	Joint Tactical Network (JTN)	05		17,989		17,989	18,055		18,055	U
115	0605032A	TRACTOR TIRE	05					5,677		5,677	U
116	0605035A	Common Infrared Countermeasures (CIRCM)	05		145,337		145,337	77,570		77,570	U
117	0605051A	Aircraft Survivability Development	05					18,112		18,112	U
118	0605350A	WIN-T Increment 3 - Full Networking	05		113,155		113,155	39,700		39,700	U
119	0605380A	AMF Joint Tactical Radio System (JTRS)	05	9,874	6,878		6,878	12,987		12,987	U
120	0605450A	Joint Air-to-Ground Missile (JAGM)	05	15,684	83,799		83,799	88,866		88,866	U
121	0605456A	PAC-3/MSE Missile	05	86,223	34,991		34,991	2,272		2,272	U

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122	0605457A	Army Integrated Air and Missile Defense (AIAMD)	05	358,192	152,516		152,516	214,099		214,099	U
123	0605625A	Manned Ground Vehicle	05	96,820	49,134		49,134	49,247		49,247	U
124	0605626A	Aerial Common Sensor	05	10,377	17,748		17,748	2		2	U
125	0605766A	National Capabilities Integration (MIP)	05	21,132	15,212		15,212	10,599		10,599	U
126	0605812A	Joint Light Tactical Vehicle (JLTV) Engineering and Manufacturing Development Ph	05	81,388	45,694		45,694	32,486		32,486	U
127	0605830A	Aviation Ground Support Equipment	05		10,036		10,036	8,880		8,880	U
128	0210609A	Paladin Integrated Management (PIM)	05		80,263		80,263	152,288		152,288	U
129	0303032A	TROJAN - RH12	05	3,463	983		983	5,022		5,022	U
130	0304270A	Electronic Warfare Development	05	10,801	8,961		8,961	12,686		12,686	U
		System Development & Demonstration		1,955,833	1,622,353		1,622,353	2,068,950		2,068,950	
131	0604256A	Threat Simulator Development	06	23,598	22,057		22,057	20,035		20,035	U
132	0604258A	Target Systems Development	06	13,139	10,037		10,037	16,684		16,684	U
133	0604759A	Major T&E Investment	06	38,534	56,285		56,285	62,580		62,580	U
134	0605103A	Rand Arroyo Center	06	18,281	20,601		20,601	20,853		20,853	U
135	0605301A	Army Kwajalein Atoll	06	187,225	175,956		175,956	205,145		205,145	U
136	0605326A	Concepts Experimentation Program	06	21,563	19,430		19,430	19,430		19,430	U
137	0605502A	Small Business Innovative Research	06	182,958							U
138	0605601A	Army Test Ranges and Facilities	06	335,270	274,980		274,980	277,646		277,646	U
139	0605602A	Army Technical Test Instrumentation and Targets	06	63,944	45,573		45,573	51,550		51,550	U

R-1C1: FY 2016 President's Budget (Published Version of PB Position), as of January 15, 2015 at 09:20:53

Department of the Army
FY 2016 President's Budget
Exhibit R-1 FY 2016 President's Budget
Total Obligational Authority
(Dollars in Thousands)

15 Jan 2015

Appropriation: 2040A Research, Development, Test & Eval, Army

Line No	Program Element Number	Item	Act	FY 2014 (Base & OCO)	FY 2015 Base Enacted	FY 2015 OCO Enacted	FY 2015 Total Enacted	FY 2016 Base	FY 2016 OCO	FY 2016 Total	Sec
140	0605604A	Survivability/Lethality Analysis	06	42,865	33,294		33,294	33,246		33,246	U
141	0605606A	Aircraft Certification	06	5,953	4,700		4,700	4,760		4,760	U
142	0605702A	Meteorological Support to RDT&E Activities	06	7,210	6,411		6,411	8,303		8,303	U
143	0605706A	Materiel Systems Analysis	06	19,694	20,744		20,744	20,403		20,403	U
144	0605709A	Exploitation of Foreign Items	06	7,125	7,015		7,015	10,396		10,396	U
145	0605712A	Support of Operational Testing	06	55,062	49,217		49,217	49,337		49,337	U
146	0605716A	Army Evaluation Center	06	64,425	55,031		55,031	52,694		52,694	U
147	0605718A	Army Modeling & Sim X-Cmd Collaboration & Integ	06	1,239	1,124		1,124	938		938	U
148	0605801A	Programwide Activities	06	81,013	64,160		64,160	60,319		60,319	U
149	0605803A	Technical Information Activities	06	33,018	32,303		32,303	28,478		28,478	U
150	0605805A	Munitions Standardization, Effectiveness and Safety	06	56,543	64,027		64,027	32,604		32,604	U
151	0605857A	Environmental Quality Technology Mgmt Support	06	5,019	2,611		2,611	3,186		3,186	U
152	0605898A	Management HQ - R&D	06	53,476	49,583		49,583	48,955		48,955	U
153	0909999A	Financing for Cancelled Account Adjustments	06	126							U
	RDT&E	Management Support		1,317,280	1,015,139		1,015,139	1,027,542		1,027,542	
154	0603778A	MLRS Product Improvement Program	07	93,621	17,103		17,103	18,397		18,397	U
155	0603813A	TRACTOR PULL	07					9,461		9,461	U
156	0607131A	Weapons and Munitions Product Improvement Programs	07					4,945		4,945	U

R-1C1: FY 2016 President's Budget (Published Version of PB Position), as of January 15, 2015 at 09:20:53

Department of the Army
FY 2016 President's Budget
Exhibit R-1 FY 2016 President's Budget
Total Obligational Authority
(Dollars in Thousands)

15 Jan 2015

Appropriation: 2040A Research, Development, Test & Eval, Army

Line No	Program Element Number	Item	Act	FY 2014 (Base & OCO)	FY 2015 Base Enacted	FY 2015 OCO Enacted	FY 2015 Total Enacted	FY 2016 Base	FY 2016 OCO	FY 2016 Total	Sec
157	0607133A	TRACTOR SMOKE	07					7,569		7,569	U
158	0607135A	Apache Product Improvement Program	07		86,099		86,099	69,862		69,862	U
159	0607136A	Blackhawk Product Improvement Program	07		48,446		48,446	66,653		66,653	U
160	0607137A	Chinook Product Improvement Program	07		35,424		35,424	37,407		37,407	U
161	0607138A	Fixed Wing Product Improvement Program	07		819		819	1,151		1,151	U
162	0607139A	Improved Turbine Engine Program	07		49,328		49,328	51,164		51,164	U
163	0607140A	Emerging Technologies from NIE	07		4,916		4,916	2,481		2,481	U
164	0607141A	Logistics Automation	07	3,592	3,652		3,652	1,673		1,673	U
165	0607664A	Biometric Enabling Capability (BEC)	07		1,332		1,332				U
166	0607665A	Family of Biometrics	07	7,160				13,237		13,237	U
167	0607865A	Patriot Product Improvement	07	33,935	57,962		57,962	105,816		105,816	U
168	0102419A	Aerostat Joint Project - EMD	07	58,383							U
169	0202429A	Aerostat Joint Project - COCOM Exercise	07	22,252	43,248		43,248	40,565		40,565	U
170	0203726A	Adv Field Artillery Tactical Data System	07	24,120	1,273		1,273				U
171	0203728A	Joint Automated Deep Operation Coordination System (JADOCS)	07		36,658		36,658	35,719		35,719	U
172	0203735A	Combat Vehicle Improvement Programs	07	171,543	297,850		297,850	257,167		257,167	U
173	0203740A	Maneuver Control System	07	35,337	45,065		45,065	15,445		15,445	U
174	0203744A	Aircraft Modifications/Product Improvement Programs	07	227,333							U

Department of the Army
FY 2016 President's Budget
Exhibit R-1 FY 2016 President's Budget
Total Obligational Authority
(Dollars in Thousands)

15 Jan 2015

Appropriation: 2040A Research, Development, Test & Eval, Army

Line No	Program Element Number	Item	Act	FY 2014 (Base & OCO)	FY 2015 Base Enacted	FY 2015 OCO Enacted	FY 2015 Total Enacted	FY 2016 Base	FY 2016 OCO	FY 2016 Total	Sec
175	0203752A	Aircraft Engine Component Improvement Program	07	309	381		381	364		364	U
176	0203758A	Digitization	07	5,978	5,993		5,993	4,361		4,361	U
177	0203801A	Missile/Air Defense Product Improvement Program	07	1,830	5,112		5,112	3,154		3,154	U
178	0203802A	Other Missile Product Improvement Programs	07	60,005	38,323		38,323	35,951		35,951	U
179	0203808A	TRACTOR CARD	07	18,768	22,691		22,691	34,686		34,686	U
180	0205402A	Integrated Base Defense - Operational System Dev	07		4,362		4,362	10,750		10,750	U
181	0205410A	Materials Handling Equipment	07		834		834	402		402	U
182	0205412A	Environmental Quality Technology - Operational System Dev	07		280		280				U
183	0205456A	Lower Tier Air and Missile Defense (AMD) System	07		78,720		78,720	64,159		64,159	U
184	0205778A	Guided Multiple-Launch Rocket System (GMLRS)	07		45,353		45,353	17,527		17,527	U
185	0208053A	Joint Tactical Ground System	07	14,504	10,209		10,209	20,515		20,515	U
187	0303028A	Security and Intelligence Activities	07	7,596	12,518		12,518	12,368		12,368	U
188	0303140A	Information Systems Security Program	07	9,040	14,167		14,167	31,154		31,154	U
189	0303141A	Global Combat Support System	07	39,834	4,525		4,525	12,274		12,274	U
190	0303142A	SATCOM Ground Environment (SPACE)	07	17,644	11,006		11,006	9,355		9,355	U
191	0303150A	WWMCCS/Global Command and Control System	07	13,852	2,150		2,150	7,053		7,053	U
193	0305179A	Integrated Broadcast Service (IBS)	07					750		750	U

R-1C1: FY 2016 President's Budget (Published Version of PB Position), as of January 15, 2015 at 09:20:53

Department of the Army
FY 2016 President's Budget
Exhibit R-1 FY 2016 President's Budget
Total Obligational Authority
(Dollars in Thousands)

15 Jan 2015

Appropriation: 2040A Research, Development, Test & Eval, Army

Line No	Program Element Number	Item	Act	FY 2014 (Base & OCO)	FY 2015 Base Enacted	FY 2015 OCO Enacted	FY 2015 Total Enacted	FY 2016 Base	FY 2016 OCO	FY 2016 Total	Sec
194	0305204A	Tactical Unmanned Aerial Vehicles	07	33,515	22,870		22,870	13,225		13,225	U
195	0305206A	Airborne Reconnaissance Systems	07					22,870		22,870	U
196	0305208A	Distributed Common Ground/Surface Systems	07	27,607	20,155		20,155	25,592		25,592	U
197	0305219A	MQ-1C Gray Eagle UAS	07	13,074	46,472		46,472				U
198	0305232A	RQ-11 UAV	07	5,984							U
199	0305233A	RQ-7 UAV	07	12,025	16,389		16,389	7,297		7,297	U
200	0307665A	Biometrics Enabled Intelligence	07	7,443	1,973		1,973				U
201	0310349A	Win-T Increment 2 - Initial Networking	07		3,247		3,247	3,800		3,800	U
202	0708045A	End Item Industrial Preparedness Activities	07	54,392	76,187		76,187	48,442		48,442	U
9999	9999999999	Classified Programs		4,717	4,802		4,802	4,536		4,536	U
		Operational Systems Development		1,025,393	1,177,894		1,177,894	1,129,297		1,129,297	
Total Research, Development, Test & Eval, Army				7,124,298	6,673,146	2,000	6,675,146	6,924,959	1,500	6,926,459	

R-1C1: FY 2016 President's Budget (Published Version of PB Position), as of January 15, 2015 at 09:20:53

Table of Contents

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

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

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Appropriation 2040: Research, Development, Test & Evaluation, Army

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Appropriation 2040: Research, Development, Test & Evaluation, Army

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

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

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	-	43.497	24.566	48.339	-	48.339	59.983	45.709	35.515	31.323	Continuing	Continuing
194: *Engine Driven Gen Ed*	-	4.858	5.872	9.862	-	9.862	6.450	4.185	4.877	7.124	Continuing	Continuing
EC9: *Contingency Basing Infrastructure*	-	-	0.982	2.541	-	2.541	2.350	1.985	1.986	1.999	-	11.843
EJ9: *Maneuver Support Vessel (Light) (MSV(L))*	-	-	-	10.066	-	10.066	18.586	14.522	-	-	-	43.174
H01: *Combat Engineer Eq Ed*	-	2.099	1.038	1.139	-	1.139	2.503	3.928	3.600	-	Continuing	Continuing
H02: *Tactical Bridging - Engineering Development*	-	23.552	6.988	11.619	-	11.619	6.699	2.207	7.338	5.956	Continuing	Continuing
H14: *Materials Handling Equipment - Ed*	-	0.288	0.283	0.628	-	0.628	1.166	0.751	0.630	0.641	Continuing	Continuing
L39: *Field Sustainment Support Ed*	-	1.729	1.687	1.849	-	1.849	4.156	3.219	2.308	3.078	Continuing	Continuing
L41: *Water And Petroleum Distribution - Ed*	-	2.508	3.193	4.038	-	4.038	8.669	5.256	4.645	4.645	Continuing	Continuing
L43: *ENGINEER SUPPORT EQUIPMENT - ED*	-	-	0.575	1.246	-	1.246	1.259	1.260	1.766	0.666	Continuing	Continuing
L46: *Maintenance Support Equipment*	-	1.191	1.003	1.412	-	1.412	2.103	2.072	1.902	1.938	Continuing	Continuing
L47: *Improved Environmental Control Units Ed*	-	2.867	-	0.976	-	0.976	1.468	1.970	3.865	2.199	Continuing	Continuing
VR7: *Combat Service Support Systems*	-	4.405	2.945	2.963	-	2.963	4.574	4.354	2.598	3.077	Continuing	Continuing

A. Mission Description and Budget Item Justification

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

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army	Date: February 2015
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*

Decrease from FY 2015 BES to FY 2015 PB reflects adjustments to all projects within this PE.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	41.682	24.581	32.525	-	32.525
Current President's Budget	43.497	24.566	48.339	-	48.339
Total Adjustments	1.815	-0.015	15.814	-	15.814
• Congressional General Reductions	-	-0.015			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	3.200	-			
• SBIR/STTR Transfer	-1.385	-			
• Adjustments to Budget Years	-	-	15.814	-	15.814

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	Project (Number/Name) 194 / *Engine Driven Gen Ed*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
194: *Engine Driven Gen Ed*	-	4.858	5.872	9.862	-	9.862	6.450	4.185	4.877	7.124	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Improved Power Distribution Illumination Systems Electrical (IPDISE)funds in this project line are a realignment of funds from 0603804A Project G-11, due to the program transitioning into the EMD Phase.

A. Mission Description and Budget Item Justification

This project supports the Tactical Electric Power (TEP) program which is established to develop a Modernized, Standard Family of Mobile Electric Power Generating Sources (MEPGS) for all Services throughout the Department of Defense. Building on the device/component evaluations conducted in PE 0603804A project G11, this project supports the system development and demonstration of a series of innovative mobile electric power sources that are essential to the development and eventual fielding of modernized MEPGS from 0.5 kilowatt (kW) to 840kW. These sources will ensure compliance with federally mandated environmental statutes and significantly lower noise and thermal signatures (thereby improving battlefield survivability), improve fuel and electrical efficiency, reduce weight, enhance portability, improve reliability and maintainability, and reduce operational and support costs. FY16 funds will prepare the Improved Power Distribution Illumination Systems Electrical (IPDISE)/Microgrids performance specification and initiate the EMD phase. Funding in FY16 will also support the Small Tactical Electric Power (STEP) EMD phase.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Large Advanced Mobile Power Sources (LAMPS) and Improved Power Distribution Illumination Systems Electrical (IPDISE)/ Microgrids Engineering & Manufacturing Development (EMD) Phase. ***Description:*** Prepare LAMPS and IPDISE/Microgrids performance specification and begin EMD Phase ***FY 2014 Accomplishments:*** Continue EMD Phase of LAMPS. ***FY 2015 Plans:*** Continue EMD Phase of LAMPS and IPDISE/Microgrids. ***FY 2016 Plans:*** Complete EMD Phase of LAMPS. Continue EMD Phase of IPDISE.	4.858	4.510	2.040
Title: Small Tactical Electric Power (STEP) Engineering & Manufacturing Development (EMD) Phase ***Description:*** Begin EMD Phase for the STEP program. ***FY 2015 Plans:***	-	1.362	7.822

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** 194 / *Engine Driven Gen Ed*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Initiate the EMD Phase for the STEP program. ***FY 2016 Plans:*** Continue EMD for the STEP prgram.			
Accomplishments/Planned Programs Subtotals	4.858	5.872	9.862

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• 643804.G11: *Logistics and Engineer Equipment - Adv Dev G11*	2.416	4.011	8.857	-	8.857	6.441	4.084	8.258	8.414	Continuing	Continuing
• MA9800: *Generators and Associated Equipment*	40.129	115.190	166.356	-	166.356	136.610	139.196	146.266	135.813	Continuing	Continuing

Remarks

D. Acquisition Strategy

LAMPS (Large Advanced Mobile Power Sources) Engineering & Manufacturing Development (EMD) Phase: A single competitive contract was awarded for the LAMPS EMD Phase. The EMD phase will be a Fixed Price Incentive-Firm Target (FPI-FT) contract. The EMD contract will require the vendor to integrate components and fabricate prototypes, verify prototype performance through contractor testing, deliver production representative generator sets and conduct Instructor and Key Personnel Training (I&KPT) for Government testing. Major data deliverables will include the Technical Data Package (TDP), provisioning data, logistics management information, technical manuals, test reports and cost data reporting. The Government will purchase the TDP from the vendor with the intent of using it in future competitive re-procurements for LAMPS. A Failure Mode, Effects and Criticality Analysis (FMECA), Level of Repair Analysis (LORA), Functional Configuration Audit (FCA) and a Physical Configuration Audit (PCA) will be completed to verify that the TDP accurately describes the qualified production sets. In addition, Improved Power Distribution Illumination Systems Electrical (IPDISE) will prepare the program's performance specification and initiate the EMD phase and Microgrids will design and test the Advanced Medium Mobile Power Sources (AMMPS) microgrid feeder distribution box(es) (Power Distribution Unit). The IPDISE program will enter the acquisition process at Milestone B, EMD. The Small Tactical Electric Power (STEP) program will use a multi-phase acquisition strategy. STEP System Development and Demonstration (SDD) will be separated into two phases; Phase I is System Development and Phase II is System Demonstration. The STEP program will enter the acquisition process at Milestone B, EMD.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	Project (Number/Name) 194 / *Engine Driven Gen Ed*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Small Tactical Electric Power (STEP)	MIPR	PM E2S2 : Stafford, VA	0.000	-		-		0.500	Feb 2016	-		0.500	Continuing	Continuing	Continuing
Improved Power Distribution Illumination Systems Electrical (IPDISE)/Microgrids	MIPR	PM E2S2 : Ft. Belvoir	0.000	-		-		1.166	Feb 2016	-		1.166	Continuing	Continuing	Continuing
		Subtotal	0.000	-		-		1.666		-		1.666	-	-	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Improved Power Distribution Illumination Systems Electrical (IPDISE)/Microgrids	C/CPFF	TBD : TBD	0.000	-		-		0.874	Jan 2016	-		0.874	Continuing	Continuing	Continuing
Large Advanced Mobile Power Sources (LAMPS) (100-200kW)	C/FPIF	L-3 Communications, Westwood Corporation, Tulsa, OK : Various	28.118	-		-		-		-		-	Continuing	Continuing	Continuing
Small Tactical Electric Power (STEP)	C/CPFF	TBD : TBD	0.000	-		1.362		7.322	Jan 2016	-		7.322	Continuing	Continuing	Continuing
		Subtotal	28.118	-		1.362		8.196		-		8.196	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Large Advanced Mobile Power Sources (LAMPS) (100-200kW)	MIPR	CECOM LCMC : Aberdeen Proving Ground (APG), MD	3.485	-		-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	3.485	-		-		-		-		-	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** 194 / *Engine Driven Gen Ed*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Large Advanced Mobile Power Sources (LAMPS) (100-200kW)	MIPR	Army Testing & Evaluation Ctr (ATEC) : APG, MD	0.000	4.858	Mar 2014	4.510		-		-		-	Continuing	Continuing	Continuing
		Subtotal	0.000	4.858		4.510		-		-		-	-	-	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	31.603	4.858		5.872		9.862		-		9.862	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** 194 / *Engine Driven Gen Ed*

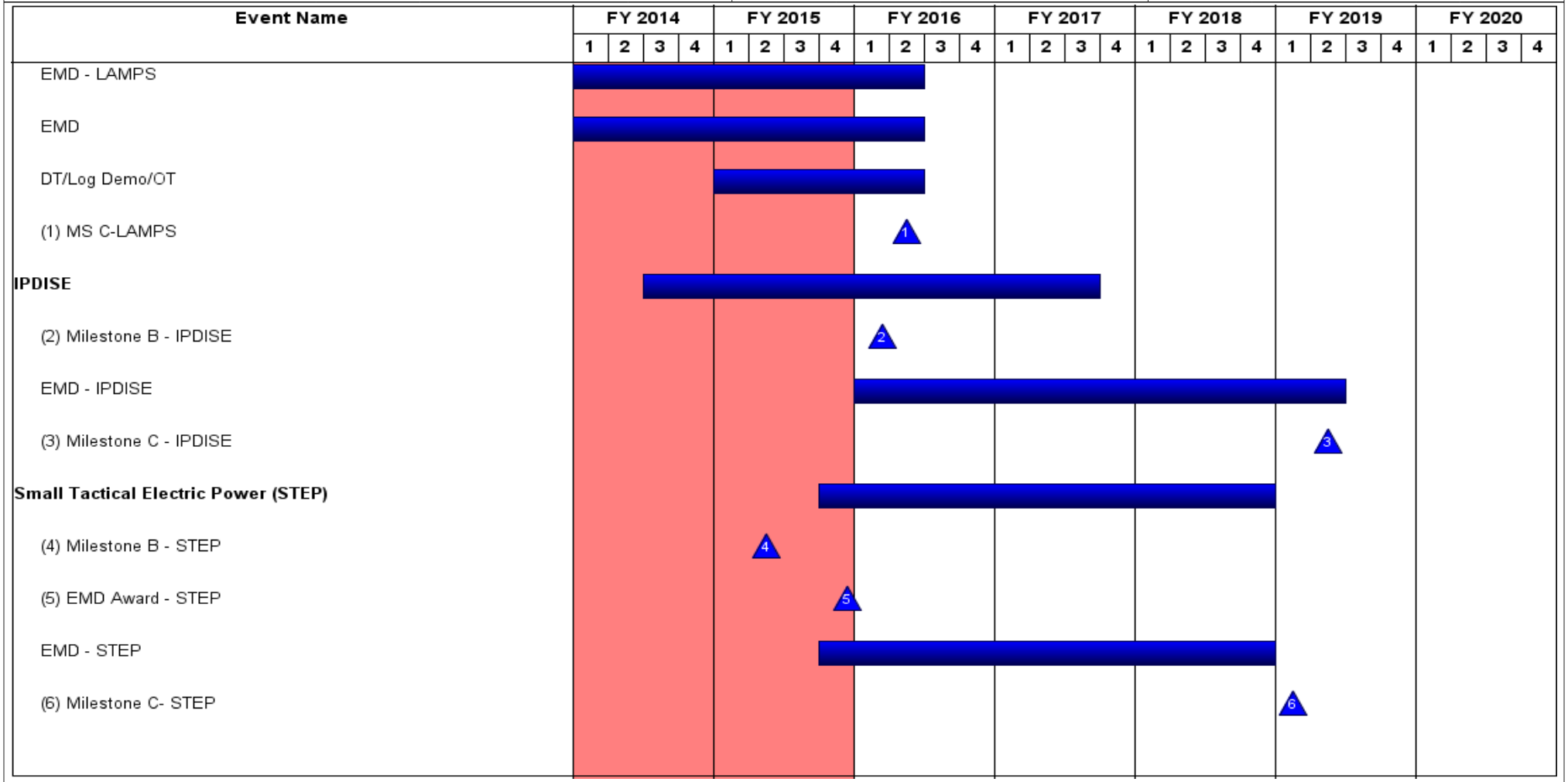


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** 194 / *Engine Driven Gen Ed*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
EMD - LAMPS	2	2011	2	2016
EMD	1	2013	2	2016
DT/Log Demo/OT	1	2015	2	2016
MS C-LAMPS	2	2016	2	2016
IPDISE	3	2014	3	2017
Milestone B - IPDISE	1	2016	1	2016
EMD - IPDISE	1	2016	2	2019
Milestone C - IPDISE	2	2019	2	2019
Small Tactical Electric Power (STEP)	4	2015	4	2018
Milestone B - STEP	2	2015	2	2015
EMD Award - STEP	4	2015	4	2015
EMD - STEP	4	2015	4	2018
Milestone C- STEP	1	2019	1	2019

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	Project (Number/Name) EC9 / *Contingency Basing Infrastructure*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
EC9: *Contingency Basing Infrastructure*	-	-	0.982	2.541	-	2.541	2.350	1.985	1.986	1.999	-	11.843
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

FY15 is the first year of funding for this project.

A. Mission Description and Budget Item Justification

This project develops the tools and processes that will optimize recommendations for the materiel used to establish, operate, and maintain contingency bases. The project will increase the available knowledge at the base level and provide an analytical foundation for sound investment decision making. The continuous improvement modeling and simulation analysis tools will match the evolution of threats and technologies. Using a system of systems engineering approach, the Contingency Base Infrastructure Product Directorate's focus ensures optimum integration of materiel across the base camp to facilitate the maximizing of Warfighter effectiveness. CBIs analytical results will allow leadership to make fact based informed decisions on the acquisition and employment/deployment of equipment. This enables contingency bases to be established, operated and managed as a system (system of systems) and the equipment acquired for the base to be compatible and efficient while providing the maximum overall support to the Warfighter. This approach supports Program(s) of Record (PORs) to maximize improvements in Operational Energy and ensures efficiencies across all Areas of Responsibility (AOR).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Contingency Base Infrastructure ***Description:*** Funding is provided for the following effort. ***FY 2015 Plans:*** Continue integration of Model-Based Systems Engineering principles to enable analysis of contingency bases as a system (system of systems). Continuation of development of the Base Camp Master Planning Tool - Contingency Base Interface to the Warfighter (CBIWar). Support Army investment decisions across the Contingency Base Infrastructure portfolio and development of Capability Sets and their associated delivery strategy.	-	0.982	-
Title: Toolset Development ***Description:*** Funding is provided for the following effort. ***FY 2016 Plans:***	-	-	0.481

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** EC9 / *Contingency Basing Infrastructure*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Continue model based systems engineering tool maturation of multiple analytical tools, Base Camp Master Planning Tool – Contingency Base Interface to the Warfighter (CBIWar) , and an Integrated - Preliminary Design Review (I-PDR).			
Title: Integrated Analysis and Design ***Description:*** Funding is provided for the following effort. ***FY 2016 Plans:*** Funding is planned to support Integrated Toolset Demonstration 2 that will support portfolio maturation, integration and analytical evaluation. And also support Army investment decisions across the Contingency Base Infrastructure portfolio.	-	-	0.972
Title: Capabilities Implementation and Materiel Requirements ***Description:*** Funding is provided for the following effort. ***FY 2016 Plans:*** Funding is planned to support the development of the design of different sized contingency base camps, capability sets, expansion and enhancements sets, and establishment of a configuration management plan to manage the base camp capability sets.	-	-	0.421
Title: Program Management ***Description:*** Funding is provided for the following effort. ***FY 2016 Plans:*** Oversight and management of integrated analysis and design, capabilities implementation and materiel requirements, and toolset development. Funding to support managing cost, schedule, performance, risk, personnel, and operational activities. Also oversight, analysis and management of operational energy related impacts and technology gaps.	-	-	0.667
Accomplishments/Planned Programs Subtotals	-	0.982	2.541

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Not applicable for this item.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** EC9 / *Contingency Basing Infrastructure*

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	Project (Number/Name) EC9 / *Contingency Basing Infrastructure*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management	Various	PM Force Projection : Warren, MI	0.000	-		0.315	Feb 2015	0.667	Feb 2016	-		0.667	-	0.982	-
		Subtotal	0.000	-		0.315		0.667		-		0.667	-	0.982	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Toolset Development	Various	Various : Various	0.000	-		0.292	Feb 2015	0.481	Feb 2016	-		0.481	-	0.773	Continuing
Integrated Analysis and Design	Various	Various : Various	0.000	-		0.200	Feb 2015	0.972	Feb 2016	-		0.972	-	1.172	Continuing
Capabilities Implementation and Materiel Requirements	Various	Various : Various	0.000	-		0.175	Feb 2015	0.421	Feb 2016	-		0.421	-	0.596	Continuing
		Subtotal	0.000	-		0.667		1.874		-		1.874	-	2.541	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	-		0.982		2.541		-		2.541	-	3.523	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** EC9 / *Contingency Basing Infrastructure*

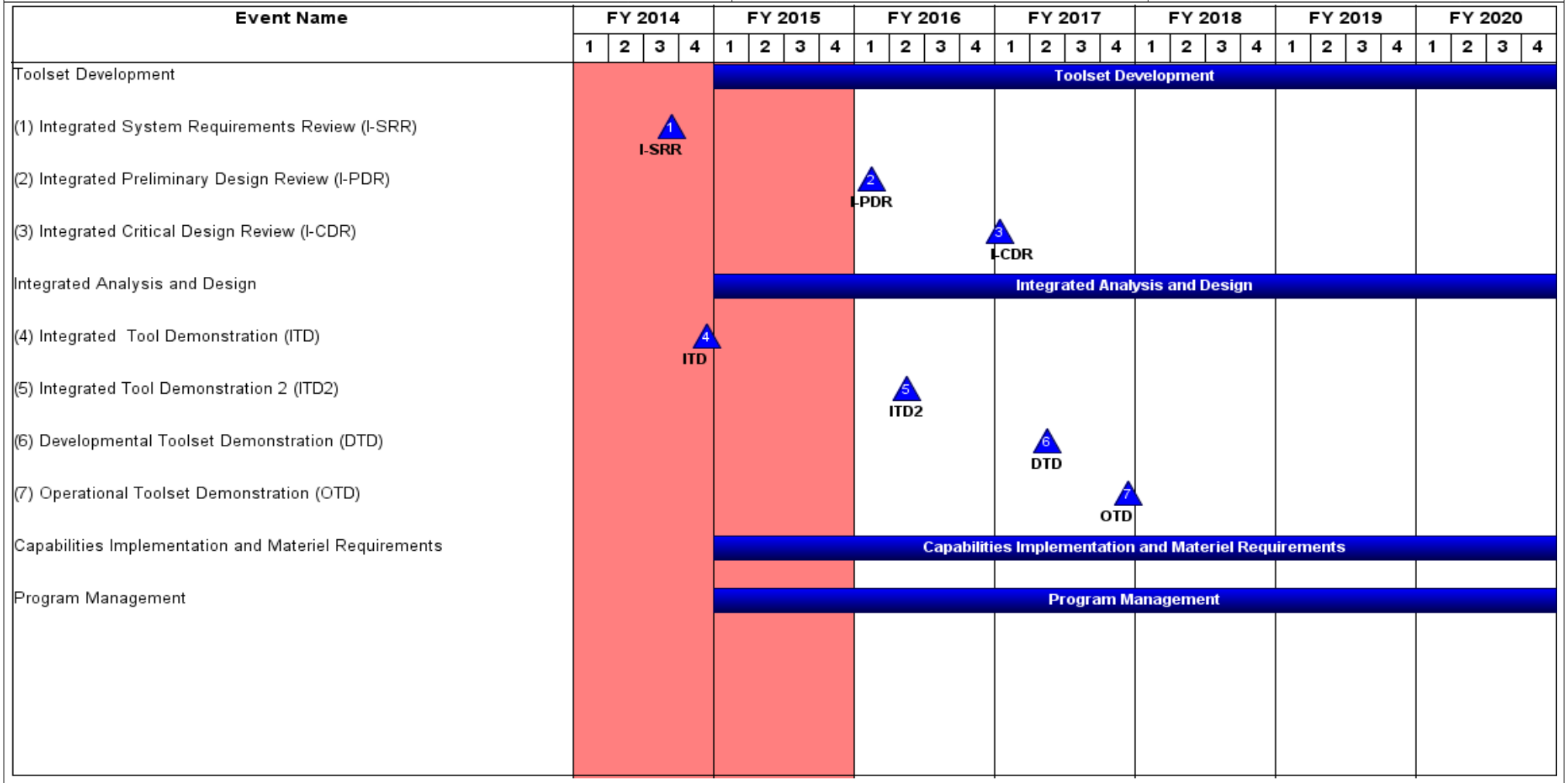


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** EC9 / *Contingency Basing Infrastructure*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Toolset Development	1	2015	4	2020
Integrated System Requirements Review (I-SRR)	3	2014	3	2014
Integrated Preliminary Design Review (I-PDR)	1	2016	1	2016
Integrated Critical Design Review (I-CDR)	1	2017	1	2017
Integrated Analysis and Design	1	2015	4	2020
Integrated Tool Demonstration (ITD)	4	2014	4	2014
Integrated Tool Demonstration 2 (ITD2)	2	2016	2	2016
Developmental Toolset Demonstration (DTD)	2	2017	2	2017
Operational Toolset Demonstration (OTD)	4	2017	4	2017
Capabilities Implementation and Materiel Requirements	1	2015	4	2020
Program Management	1	2015	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	Project (Number/Name) EJ9 / *Maneuver Support Vessel (Light) (MSV(L))*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
EJ9: *Maneuver Support Vessel (Light) (MSV(L))*	-	-	-	10.066	-	10.066	18.586	14.522	-	-	-	43.174
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

The Maneuver Support Vessel (Light) (MSV(L)) is a new start program in FY16. APE 0603804, Project 526 provided resourcing for FY15 research and development support to this program".

A. Mission Description and Budget Item Justification

FY16 dollars in the amount of $10.066M support the initiation of the Engineering, Manufacturing, Development (EMD) phase for the Maneuver Support Vessel (Light)(MSV(L)). The MSV(L) is a non-developmental item (NDI) modified, multifunctional waterborne mobility platform, which will displace the current Landing Craft Mechanized-8 (LCM-8) with much greater payload and speed while being capable of operating in shallower water (improved draft), and also provide roll through capability via stern and bow ramps. The MSV(L) will provide a waterborne corridor for movement and maneuver; expeditionary delivery of combat configured equipment, troops, and logistics, in austere anti-access/area denial environments; and operational capability from ship to shore and along coastal waters, narrow inland water ways and rivers. It will be capable of transporting multiple combat configured ready-to-fight payloads with crew (i.e. an Abrams tank; two Strykers with bar armor; four Joint Light Tactical Vehicles (JLTVs) w/trailers; or a Heavy Expandable Mobility Tactical Truck (HEMTT) Load Handling System (LHS) and trailer). It will be able to operate fully loaded at a speed of 18 knots in Sea State 3 (SS3) conditions, while being survivable (seaworthy) in SS7 conditions. It will be furnished with a subsurface surveilance device, protection from small arms fire, and two Common Remotely Operated Weapon Stations (CROWS II) for vessel defense and force protection, and mitigate detection thorough reduction of thermal and acoustic signature. It will move combat configured forces and supplies more efficiently than the vessel it displaces.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Systems Engineering / Program Management ***Description:*** Salaries for Core and Matrix personnel,includes SSEB. ***FY 2016 Plans:*** Program support for core and matrix personnel	-	-	2.811
Title: Government Furnished Equipment (GFE) ***Description:*** GFE for prototype vessel consist of Command, Control, Communications, Computers, Intelligence, Surveilance and Reconnaissance (C4ISR); and Remote Weapon Stations (RWS) ***FY 2016 Plans:***	-	-	1.122

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** EJ9 / *Maneuver Support Vessel (Light) (MSV(L))*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
GFE for prototype vessel consist of C4ISR and RWS			
Title: Engineering and Manufacturing Development (EMD) ***Description:*** EMD contract ***FY 2016 Plans:*** EMD contract	-	-	5.008
Title: Test ***Description:*** Modeling & Simulation; and Scale modeling testing ***FY 2016 Plans:*** Modeling & Simulation; and Scale modeling testing	-	-	1.125
Accomplishments/Planned Programs Subtotals	-	-	10.066

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• 643804526 Logistics and Engineer Eq: *643804 526 Logistics and Engineer Adv Dev*	2.748	2.602	2.546	-	2.546	4.221	4.389	3.478	3.501	-	23.485
• SSN R03050: *MSV Support Vessel (Light) MSV-L SSN R03050*	-	-	-	-	-	-	-	80.701	82.234	Continuing	Continuing

Remarks

D. Acquisition Strategy

Full and open competition, down select from paper design proposals to one contractor to build and test one prototype, and inform the Capability Production Document (CPD) development during the Engineering, Manufacturing, Development (EMD) Phase. Acquisition Strategy is to award one 10 year contract; 5 years EMD and LRIP Phase with 5 years Full Rate Production.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	Project (Number/Name) EJ9 / *Maneuver Support Vessel (Light) (MSV(L))*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Furnished Equipment (GFE)	MIPR	TBD : TBD	0.000	-		-		1.122	Nov 2015	-		1.122	-	1.122	-
Engineering and Manufacturing Development (EMD)	C/FP	TBD : TBD	0.000	-		-		5.008	Mar 2016	-		5.008	-	5.008	-
		Subtotal	0.000	-		-		6.130		-		6.130	-	6.130	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Salaries for Core and Matrix Personnel	MIPR	Various : Various	0.000	-		-		2.811	Oct 2015	-		2.811	Continuing	Continuing	-
		Subtotal	0.000	-		-		2.811		-		2.811	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Testing Modeling & Simulation and Scale Modeling	MIPR	NAVSEA Carderock : West Bethesda, MD	0.000	-		-		1.125	Mar 2016	-		1.125	-	1.125	-
		Subtotal	0.000	-		-		1.125		-		1.125	-	1.125	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	-		-		10.066		-		10.066	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** EJ9 / *Maneuver Support Vessel (Light) (MSV(L))*

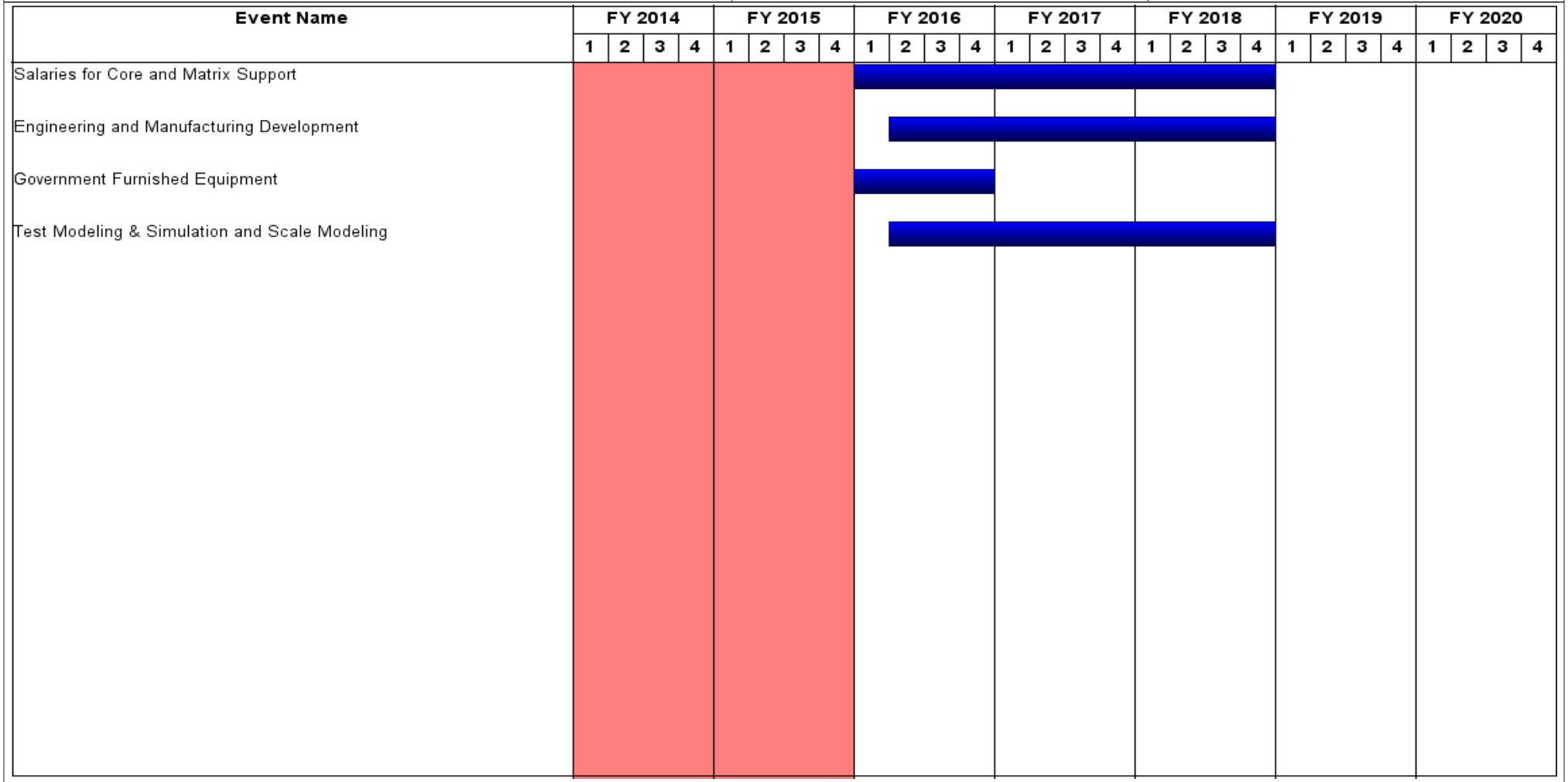


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** EJ9 / *Maneuver Support Vessel (Light) (MSV(L))*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Salaries for Core and Matrix Support	1	2016	4	2018
Engineering and Manufacturing Development	2	2016	4	2018
Government Furnished Equipment	1	2016	4	2016
Test Modeling & Simulation and Scale Modeling	2	2016	4	2018

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	Project (Number/Name) H01 / *Combat Engineer Eq Ed*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
H01: *Combat Engineer Eq Ed*	-	2.099	1.038	1.139	-	1.139	2.503	3.928	3.600	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project supports the Engineering Manufacturing Development (EMD) of military Construction Equipment used in support of horizontal and vertical engineer construction tasks and to develop a variety of enabling systems that will support and improve mobility for Engineers in the Brigade Combat Teams (BCT) and Combat Support Brigades (CSB) forces. This project also supports the EMD of enabling systems to meet critical capabilities of joint interdependence through Air and Ground Line of Communication and Rapid Tactical Earthmoving repair and construction which increase the operational reach of modular forces. The BCT and CSB systems include: High Mobility Engineer Excavators, Scrapers, Scoop Loaders, Skid Steer Loaders, Dozers, Cranes and Graders. This project will also support the Research into the Deuce Replacement and the Energy Productivity Study.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Drive Assist ***Description:*** Integrate and demonstrate COTS technologies enhancing CE operations. ***FY 2014 Accomplishments:*** Development of Robotics Research ***FY 2015 Plans:*** Focus on the inclusion of referenced technologies for integration on a 120M Grader. Technology will primarily be COTS equipment ***FY 2016 Plans:*** Focus additional reuse of technology from the 120M Grader effort applied to the FOD..	0.250	0.239	0.150
Title: CE Simulators ***Description:*** Labor, software, and hardware simulator development ***FY 2014 Accomplishments:*** Labor, software, and hardware simulator development	0.300	-	-
Title: Market Research/R&D Engineering Support ***Description:*** Market Research Survey	0.150	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** H01 / *Combat Engineer Eq Ed*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
FY 2014 Accomplishments: Conduct market research and documentation preparation for all types of construction equipment.			
Title: Operational Efficiency ***Description:*** Improve Operational Efficiency/Reduce Maintenance Time ***FY 2015 Plans:*** Using Government supplied vehicles (GFE), evaluate new technologies to be developed by private industry to improve the efficiency or reduce maintenance burden.	-	0.400	-
Title: Operational Energy/Duty Cycle ***Description:*** Operational Energy/Duty Cycle Monitoring ***FY 2014 Accomplishments:*** Instrumentation of vehicles in select units to monitor the usage and to establish training and operational usuage of the machine. This data, once analyzed will be used in requirements development.	1.058	-	-
Title: System Engineering/Program Management ***Description:*** Program Management ***FY 2014 Accomplishments:*** Program Management Support of R&D Program for CE ***FY 2015 Plans:*** Program Management Support of R&D Program for CE ***FY 2016 Plans:*** Program Management Support of R&D Program for CE	0.341	0.399	0.419
Title: Work Tool Enhancement ***Description:*** Develop prototype systems to provide additional machine capability. This may include sweepers, buckets, lift devices, fork enhancements, etc. ***FY 2016 Plans:*** Investigate the availability and commercial capability of the Family of Skid Steer Loaders (CASE M400 series). These attachments include Rock drill, Angle Boom, Roto Tiller, Vibratory Roller, Snow Blower, Dozer Blade, Sand Bagger, Backhoe	-	-	0.170

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** H01 / *Combat Engineer Eq Ed*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
and Bridge Handling Equipment. Specific focus will be on attachments which improve the capability to improve the Rapid Airfield Repair (Vibratory Roller, Roto-tiller, Back-hoe). The Effort may include purchase/lease of hardware and demonstration of capacities which will enhance Rapid Airfield Repair.			
Title: Machine Product Improvement ***Description:*** Investigate technologies to enhance performance/safety of current systems. Examples of this may include track slip detection on the DEUCE, whole vehicle protection, SLEP technology insertion. ***FY 2016 Plans:*** Utilizing the list of vehicles entering the SLEP process, engage the user community to determine what product improvements are available to improve performance/component life. Specifically focusing on the DEUCE track slip detection/mitigation.	-	-	0.200
Title: Forced Entry (Airborne/Air Assault) Study/Development ***Description:*** Explore options of using Program of Record systems to meet Forced Entry requirements. ***FY 2016 Plans:*** Investigate the possibility of adapting the BHL for the Air Assault role. Also, research possible material solutions for the ERACC IV capability.	-	-	0.200
Accomplishments/Planned Programs Subtotals	2.099	1.038	1.139

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• High Mobility Engineer Excavator I: *High Mobility Engineer Excavator I*	21.465	-	2.656	-	2.656	1.771	-	-	-	-	25.892
• Grader, Mtzd, Hvy: *Grader, Mtzd, Hvy*	2.000	5.827	5.903	-	5.903	1.770	-	-	-	-	15.500
• Hydraulic Excavator: *Hydraulic Excavator*	17.001	4.938	-	-	-	-	-	-	-	-	21.939
• Plant, Asphalt Mixing: *Plant, Asphalt Mixing*	-	0.667	0.984	-	0.984	-	-	-	-	-	1.651
• Tractor Full Tracked, Med T-9: *Tractor Full Tracked, Med T-9*	28.828	34.071	27.156	-	27.156	-	-	-	-	-	90.055

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** H01 / *Combat Engineer Eq Ed*	

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• All Terrain Cranes: *All Terrain Cranes*	2.613	4.938	16.750	-	16.750	66.349	10.771	17.789	42.306	Continuing	Continuing
• Scraper, Earthmoving: *Scraper, Earthmoving*	36.078	14.926	26.125	-	26.125	16.661	28.948	-	-	-	122.738
• ERACC 4: *ERACC IV*	-	2.741	2.531	-	2.531	-	-	-	-	-	5.272
• ERACC 1: *ERACC I SSA*	-	2.378	-	-	-	-	-	-	-	-	2.378
• ERACC 2: *ERACC 2 EE*	5.000	8.365	-	-	-	-	-	-	-	-	13.365
• ERACC 3: *ERACC III METL*	-	1.440	-	-	-	-	-	-	-	-	1.440
• Const Equip ESP: *SLEP*	16.088	15.933	19.640	-	19.640	31.695	31.426	41.537	41.805	Continuing	Continuing

Remarks

D. Acquisition Strategy

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

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	Project (Number/Name) H01 / *Combat Engineer Eq Ed*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SBIR+STIR	TBD	TACOM : Warren, Michigan	0.167	-		-		-		-		-	-	0.167	-
		Subtotal	0.167	-		-		-		-		-	-	0.167	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
System Pre-Award requirements, KPP, selection criteria development, Testing of systems	Various	TACOM & TARDEC : Warren, MI	1.675	-		-		-		-		-	-	1.675	-
Development of Drive Assist for Combat Engineer	Various	TBD : TBD	1.933	0.250	Mar 2014	0.239		0.150	Mar 2016	-		0.150	-	2.572	Continuing
Design armor kits for Combat Engineer	Various	TARDEC : Warren, MI	5.995	-		-		-		-		-	-	5.995	Continuing
Development of Simulator	Various	PEO Stricom : PEO, Stricom, Olrando, FL	8.683	0.300	Apr 2014	-		-		-		-	-	8.983	Continuing
Hazard Clearance at Speed	TBD	TARDEC : Warren, Michigan	0.001	-		-		-		-		-	-	0.001	-
Forced Entry: (Airborne/ Air Assault) Study/ Development	TBD	TARDEC : Warren, MI	9.256	-		-		0.200	Mar 2016	-		0.200	-	9.456	Continuing
Market Research	TBD	TARDEC : Warren, Michigan	0.040	0.149	Mar 2014	-		-		-		-	-	0.189	-
Work Tool Enhancement	Various	Various : Various	0.000	-		-		0.170	Mar 2016	-		0.170	-	0.170	-
Machine Product Improvement	TBD	Caterpillar : Illinois	0.000	-		-		0.200	Jun 2016	-		0.200	-	0.200	-
		Subtotal	27.583	0.699		0.239		0.720		-		0.720	-	29.241	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	Project (Number/Name) H01 / *Combat Engineer Eq Ed*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
System Engineering/ Program Management	MIPR	TARDEC/TACOM : Warren, Michigan	0.503	0.413	Dec 2013	0.399	Dec 2014	0.419	Dec 2015	-		0.419	-	1.734	-
		Subtotal	0.503	0.413		0.399		0.419		-		0.419	-	1.734	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Operational Efficiency	MIPR	TARDEC, Warren, Michigan : TARDEC, Warren, Michigan	0.022	-		0.400		-		-		-	-	0.422	-
Operational Energy/Duty Cycle Monitoring	MIPR	TARDEC & ATC : Warren, Michigan	0.000	0.987	Jun 2014	-		-		-		-	-	0.987	-
Non Nuclear Soil Density Set Testing	TBD	TARDEC : Warren, MI	0.050	-		-		-		-		-	-	0.050	-
		Subtotal	0.072	0.987		0.400		-		-		-	-	1.459	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	28.325	2.099		1.038		1.139		-		1.139	-	32.601	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** H01 / *Combat Engineer Eq Ed*

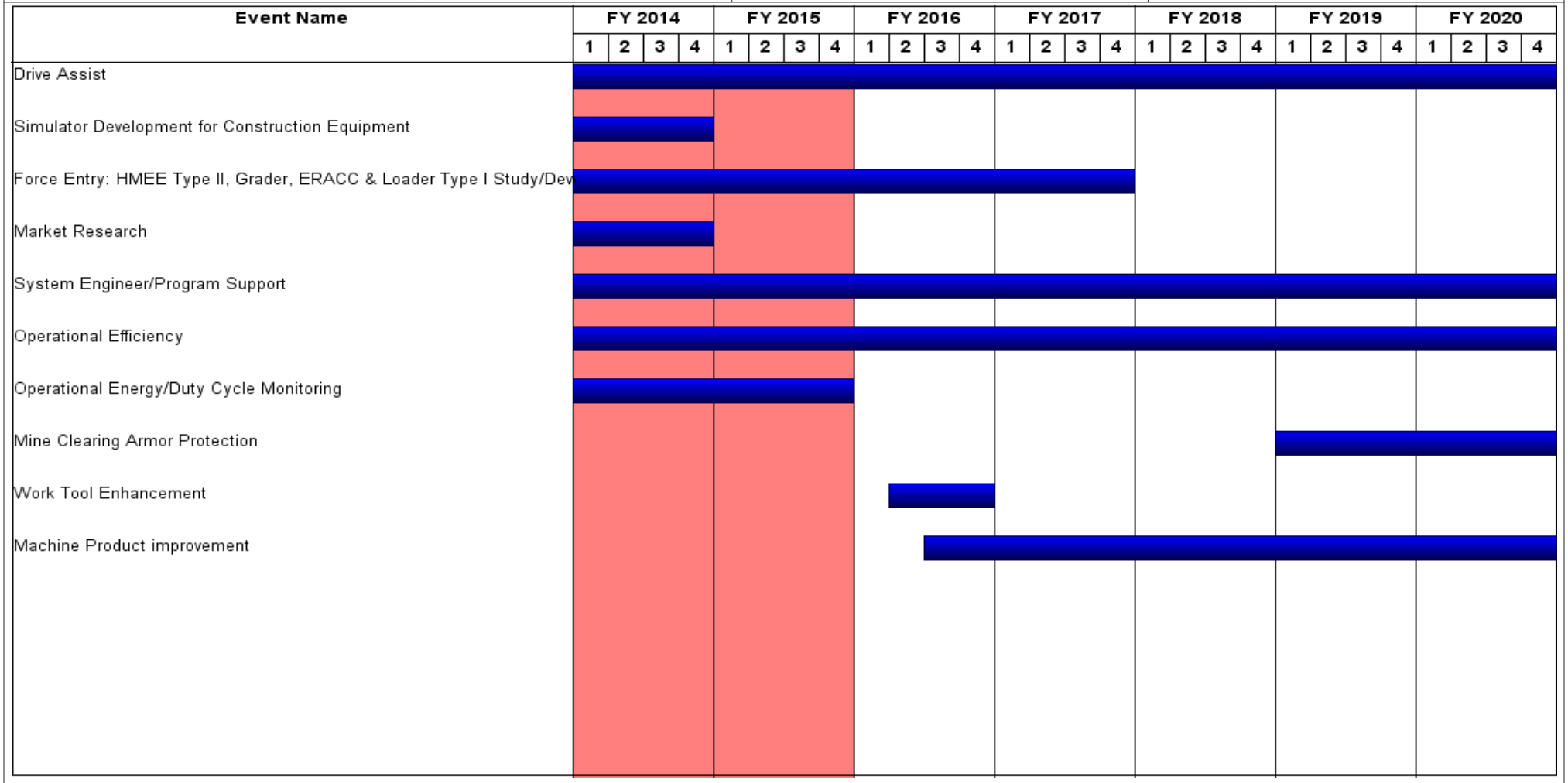


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** H01 / *Combat Engineer Eq Ed*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Drive Assist	1	2012	4	2021
Simulator Development for Construction Equipment	1	2012	4	2014
Force Entry: HMEE Type II, Grader, ERACC & Loader Type I Study/Development	1	2012	4	2017
Market Research	1	2013	4	2014
System Engineer/Program Support	1	2013	4	2021
Operational Efficiency	1	2013	4	2021
Operational Energy/Duty Cycle Monitoring	1	2013	4	2015
Mine Clearing Armor Protection	1	2019	4	2021
Work Tool Enhancement	2	2016	4	2016
Machine Product improvement	3	2016	4	2021

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	Project (Number/Name) H02 / *Tactical Bridging - Engineering Development*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
H02: *Tactical Bridging - Engineering Development*	-	23.552	6.988	11.619	-	11.619	6.699	2.207	7.338	5.956	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project supports the engineering and manufacturing development and transition to procurement of Future Force Bridge Systems and support equipment. Funding supports the Engineering and Manufacturing Development phases of the Joint Assault Bridge (JAB) and Line of Communication Bridge (LOCB). This project also funds efforts to upgrade and modernize the bridging fleet through the development of new systems (Bridge Supplemental Set, Structural Health Monitoring, Stryker Launched Assault Bridge) and enhancement of existing systems (weight class upgrades/up-ratings).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Joint Assault Bridge (JAB) Development and Testing	10.627	0.900	5.600
Description: JAB Development and Testing ***FY 2014 Accomplishments:*** Developmental Testing of the JAB ***FY 2015 Plans:*** JAB Testing ***FY 2016 Plans:*** Operational Testing and Live Fire Testing of the JAB			
Title: Rapidly Emplaced Bridge System (REBS) Auto Launch-Retrieve with the Common Bridge Transporter (CBT)	1.500	-	0.500
Description: Development, integration, and testing of REBS Auto Launch-Retrieve with the CBT ***FY 2014 Accomplishments:*** Completion of the development and integration of the REBS Auto Launch-Retrieve capability with the CBT ***FY 2016 Plans:*** Testing of the REBS Auto Launch-Retrieve capability with the CBT			
Title: Line of Communication Bridge (LOCB) Development and Testing	10.500	5.892	4.000
Description: Prototype development and developmental and operational testing of the LOCB			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** H02 / *Tactical Bridging - Engineering Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
FY 2014 Accomplishments: LOCB Development and Testing ***FY 2015 Plans:*** Continuation of testing of the LOCB System ***FY 2016 Plans:*** Completion of testing of the LOCB System			
Title: Structural Health Monitoring System ***Description:*** Develop and integrate a passive method to collect mobile military bridge system usage and health data and provide that information back to the user for informed decision making. System is targeted for use on the JAB, REBS, Dry Support Bridge (DSB), and LOCB and will reduce the requirement for in-field inspections. ***FY 2014 Accomplishments:*** Development of the Structural Health Monitoring system ***FY 2015 Plans:*** Continued development of the Structural Health Monitoring system ***FY 2016 Plans:*** Continued development and testing of the Structural Health Monitoring system	0.750	0.150	0.250
Title: Bridge Supplemental Set (BSS) ***Description:*** Develop a multi-functional, consolidated engineering set consisting of an anchorage system, access/egress traction improvement matting, power generation, tools, and a float bridge protection device. The BSS is targeted for use with multiple tactical bridging systems to include the LOCB, IRB, and the DSB. It will also increase the capability of the MRBC. ***FY 2014 Accomplishments:*** BSS Development ***FY 2015 Plans:*** Continuation of BSS Development	0.175	0.046	-
Title: Bridging Weight Classification Upgrades	-	-	1.269

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** H02 / *Tactical Bridging - Engineering Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Description: Investigate, analyze, and test solutions to increase the weight class (MIlitry Load Classification or MLC) of existing bridges to support the future, heavier, force. Developing solutions using existing bridges will eliminate the need to procure new bridges to support the future force. ***FY 2016 Plans:*** Begin investigation of solutions to increase the MLC of the Armored Vehicle Launch Bridge (AVLB)			
Accomplishments/Planned Programs Subtotals	23.552	6.988	11.619

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPA-3, MX0100: *OPA3, MX0100*	8.188	-	9.822	-	9.822	11.773	16.610	20.876	25.043	Continuing	Continuing
• OPA-3, G06520: *OPA-3, G06520*	-	-	4.959	-	4.959	3.965	4.956	3.965	-	-	17.845
• OPA-3, MA4504: *OPA-3, MA4504*	10.442	7.358	7.000	-	7.000	8.866	8.244	3.920	3.965	Continuing	Continuing
• WTCV, GZ3001: *WTCV, GZ3001*	2.002	39.362	33.455	-	33.455	85.478	119.040	168.281	188.193	Continuing	Continuing

Remarks

D. Acquisition Strategy

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

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	Project (Number/Name) H02 / *Tactical Bridging - Engineering Development*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Support	MIPR	Various : Various	0.000	2.987	Mar 2014	1.523		1.000	Apr 2016	-		1.000	Continuing	Continuing	-
		Subtotal	0.000	2.987		1.523		1.000		-		1.000	-	-	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JAB Development	C/FFP	DRS/GDLS : Saint Louis, MO/Sterling Hts, MI	50.652	-		-		-		-		-	Continuing	Continuing	Continuing
LOCB Development	MIPR	Rock Island Arsenal (RIA) : Rock Island, IL	11.010	6.485	Mar 2014	-		-		-		-	Continuing	Continuing	Continuing
Bridge Supplemental Set	MIPR	TBD : TBD	0.000	0.050	Jun 2014	0.050	May 2015	-		-		-	-	0.100	-
Structural Health Monitoring	MIPR	TARDEC : Warren, MI	0.000	0.750	Jun 2014	0.100	May 2015	0.150	Apr 2016	-		0.150	-	1.000	-
REBS Auto Launch-Retrieve	SS/FFP	TBD : TBS	0.000	1.500	Aug 2014	-		-		-		-	-	1.500	-
Bridging Weight Classification Upgrades	TBD	TBD : TBD	0.000	-		-		0.519	Apr 2016	-		0.519	-	0.519	-
		Subtotal	61.662	8.785		0.150		0.669		-		0.669	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government In-House	MIPR	TACOM : Warren, MI	8.100	-		-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	8.100	-		-		-		-		-	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	Project (Number/Name) H02 / *Tactical Bridging - Engineering Development*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JAB Testing	MIPR	Aberdeen Proving Grounds (APG) : APG, Maryland	2.541	9.780	Feb 2014	0.900		5.550	Apr 2016	-		5.550	Continuing	Continuing	Continuing
REBS Testing (Auto Launch-Retrieve)	MIPR	Aberdeen Proving Grounds (APG) : APG, MD	1.100	-		-		0.400	Apr 2016	-		0.400	-	1.500	-
LOCB Testing	MIPR	ATEC : Aberdeen, MD	4.800	2.000	May 2014	4.415	May 2015	4.000	Apr 2016	-		4.000	-	15.215	-
		Subtotal	8.441	11.780		5.315		9.950		-		9.950	-	-	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	78.203	23.552		6.988		11.619		-		11.619	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** H02 / *Tactical Bridging - Engineering Development*

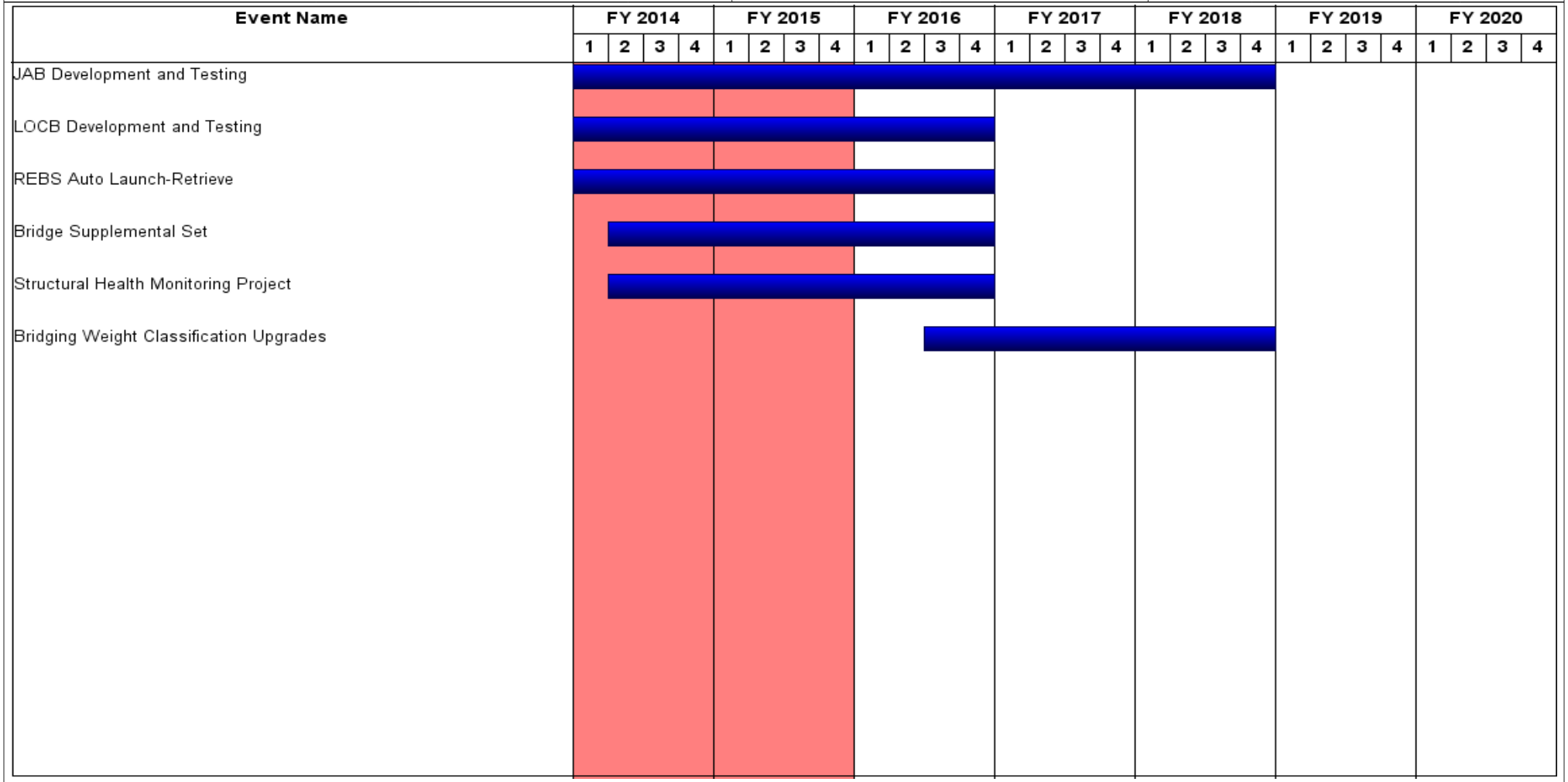


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** H02 / *Tactical Bridging - Engineering Development*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
JAB Development and Testing	2	2012	4	2018
LOCB Development and Testing	2	2012	4	2016
REBS Auto Launch-Retrieve	3	2012	4	2016
Bridge Supplemental Set	2	2014	4	2016
Structural Health Monitoring Project	2	2014	4	2016
Bridging Weight Classification Upgrades	3	2016	4	2018

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	Project (Number/Name) H14 / *Materials Handling Equipment - Ed*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
H14: *Materials Handling Equipment - Ed*	-	0.288	0.283	0.628	-	0.628	1.166	0.751	0.630	0.641	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

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

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Material Handling Equipment (MHE) System Improvement ***Description:*** System Improvements for Light Capability Rough Terrain Forklift (LCRTF) for Tactical Operations ***FY 2014 Accomplishments:*** Integrate and test add-on hardware for reliable cold starting. ***FY 2015 Plans:*** Investigate lightweight armor solution for LCRTF	0.155	0.207	-
Title: Material Handling Equipment (MHE) Armor Kits ***Description:*** Lightweight Armor for All Terrain Lifter Army System (ATLAS) II ***FY 2014 Accomplishments:*** Conduct evaluation of armor solution at test-site for both performance and survivability	0.133	-	-
Title: Investigate high-speed towing for LCRTF ***Description:*** Investigate high-speed towing for LCRTF ***FY 2015 Plans:*** LCRTF high-speed towing development	-	0.076	-
Title: Platform Safety	-	-	0.330

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** H14 / *Materials Handling Equipment - Ed*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Description: Research and Demonstrate technologies which would enhance and improve the safe operation of Material Handling Equipment to include sensors and cameras. ***FY 2016 Plans:*** Integrate technologies onto a Rough Terrain Container Handler (RTCH) which would help the driver be aware of obstacles.			
Title: Work Tool Enhancement ***Description:*** Develop prototype systems to provide additional machine capability. This may include sweepers, buckets, lift devices, fork enhancements, etc. ***FY 2016 Plans:*** Finalize the instructions and documentation for the ATLAS 8 foot Fork and Light Capacity Rough Terrain Fortlikft (LCRTF) Vertical Lift Attachment.	-	-	0.298
Accomplishments/Planned Programs Subtotals	0.288	0.283	0.628

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPA M41200: *Rough Terrain Container Handler*	1.250	-	-	-	-	-	-	-	-	-	1.250
• OPA M41800: *All Terrain Lifting Army System*	2.500	-	-	-	-	-	-	-	-	-	2.500
• OPA G41002: *Light Capacity Rough Terrain (LCRT) Forklift*	7.517	14.327	27.982	-	27.982	17.843	18.199	18.555	17.916	Continuing	Continuing

Remarks

D. Acquisition Strategy

Develop specifications for LCRTF improvements, award contracts to produce test items for production verification testing. Testing LCRTF improvements to be performed using Army test facilities. Design lightweight armor solution for ATLAS using U.S. Army TARDEC's Center for Ground Vehicle Development and Integration. Test armored ATLAS at Aberdeen Proving Ground, MD. Procure RTCH Sling Load Attachment, obtain safety confirmation and conduct user demonstrations to valid requirements. Develop additional capabilities for existing systems such as the LCRFT, RTCH and ATLAS. Award contracts with vehicle or attachment/technology OEMs to integrate existing commercial attachments/technologies onto the platforms to improve operator function and system usefulness. Testing will be conducted at Aberdeen Proving Grounds, MD.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** H14 / *Materials Handling Equipment - Ed*

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	Project (Number/Name) H14 / *Materials Handling Equipment - Ed*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SBIR + STTR	TBD	TBD : TBD	0.032	-		-		-		-		-	-	0.032	-
		Subtotal	0.032	-		-		-		-		-	-	0.032	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MHE Training Aids	SS/FFP	Kalmar Rt : Cibolo, TX	2.555	-		-		-		-		-	Continuing	Continuing	Continuing
System Improvements for LCRTF for Tactical Operations	Various	TARDEC : Warren, MI	0.200	-		0.207		-		-		-	-	0.407	-
Lightweight Armor for ATLAS II	MIPR	TARDEC : Warren, MI	0.350	-		-		-		-		-	-	0.350	-
Sling Load Attachment for RTCH	C/FFP	Kalmar RT Center : Cibolo, TX	0.100	-		-		-		-		-	-	0.100	-
Platform Safety	SS/FFP	Contract : Texas	0.000	-		-		0.330	Mar 2016	-		0.330	-	0.330	-
Work Tool Enhancement	SS/FFP	TACOM : Michigan	0.000	-		-		0.298	Mar 2016	-		0.298	-	0.298	-
		Subtotal	3.205	-		0.207		0.628		-		0.628	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
System Improvements for LCRTF for Tactical Operations	MIPR	TARDEC : Warren, MI	0.055	-		-		-		-		-	-	0.055	-
Lightweight Armor for ATLAS II	MIPR	TARDEC : Warren, MI	0.110	-		-		-		-		-	-	0.110	-
		Subtotal	0.165	-		-		-		-		-	-	0.165	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	Project (Number/Name) H14 / *Materials Handling Equipment - Ed*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Lightweight Armor for ATLAS II	TBD	TBD : TBD	0.000	0.133	Jan 2014	-		-		-		-	-	0.133	-
System Improvements for LCRTF for Tactical Operations	TBD	TBD : TBD	0.250	0.155		-		-		-		-	-	0.405	-
Investigate high speed towing for LCRTF	TBD	TBD : TBD	0.000	-		0.076		-		-		-	-	0.076	-
		Subtotal	0.250	0.288		0.076		-		-		-	-	0.614	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	3.652	0.288		0.283		0.628		-		0.628	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** H14 / *Materials Handling Equipment - Ed*

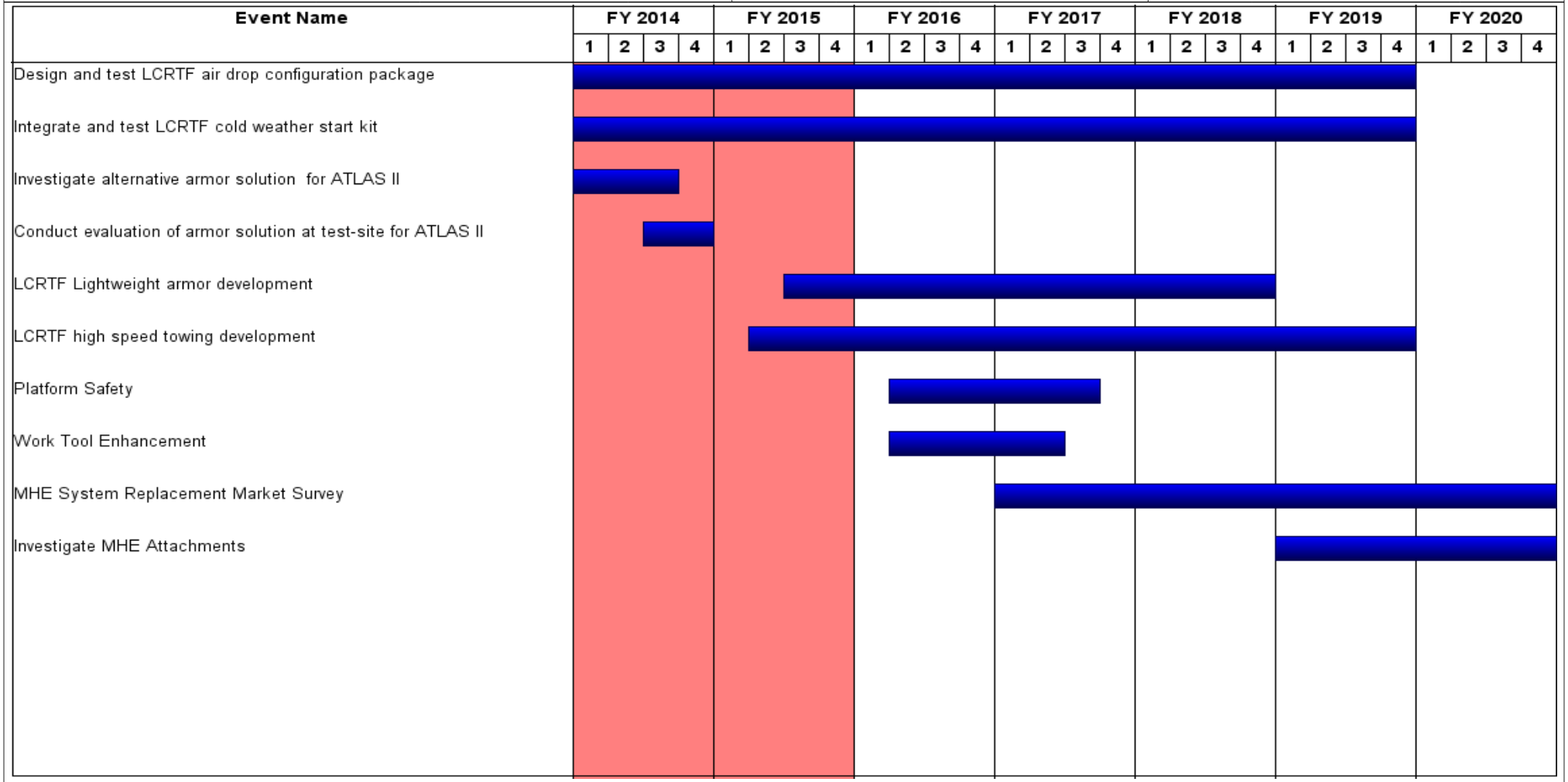


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** H14 / *Materials Handling Equipment - Ed*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Design and test LCRTF air drop configuration package	3	2013	4	2019
Integrate and test LCRTF cold weather start kit	1	2014	4	2019
Investigate alternative armor solution for ATLAS II	1	2013	3	2014
Conduct evaluation of armor solution at test-site for ATLAS II	3	2014	4	2014
LCRTF Lightweight armor development	3	2015	4	2018
LCRTF high speed towing development	2	2015	4	2019
Platform Safety	2	2016	3	2017
Work Tool Enhancement	2	2016	2	2017
MHE System Replacement Market Survey	1	2017	4	2021
Investigate MHE Attachments	1	2019	4	2021

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	Project (Number/Name) L39 / *Field Sustainment Support Ed*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
L39: *Field Sustainment Support Ed*	-	1.729	1.687	1.849	-	1.849	4.156	3.219	2.308	3.078	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project supports the Engineering and Manufacturing Development (EMD) of critical capabilities for cargo aerial delivery for identified theater distribution and services capability gaps, improve unit sustainability, and increase combat effectiveness. Project supports the demonstration of engineering development models and Type Classification of cargo parachutes, airdrop containers and other aerial delivery equipment to improve safety, effectiveness, and efficiency of airborne operations. This project develops critical enablers that support the Quartermaster (QM) Force Transformation Strategy and the Army's Modular Force Capabilities by maintaining readiness through fielding and integrating new equipment. This project also ensures Army Expeditionary Forces are capable of rapid deployment by providing aerial delivery initiatives. These reduce sustainment requirements, related Combat Support/Combat Service Support (CS/CSS), lift demands, the combat zone footprint, and costs for logistical support.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Advanced Low Velocity Airdrop System (ALVADS) - Light and Heavy	1.489	1.687	1.849
Description: ALVADS - Light and Heavy are capable of airdrop operations at an altitude down to 750-ft Above Ground Level (AGL) for ALVADS-L and 975-ft AGL for ALVADS-H, while retaining the objective altitude of 500-ft AGL for both with increased aircraft survivability, and improved accuracy. Light-Gross rigged weight of 2,520-22,000 lbs and Heavy-Gross rigged weight of 22,001-42,000 lbs. ***FY 2014 Accomplishments:*** Transitioned ALVADS program into Engineering and Manufacturing Development (EMD) and continued Design Validation (DV) testing on military aircraft at Yuma Proving Ground. ***FY 2015 Plans:*** Complete DV. Down select to technically mature ALVADS assets for Developmental Testing (DT). Initiate DT. ***FY 2016 Plans:*** Conduct and complete DT and initiate Operational Testing (OT).			
Title: Low Cost Aerial Delivery System (LCADS)	0.240	-	-
Description: LCADS is a modular suite of low cost, expendable parachute/container air items that can be used in lieu of current low and high velocity systems. System includes a low-cost container, high-velocity parachute (70-90 Feet Per Second (FPS)) and low velocity parachute (less than 28.5 FPS). System is compatible with US Air Force Aircraft (USAF A/C) and aerial port handling			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** L39 / *Field Sustainment Support Ed*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
equipment. LCADS is a proven means to execute critical resupply missions without having to place soldiers and ground vehicle convoys on the road. ***FY 2014 Accomplishments:*** Completed Preplanned Product Improvement (P3I) testing. Low Cost Low Altitude/High Velocity (LCLA/HV) flight testing.			
Accomplishments/Planned Programs Subtotals	1.729	1.687	1.849

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• MA7806: *Precision Airdrop, OPA 3, MA7806*	9.500	4.778	2.890	-	2.890	1.930	2.191	2.197	2.240	Continuing	Continuing
• 643804 K39: *Field Sustainment Support AD, 643804 K39*	2.088	0.534	1.875	-	1.875	2.856	2.453	2.531	1.886	Continuing	Continuing

Remarks

D. Acquisition Strategy

Accelerate product development and testing to transition into production.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	Project (Number/Name) L39 / *Field Sustainment Support Ed*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Management Support	Various	PM FSS, Natick : Natick, MA	2.810	0.757	Mar 2014	0.382		0.400		-		0.400	-	4.349	Continuing
SBIR+STTR	TBD	Various : Various	0.129	-		-		-		-		-	-	0.129	-
		Subtotal	2.939	0.757		0.382		0.400		-		0.400	-	4.478	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ACPRS	Various	PM FSS, Natick : Various	3.943	-		-		-		-		-	-	3.943	-
ALVADS-L&H	Various	Various : Various	14.216	0.389	Jul 2014	0.505		0.600		-		0.600	-	15.710	Continuing
JPADS P3I	Various	Various : Various	5.870	-		-		-		-		-	-	5.870	Continuing
LCADS P3I efforts	Various	Various : Various	0.966	-		-		-		-		-	-	0.966	Continuing
EHLSCDS	Various	Various : Various	0.000	-		-		0.100		-		0.100	-	0.100	-
		Subtotal	24.995	0.389		0.505		0.700		-		0.700	-	26.589	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
LCADS	Various	Yuma Proving Ground (YPG), AZ, AEC : AZ	9.897	0.183	Mar 2014	-		-		-		-	-	10.080	Continuing
JPADS P3I	Various	Yuma Proving Ground, AZ : Yuma, AZ	0.951	-		-		-		-		-	-	0.951	-
JPADS 10K OT	Various	GSA : GSA	0.936	-		-		-		-		-	-	0.936	Continuing
ALVADS-L&H	Various	YPG, AZ/ OTC, NC : YPG, AZ/ OTC, NC	4.136	0.400	Jul 2014	0.800		0.749		-		0.749	-	6.085	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	Project (Number/Name) L39 / *Field Sustainment Support Ed*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	15.920	0.583		0.800		0.749		-		0.749	-	18.052	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	43.854	1.729		1.687		1.849		-		1.849	-	49.119	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** L39 / *Field Sustainment Support Ed*

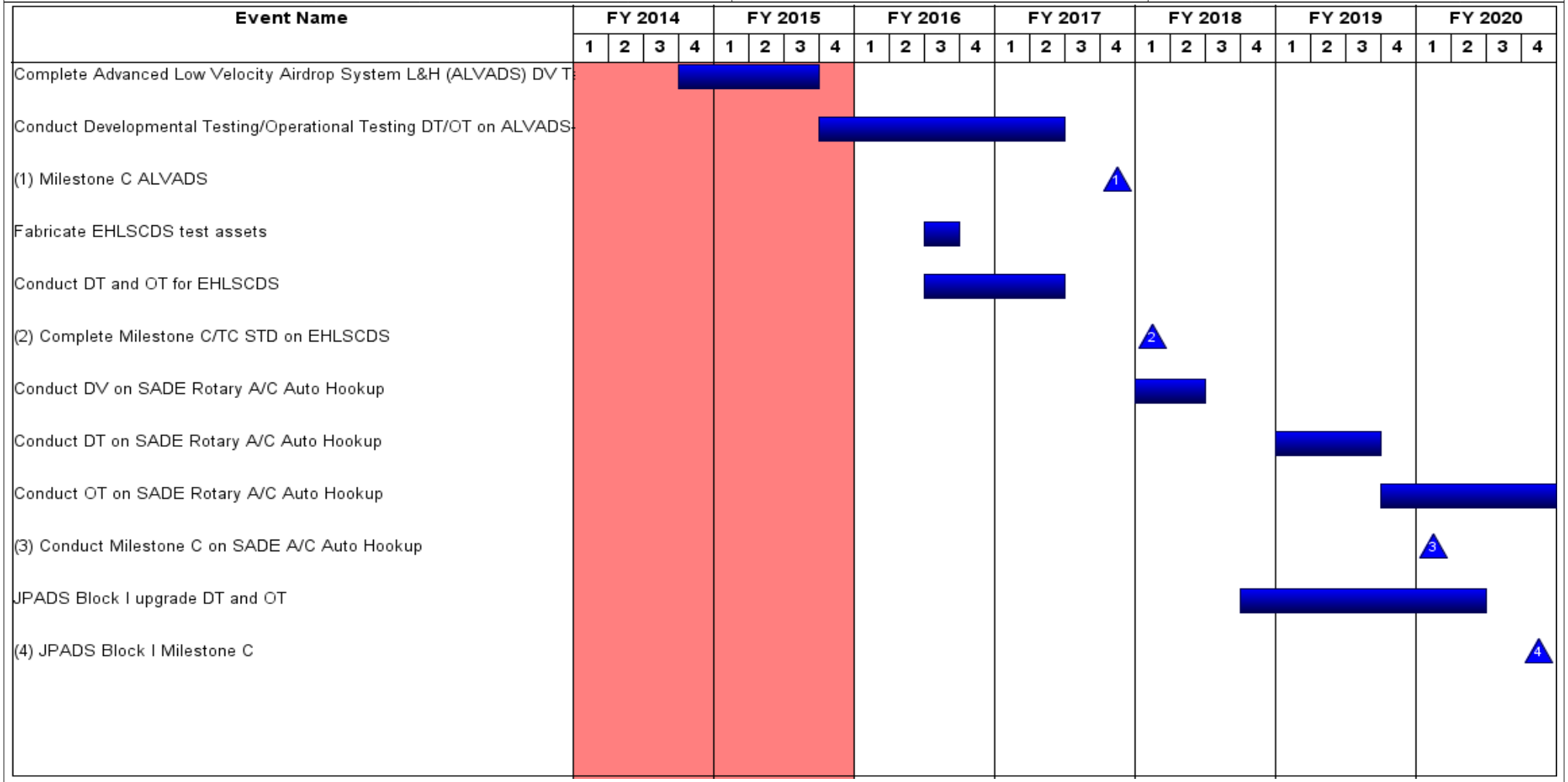


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** L39 / *Field Sustainment Support Ed*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Complete Advanced Low Velocity Airdrop System L&H (ALVADS) DV Testing	4	2014	3	2015
Conduct Developmental Testing/Operational Testing DT/OT on ALVADS-L&H	4	2015	2	2017
Milestone C ALVADS	4	2017	4	2017
Fabricate EHLSCDS test assets	3	2016	3	2016
Conduct DT and OT for EHLSCDS	3	2016	2	2017
Complete Milestone C/TC STD on EHLSCDS	1	2018	1	2018
Conduct DV on SADE Rotary A/C Auto Hookup	1	2018	2	2018
Conduct DT on SADE Rotary A/C Auto Hookup	1	2019	3	2019
Conduct OT on SADE Rotary A/C Auto Hookup	4	2019	1	2021
Conduct Milestone C on SADE A/C Auto Hookup	1	2020	1	2020
JPADS Block I upgrade DT and OT	4	2018	2	2020
JPADS Block I Milestone C	4	2020	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	Project (Number/Name) L41 / *Water And Petroleum Distribution - Ed*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
L41: *Water And Petroleum Distribution - Ed*	-	2.508	3.193	4.038	-	4.038	8.669	5.256	4.645	4.645	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

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

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: 3K Tactical Water Purification System (TWPS). ***Description:*** Funding is provided for the following effort ***FY 2014 Accomplishments:*** Design, fabricate and test 3K TWPS in a International Standard Organization (ISO) shelter. Develop a design for system strainer and identify a possible back-up high pressure pump. ***FY 2016 Plans:*** Start fabrication of prototype 3K TWPS. Start development of Level II Technical Data Package (TDP). Complete Critical Design Review (CDR) in support of the prototype.	1.138	-	1.025
Title: Integration of component level improvements at the system level for the Fuel System Supply Point (FSSP). ***Description:*** Funding is provided for the following effort ***FY 2014 Accomplishments:*** Finalize the technical manuals and technical data package (drawing package). The technical data package will allow the Army to competitively procure the common pump in the future. Complete testing.	0.500	-	-
Title: Expeditionary Water Packaging System (EWPS).	0.440	0.311	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** L41 / *Water And Petroleum Distribution - Ed*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Description: Funding is provided for the following effort ***FY 2014 Accomplishments:*** Prepare Material Development Decision (MDD) and initiate preparation of Milestone C program documentation. Evaluate a commercial automated packaging system from Conteno Corp, finalize Purchase Description (PD) and prepare Request for Proposal (RFP). ***FY 2015 Plans:*** Finalize and staff Milestone C program documents; Release Request for Proposal (RFP) and hold a Source Selection Evaluation Board (SSEB) to award EWPS production contract.			
Title: Modular Tactical Retail Refueling System (MTRRS) ***Description:*** Funding is provided for the following effort. ***FY 2014 Accomplishments:*** Prepare documentation for Milestone C. Develop Computer-Aided Design models for Finite Element Analysis of stress. Prepare Systems Engineering Plan. Secure MDD decision. ***FY 2015 Plans:*** Initiate test, technical manuals and technical data package (drawing package). The technical data package will allow the Army to competitively procure the MTRRS and initiate prototype testing. ***FY 2016 Plans:*** Continue prototype testing from FY15. Refine technical manuals and technical data package (drawing package). Begin transistioning technical data to program manager for competitive procurement. Prepare Milestone C documentation and develop RFP.	0.430	1.000	0.800
Title: Early Entry Fluid Distribution System (E2FDS). ***Description:*** Funding is provided for the following effort ***FY 2015 Plans:*** Achieve Milestone B approval. Release RFP for Engineering and Manufacturing Development (EMD) contract. Source Selection Evaluation Board (SSEB) for EMD contract. Award EMD contract. ***FY 2016 Plans:***	-	1.882	2.213

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** L41 / *Water And Petroleum Distribution - Ed*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Award EMD contract. Complete initial design of E2FDS. Initiate the Critical Design Review of the E2FDS prototype. Initiate fabrication of prototypes for testing under EMD phase.			
Accomplishments/Planned Programs Subtotals	2.508	3.193	4.038

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• 0603804/K41: *RDTE, Logistics and Engineer Equipment - Advanced Development*	2.187	3.543	3.764	-	3.764	4.392	4.773	4.871	4.963	Continuing	Continuing
• MA6000: *OPA 3, Distribution Systems, Petroleum & Water*	42.288	40.692	35.381	-	35.381	37.949	42.169	39.112	40.843	Continuing	Continuing

Remarks

D. Acquisition Strategy

Develop engineering prototypes for the 3K Tactical Water Purification System (3K TWPS), Modular Tactical Retail Refueling System (MTRRS), Early Entry Fluid Distribution System (E2FDS) and select Non-Development Item (NDI) based on market surveys and proposals from industry. Based on market research, will award either competitive or sole source contracts.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	Project (Number/Name) L41 / *Water And Petroleum Distribution - Ed*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SBIR/STTR	TBD	TBD : TBD	0.062	-		-		-		-		-	-	0.062	-
		Subtotal	0.062	-		-		-		-		-	-	0.062	-

Remarks

not applicable

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Water System Capability Improvements	Various	TARDEC : Warren, MI	0.184	-		-		-		-		-	-	0.184	Continuing
FSSP Improvements	Various	TARDEC : Warren, MI	3.211	-		-		-		-		-	-	3.211	Continuing
Water Systems Capability Improvements	Various	TBD : TBD	0.154	-		-		-		-		-	-	0.154	Continuing
Expeditionary Water Packaging System (EWPS)	Various	TARDEC : Warren, MI	0.850	0.110	Feb 2014	0.311		-		-		-	-	1.271	Continuing
3K Tactical Water Purification System (3K TWPS)	Various	NFESC : Pt. Hueneme, CA	0.000	0.220	Feb 2014	-		0.150	Oct 2015	-		0.150	-	0.370	Continuing
Early Entry Fluid Distribution System (E2FDS)	C/FFP	TBD : TBD	0.000	-		0.984		1.800	Mar 2016	-		1.800	-	2.784	Continuing
Modular Tactical Retail Refueling System (MTRRS)	MIPR	TARDEC : Warren, MI	1.037	0.360	Mar 2014	0.200		0.350	Mar 2016	-		0.350	-	1.947	Continuing
3K Tactical Water Purification System (3K TWPS)	MIPR	TARDEC : Warren, MI	0.000	0.638	Mar 2014	-		0.706	Oct 2015	-		0.706	-	1.344	Continuing
		Subtotal	5.436	1.328		1.495		3.006		-		3.006	-	11.265	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	Project (Number/Name) L41 / *Water And Petroleum Distribution - Ed*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Fuel System Supply Point (FSSP)	Various	TARDEC : Warren, MI	0.501	0.480	Feb 2014	-		-		-		-	-	0.981	Continuing
Early Entry Fluid Distribution System (E2FDS)	MIPR	TBD : TBD	0.000	-		0.898		0.382	Oct 2015	-		0.382	-	1.280	Continuing
Expeditionary Water Packaging System (EWPS)	Various	TARDEC : Warren, MI	0.100	-		-		-		-		-	-	0.100	Continuing
Contingency Based Infrastructure (CBI)	SS/FFP	PEO, CS&CSS, PM, CBI : Warren, MI	0.284	-		-		-		-		-	-	0.284	-
		Subtotal	0.885	0.480		0.898		0.382		-		0.382	-	2.645	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Fuel System Supply Point (FSSP)	MIPR	YUMA : Yuma, AZ	0.650	-		-		-		-		-	-	0.650	-
Expeditionary Water Packaging system (EWPS)	Various	TARDEC : Warren, MI	0.255	0.300	Mar 2014	-		-		-		-	-	0.555	Continuing
Expeditionary Water Packaging System (EWPS)	Various	NFESC : Port Hueneme, CA	0.300	0.100	Dec 2013	-		-		-		-	-	0.400	-
3K Tactical Water Purification System (3K TWPS)	MIPR	TARDEC : Warren, MI	0.000	0.300	Feb 2014	-		0.200	Oct 2015	-		0.200	-	0.500	Continuing
Modular Tactical Retail Refueling System (MTRRS)	Various	Yuma : Yuma Proving Ground, AZ	0.000	-		0.800		0.450	Mar 2016	-		0.450	-	1.250	Continuing
		Subtotal	1.205	0.700		0.800		0.650		-		0.650	-	3.355	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	Project (Number/Name) L41 / *Water And Petroleum Distribution - Ed*	

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	7.588	2.508		3.193		4.038		-		4.038	-	17.327	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** L41 / *Water And Petroleum Distribution - Ed*

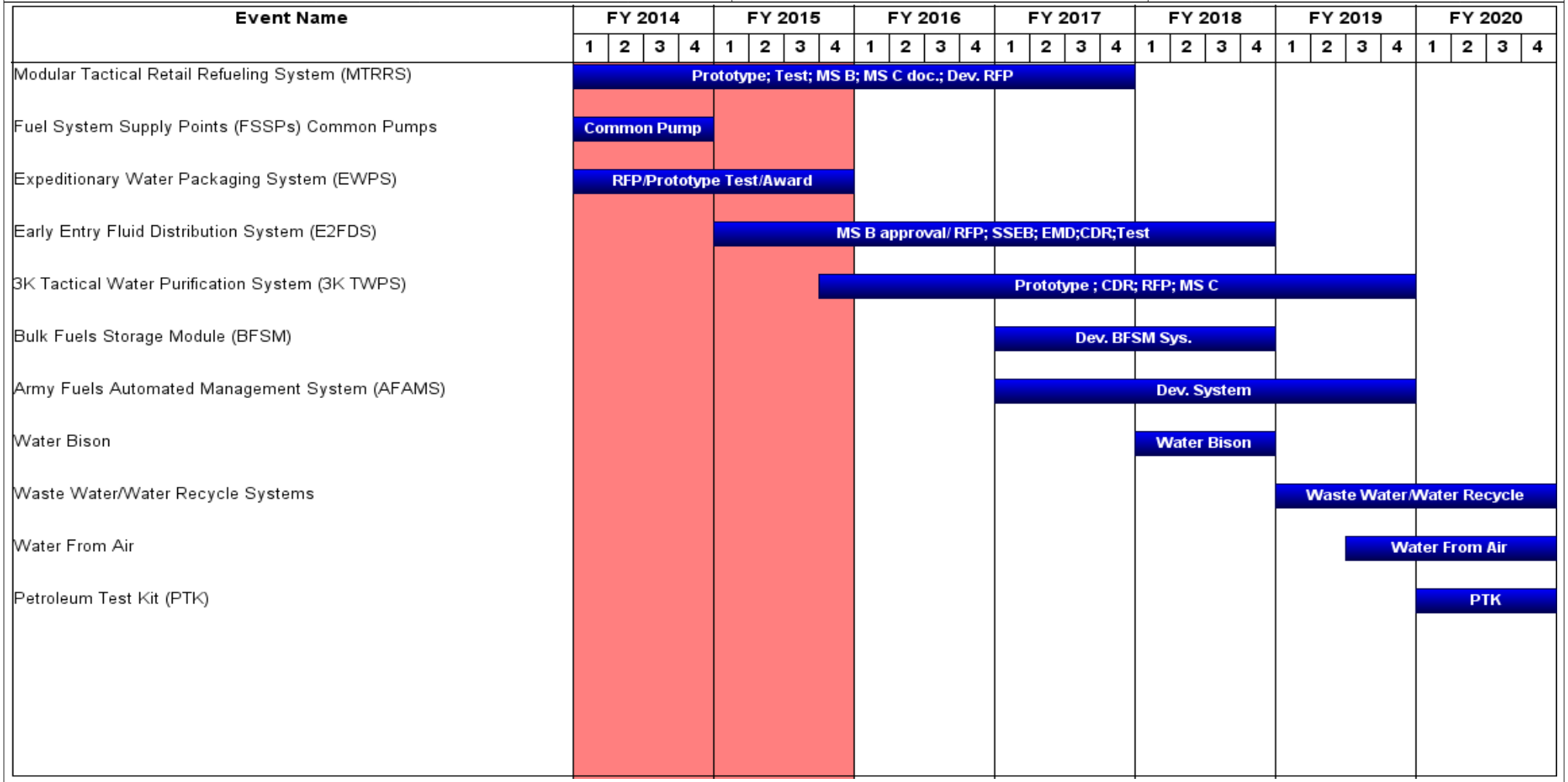


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** L41 / *Water And Petroleum Distribution - Ed*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Modular Tactical Retail Refueling System (MTRRS)	1	2014	4	2017
Fuel System Supply Points (FSSPs) Common Pumps	4	2012	4	2014
Expeditionary Water Packaging System (EWPS)	1	2011	4	2015
Early Entry Fluid Distribution System (E2FDS)	1	2015	4	2018
3K Tactical Water Purification System (3K TWPS)	4	2015	4	2019
Bulk Fuels Storage Module (BFSM)	1	2017	4	2018
Army Fuels Automated Management System (AFAMS)	1	2017	4	2019
Water Bison	1	2018	4	2018
Waste Water/Water Recycle Systems	1	2019	4	2021
Water From Air	3	2019	4	2021
Petroleum Test Kit (PTK)	1	2020	4	2021

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	Project (Number/Name) L43 / *ENGINEER SUPPORT EQUIPMENT - ED*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
L43: *ENGINEER SUPPORT EQUIPMENT - ED*	-	-	0.575	1.246	-	1.246	1.259	1.260	1.766	0.666	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

This project supports development, demonstration, testing and evaluation within the Combat Engineer and Construction Support Equipment arena. These items include critical life support equipment such as diving, fire fighting, fire suppression, urban operations, breathable air compressors, and emergency and recovery sets along with engineer safety and special unit support equipment. The Combat Engineer and Construction equipment consists of the Surveying, Firefighting Individual Requirements Equipment Support (FIRES), Urban Search and Rescue (USR), Fire Protection Equipment Type I, II and III, Tactical Fire Fighting Truck Tools (TFTT), Family of Electrical Personal Protective Equipment (FoEPPE) Family of Power Utility Kits (FoPUK), Distribution Utility Construction Kits (DUCT) and Soldier Portable Kits, Lineman's Tool Kit, Concrete and Masonry, Electricians, Plumbers, Pipefitters, Family of Light Sets (FoLS), Diving Equipment, Surface Swimmer Support Sets, Surface Supplied Diving Set, procurement of new Technical/Special Tools, Pioneer Support Set, and the Pioneer Land Clearing and Building Erection Set. Funding will support the procurement of market samples and testing for Soldier Portable SKO, and critical life support equipment such as the Deep Sea Set, Underwater Construction Set, Closed Circuit Scuba Set, Supervisor Propulsion Emergency and Recovery SCUBA (SPEaRS), Divers' Supplemental Issue Set(DSIS), Vertical Skills Engineer Construction Kit (VSECK), and Family of Boats and Motors (FOBAM). All of these programs are in the Engineering and Manufacturing Development Phase.

BUDGET ITEM JUSTIFICATION: These systems provide state-of-the-art deployable, critical life support and combat engineer and construction equipment along with engineer safety and special unit support equipment supporting the joint warfighter. These programs will minimize transportation requirements and reduce the logistical footprint by eliminating obsolete equipment and reducing the number of programs. Funding shall allow for development of dual use systems that support wartime use by soldiers to include Special Forces and peacetime operations that include national disaster relief and homeland security operations. Much of this equipment has an inherent short Economic Useful Life (EUL). Investments used to revise, update and obtain equipment within this portfolio has resulted in reductions in footprint, and increases in safety, effectiveness, and readiness.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Family of Boats and Motors (FOBAM)	-	0.525	0.180
Description: Development of various Assault Boats and Outboard Motors			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** L43 / *ENGINEER SUPPORT EQUIPMENT - ED*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Purchase and Test the Rigid Inflatable Boat ***FY 2016 Plans:*** Support for logistics support plans and Full Rate Production Decision (Milestone C, Type Classification, Full Material Release)			
Title: Supervisory Propulsion, Emergency and Recovery Set (SPEARS) ***Description:*** Market Research for the SPEARS ***FY 2015 Plans:*** Market Research	-	0.050	-
Title: Engineering and Quality Assurance ***Description:*** Engineering and Quality Assurance of engineering SKOs ***FY 2016 Plans:*** Engineering Spt- 75K for Boats, Motors, Diving; 200K for Soldier Portable QA Support- 25K for Boats, Motors, Diving; 100K for Soldier Portable	-	-	0.400
Title: Vertical Skills Engineer Construction Kit (VSECK) ***Description:*** Research, Development, and Testing of Vertical Skills Engineer Construction Kit (VSECK) ***FY 2016 Plans:*** Procure market samples for Type 1 through Type 6 kits	-	-	0.406
Title: Support for Requirements Generation ***Description:*** Support for Requirements Generation of Future SKOs ***FY 2016 Plans:*** Document Development Supporting Fututre Requirements SKOs	-	-	0.260
Accomplishments/Planned Programs Subtotals	-	0.575	1.246

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** L43 / *ENGINEER SUPPORT EQUIPMENT - ED*	

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPA 3 ML5325: *OPA 3 ML5325, Items Less than $5.0M (Engineering Support)*	5.859	20.090	0.595	-	0.595	-	-	-	-	Continuing	Continuing
• OPA 3 R70001: *OPA 3 R70001, Family of Engineering Combat and Construction Sets*	38.141	41.967	34.544	-	34.544	31.272	32.667	34.796	28.612	Continuing	Continuing
• OPA 3 R12001: *OPA 3 R12001, Family of Boats and Motors*	-	-	8.429	-	8.429	3.224	4.348	6.019	7.620	-	29.640
• OPA 3 R07005: *OPA 3 R07005, Family of Diver Support Equipment*	-	-	0.446	-	0.446	-	-	-	-	-	0.446
• OPA 3 W01103: *OPA 3 W01103, Protective Systems*	-	-	0.248	-	0.248	1.761	1.647	1.707	-	-	5.363

Remarks

D. Acquisition Strategy

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

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	Project (Number/Name) L43 / *ENGINEER SUPPORT EQUIPMENT - ED*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SBIR/STTR	TBD	Various : Various	0.033	-		-		-		-		-	-	0.033	-
		Subtotal	0.033	-		-		-		-		-	-	0.033	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Rigid Inflatable Boats test articles	C/FP	TBS : TBS	0.000	-		0.250	Dec 2014	-		-		-	Continuing	Continuing	Continuing
3-man boat test articles	C/FP	TBS : TBS	0.000	-		0.060	Jan 2015	-		-		-	Continuing	Continuing	Continuing
Market Samples for Supervisory, Propulsion, Emergency and Recovery Set (SPEARS)	C/FP	TBS : TBS	0.000	-		0.050	Feb 2015	-		-		-	Continuing	Continuing	Continuing
Market Samples of Vertical Skills Engineer Construction Kit (VSECK)	C/FP	TBS : TBS	0.120	-		-		0.406	Jan 2016	-		0.406	Continuing	Continuing	Continuing
Engineer Support Equipment Life Cycle Configuration Analyses and ICD, CDD, CPD Development Support	MIPR	PM SKOT/ Army Test & Evaluation Command (ATEC)/ Manuever Support Center of Excellence (MSCoE) : IL, MI, MD, MO	0.000	-		-		0.260	Nov 2015	-		0.260	Continuing	Continuing	Continuing
		Subtotal	0.120	-		0.360		0.666		-		0.666	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Rigid Inflatable Boat	MIPR	ECBC : Rock Island, IL	0.000	-		-		0.180	Dec 2015	-		0.180	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	Project (Number/Name) L43 / *ENGINEER SUPPORT EQUIPMENT - ED*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering and Quality Assurance of engineering SKOs (Soldier Portable)	MIPR	ECBC/ARDEC : Rock Island, IL	0.278	-		-		0.300	Nov 2015	-		0.300	Continuing	Continuing	Continuing
Engineering and Quality Assurance (Boats and Motors)	MIPR	ECBC : Rock Island, IL	0.200	-		-		0.100	Nov 2015	-		0.100	Continuing	Continuing	Continuing
		Subtotal	0.478	-		-		0.580		-		0.580	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Testing of Boats and Motors	MIPR	NAVSEA : VA	0.625	-		0.215	Mar 2015	-		-		-	Continuing	Continuing	Continuing
		Subtotal	0.625	-		0.215		-		-		-	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	1.256	-		0.575		1.246		-		1.246	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** L43 / *ENGINEER SUPPORT EQUIPMENT - ED*

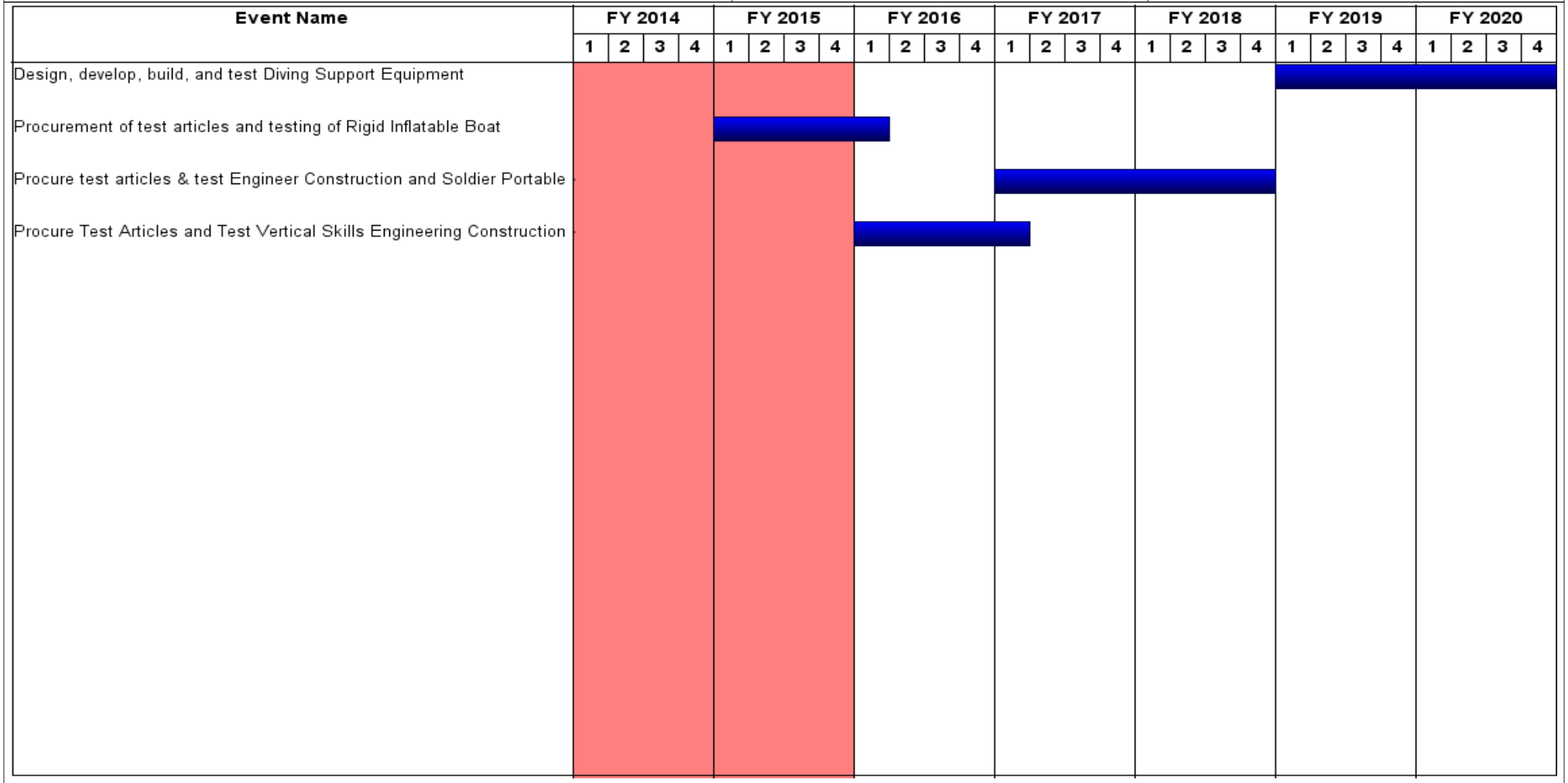


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** L43 / *ENGINEER SUPPORT EQUIPMENT - ED*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Design, develop, build, and test Diving Support Equipment	1	2019	4	2020
Procurement of test articles and testing of Rigid Inflatable Boat	1	2015	1	2016
Procure test articles & test Engineer Construction and Soldier Portable Kits	1	2017	4	2018
Procure Test Articles and Test Vertical Skills Engineering Construction Kit	1	2016	1	2017

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	Project (Number/Name) L46 / *Maintenance Support Equipment*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
L46: *Maintenance Support Equipment*	-	1.191	1.003	1.412	-	1.412	2.103	2.072	1.902	1.938	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

Mobile Maintenance Equipment provides state of the art, deployable, vehicle-mounted and containerized shelter tool systems supporting the Joint warfighter. These systems are equipped with industrial quality tools required for Two Level Maintenance that reduce common tool redundancy, provide tool standardization, minimize transportation requirements, reduces logistical footprint, and are backed by a Lifetime Warranty/Replacement Program which reduces sustainment costs. This is accomplished by employing a system of systems approach to maintenance acquisition. The system of systems approach builds a maintenance capability upon each system, allowing a logical and natural approach to the Army's overall two level maintenance strategy. These inter-connected systems distributed throughout the Army at multiple levels and echelons provide a holistic repair capability in all scenarios and environments. These systems provide the Maintenance and Combat Commanders an unprecedented capability to repair wheeled, tracked, aviation, ground support and weapons systems on site at one location at one time. This approach to maintenance acquisition increases efficiencies and supports the current force while providing modular configurations designed to meet the specific needs of the Army maintainer in today's complex transforming environment. All of these programs are in the Engineering and Manufacturing Development Phase.

BUDGET ITEM JUSTIFICATION: The need to develop and maintain a System of System maintenance approach is critical due to the growing complexity of today's military equipment, operational tempo, modularity, and current and evolving Tactics Techniques and Procedures (TTPs). The individual maintenance systems are comprehensive, interconnected and capable of solving and repairing any maintenance problems. The System of Systems approach does not advocate specific tools, methods or practices; instead it seeks to promote a streamlined comprehensive set of systems for solving maintenance challenges where the interactions of doctrine, technology, time and tactics techniques and procedures are the primary drivers. Funding for projects shall include test article procurement and testing of soldier portable maintenance SKOs and load banks; investigation of new technologies for next generation mobile maintenance equipment shop sets including the Shop Equipment Welding (SEW) and Shop Equipment Contact Maintenance (SECM); development of additional SATS maintenance modules, Special Tools initiatives; packaging development; and technical support for emerging JCIDS materiel requirements documents. Upgrades to existing shelter mounted systems to include a 3-D printing/ additive manufacturing capability. Modernization upgrades to increase effectiveness while improving efficiency, reliability and maintainability while supporting emerging Army systems to include the Joint Light Tactical Vehicle (JLTV).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Next Generation Shop Equipment, Welding (SEW)	-	-	0.747
Description: Develop and Test new components of Shop Equipment, Welding			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** L46 / *Maintenance Support Equipment*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
FY 2016 Plans: Buying Production Representative Sample			
Title: Next Generation Shop Equipment, Contact Maintenance (SECM) ***Description:*** Design, Develop, Procure and Test Next Generation SECM, designed for Joint Light Tactical Vehicle (JLTV) platform ***FY 2016 Plans:*** Design improved SECM for JLTV platform	-	-	0.200
Title: Mobile Maintenance Equipment Shop Set ***Description:*** Modernization / Redesign efforts of maintenance support equipment in support of technological advances, environmental/safety constraints and to support emerging systems ***FY 2014 Accomplishments:*** Next Generation Ordnance SKO ***FY 2015 Plans:*** Next generation Ordnance SKO ***FY 2016 Plans:*** Next generation Ordnance SKO	0.522	0.449	0.050
Title: Support for Requirements Generation ***Description:*** Support for requirements generation of future SKOs ***FY 2014 Accomplishments:*** Document development supporting future requirements SKOs ***FY 2015 Plans:*** Document development supporting future requirements SKOs ***FY 2016 Plans:*** Document development supporting future requirements SKOs	0.125	0.104	0.102
Title: Special Tools Initiative	0.050	0.300	0.050

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** L46 / *Maintenance Support Equipment*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Description: Develop Rapid Deployment Sets, Kits, and Outfits (SKOs) - Special Tool Initiative and support to Tactical Wheeled Vehicles and other vehicle platforms ***FY 2014 Accomplishments:*** Develop and test various Soldier Portable Tool Kits based on the maintenance requirements of current and future platforms. ***FY 2015 Plans:*** Develop and test various Soldier Portable Tool Kits based on the maintenance requirements of current and future platforms. ***FY 2016 Plans:*** Develop and test various Soldier Portable Tool Kits based on the maintenance requirements of current and future platforms			
Title: Refrigeration Tool Kit (RTK) ***Description:*** Develop and Test RTK ***FY 2016 Plans:*** Develop RTK	-	-	0.263
Title: Packaging Support ***Description:*** Full Packaging Program Support and Packaging Data Management ***FY 2014 Accomplishments:*** Full Packaging Program Support and Packaging Data Management ***FY 2015 Plans:*** Develop and Maintain Logistics Packaging, Packing and Palletization data	0.050	0.150	-
Title: Fire Suppression Refill System (FSRS) ***Description:*** Design, Develop, Build, and Test SATS Future Field Modules ***FY 2014 Accomplishments:*** Develop Fire Suppression Refill System	0.444	-	-
Accomplishments/Planned Programs Subtotals	1.191	1.003	1.412

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** L46 / *Maintenance Support Equipment*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPA 3 ML5345: *OPA 3 ML5345, Items Less Than $5.0M (MAINTENANCE EQUIPMENT)*	3.860	2.789	2.760	-	2.760	2.759	2.759	2.767	3.771	Continuing	Continuing
• OPA 3 G05301: *OPA 3 G05301, Mobile Maintenance Equipment Systems*	12.177	23.758	25.270	-	25.270	24.317	23.675	27.853	28.382	Continuing	Continuing

Remarks

D. Acquisition Strategy

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

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** L46 / *Maintenance Support Equipment*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SBIR/STTR	TBD	Various : Various	0.096	-		-		-		-		-	-	0.096	-
		Subtotal	0.096	-		-		-		-		-	-	0.096	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Maintenance Support Equipment Life Cycle Configuration Analyses and ICD Development Support	MIPR	PM SKOT/ Army Test & Evaluation Command (ATEC)/ Combined Arms Support Command (CASCOM) : (IL, MI, MD, VA)	1.431	0.125	Jun 2014	-		-		-		-	Continuing	Continuing	Continuing
Next Generation Shop Equipment Welding (SEW) concept design and development	MIPR	ECBC : Rock Island, IL	0.900	-		-		0.747	Nov 2015	-		0.747	Continuing	Continuing	Continuing
Modernization/Redesign efforts of Truck/Trailer transported shelters for next generation systems	MIPR	ECBC : Rock Island, IL	0.689	0.522	Dec 2013	0.449	Dec 2014	0.050	Feb 2016	-		0.050	Continuing	Continuing	Continuing
Develop Rapid Deployment Sets, Kits, & Outfits - Special Tool Initiative.	MIPR	ECBC : Rock Island, IL	0.250	0.050	Jun 2014	-		0.050	Jan 2016	-		0.050	Continuing	Continuing	Continuing
Procure Ground Based Special Tools in support of Tactical Wheeled Vehicles	MIPR	PM SKOT : Harrison, MI	0.000	-		0.300	Jan 2016	-		-		-	Continuing	Continuing	Continuing
Refrigeration Tool Kit (RTK)	TBD	TBD : TBD	0.000	-		-		0.263	Jan 2016	-		0.263	Continuing	Continuing	Continuing
Next Generation Shop Equipment Contact Maintenance (SECM)	C/TBD	TBD : TBD	0.000	-		-		0.200	Dec 2015	-		0.200	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	Project (Number/Name) L46 / *Maintenance Support Equipment*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	3.270	0.697		0.749		1.310		-		1.310	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Life Cycle Configuration Analyses & Support to Initial Capabilities Document Development	MIPR	PM SKOT Rock Island/ CASCOM / Maneuver Support Center (MANSCEN) : (IL, VA, MO)	0.743	-		0.122	Jan 2015	0.102	Dec 2015	-		0.102	Continuing	Continuing	Continuing
Modernization of Tool Loads based on Field Feedback	MIPR	PM SKOT : Harrison, MI	0.300	-		-		-		-		-	Continuing	Continuing	Continuing
Engineer and Quality Assurance in support of SKOs	MIPR	ECBC / ARDEC / PM SKOT : (IL, MI)	1.182	-		-		-		-		-	Continuing	Continuing	Continuing
Packaging Support	MIPR	ARDEC : Rock Island, IL	0.000	-		0.132	Jan 2015	-		-		-	Continuing	Continuing	Continuing
		Subtotal	2.225	-		0.254		0.102		-		0.102	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Further develop SATS Field Maintenance Module & viability of adding Load Handling System capability	MIPR	PM SKOT : Harrison, MI	0.666	0.444	Apr 2014	-		-		-		-	Continuing	Continuing	Continuing
Procure and Test standalone support equipment items	MIPR	ATEC : Aberdeen, MD	0.000	0.050	Apr 2014	-		-		-		-	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	Project (Number/Name) L46 / *Maintenance Support Equipment*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.666	0.494		-		-		-		-	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	6.257	1.191		1.003		1.412		-		1.412	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** L46 / *Maintenance Support Equipment*

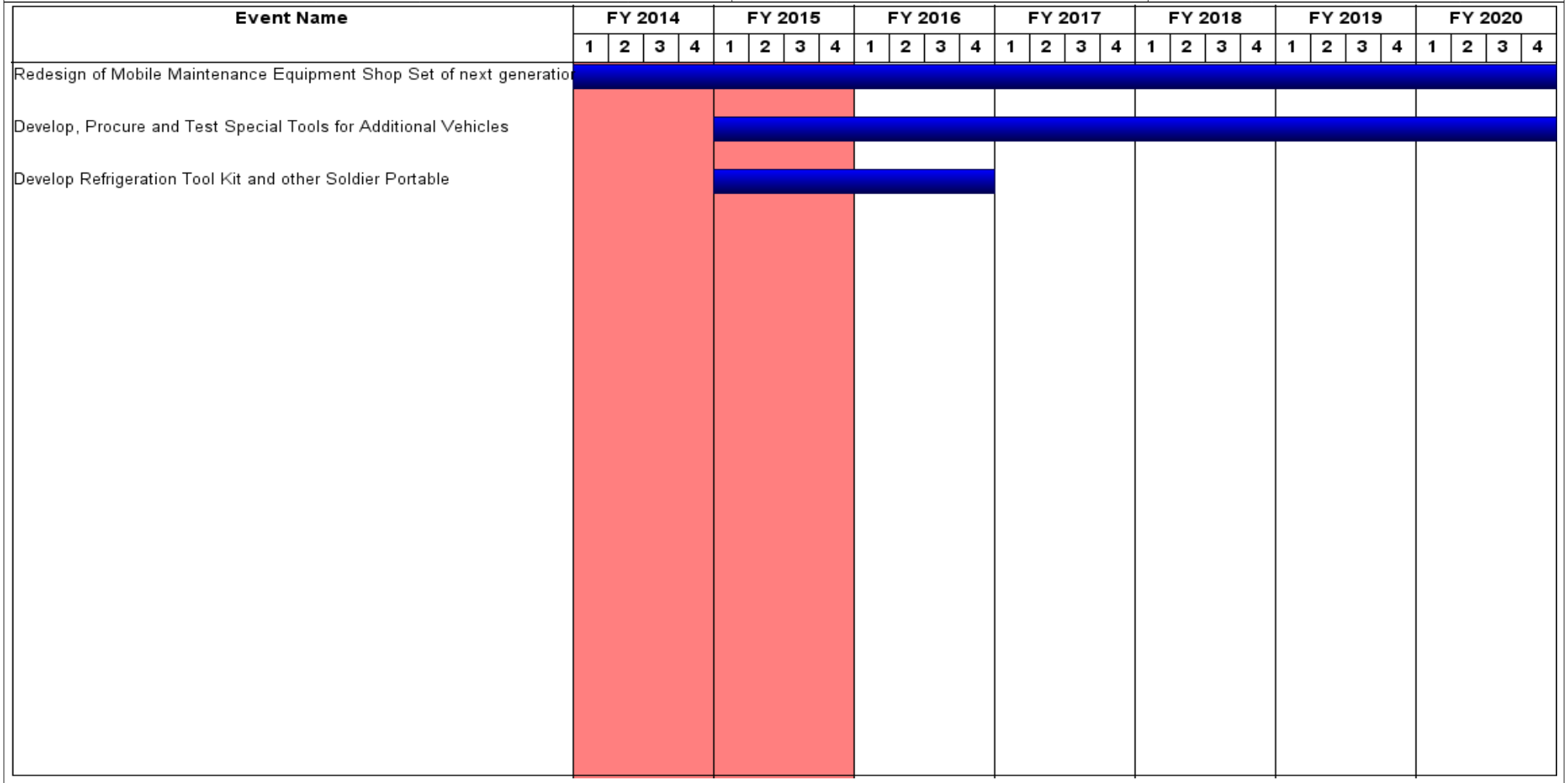


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** L46 / *Maintenance Support Equipment*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Redesign of Mobile Maintenance Equipment Shop Set of next generation vehicle	1	2007	4	2020
Develop, Procure and Test Special Tools for Additional Vehicles	1	2015	4	2020
Develop Refrigeration Tool Kit and other Soldier Portable	1	2015	4	2016

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	Project (Number/Name) L47 / *Improved Environmental Control Units Ed*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
L47: *Improved Environmental Control Units Ed*	-	2.867	-	0.976	-	0.976	1.468	1.970	3.865	2.199	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

The Improved Environmental Control Units (IECU) program will provide updates that support the new generation of Environmental Control Units (ECUs) that use environmentally approved refrigerants, with zero Ozone-Depleting Chemicals (ODCs) to replace the current Military Standard (MIL-STD) Family of ECUs. The IECUs will provide improved cooling, heating and dehumidification to soldiers and materiel systems in combat, combat support and combat service support units. The IECUs are required to replace currently fielded environmental control units in order to comply with statutory and regulatory restrictions on the use of Class II ODCs (such as HCFC-22) and to improve the performance of military ECUs. They are form, fit and function replacements to the current MIL-STD ECUs. Technical improvements over existing military-standard ECUs will yield significant fuel and weight savings, reduction in scheduled maintenance and increased reliability. 9, 18, and 36K BTU/H IECUs: The 9, 18 and 36K BTU/H IECUs will be a replacement for the current MIL-STD-ECU variants. The new family of IECUs will utilize a new refrigerant which complies with mandated Environmental Protection Agency (EPA) requirements (non-global warming). FY14 funding supports Engineering and Manufacturing Development (EMD) Phase activities for the 9, 18 and 36K development, as well as further IECU variants which include multiple trailer-mounted systems. In addition, the field has identified an emerging requirement for an integrated fuel-fired heating/cooling system. These variants will further standardize cooling units in the field, enable cooling of larger shelters and structures, offer increased mobility, and may be used to cool multiple tents with one unit. FY14 funding also supports continued evaluation of IECUs and variants at Network Integration Evaluation (NIE) to support new operational concepts. There are no FY15 base dollars. FY16 base dollars will be used to support development and test efforts for follow-on IECU systems.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Technology Development	1.000	-	0.200
Description: Engineering and Manufacturing Development (EMD) for 9/18/36K BTUH Improved Environmental Control Unit (IECU), multiple trailer-mounted variants and integrated heating/cooling systems.			
FY 2014 Accomplishments: Support continuing EMD effort for 9/18/36K BTUH IECU. Complete final engineering requirements for 9/18/36K IECUs. Develop prototypes for multiple trailer-mounted variants and integrated heating/cooling units to meet emerging user needs.			
FY 2016 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** L47 / *Improved Environmental Control Units Ed*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Support continuing technology insertions and demonstration of prototypes for follow-on IECU variants.			
Title: Government System Test and Evaluation ***Description:*** Testing for prototype performance for the trailer mounted variants of the Improved Environmental Control Units (IECUs). ***FY 2014 Accomplishments:*** Conduct reliability testing, Limited User Test, and logistics verification for trailer mounted variants to support type classification. Conduct performance tests on integrated heating/cooling units. ***FY 2016 Plans:*** Conduct performance tests on follow-on IECU systems.	0.678	-	0.100
Title: Other Contract and Government Agency ***Description:*** Support engineering, logistics, and testing efforts for multiple trailer-mounted variants, as well as integrated heating/ cooling units. Support Engineering and Manufacturing Development (EMD) effort on 9/18/36K Improved Environmental Control Unit (IECU) family. ***FY 2014 Accomplishments:*** Support engineering, logistics, and testing efforts for multiple trailer-mounted variants and integrated heating/cooling units. Support EMD effort on 9/18/36K IECU family. ***FY 2016 Plans:*** Support engineering, logistics, and testing efforts for follow-on IECU variants.	0.991	-	0.626
Title: Government Program Management ***Description:*** Oversight and management of engineering, logistics, contracts, and testing efforts for 9/18/36 Improved Environmental Control Unit (IECU) family and multiple trailer-mounted variants. Transition to production. Provide oversight and management of integrated heating/cooling units. ***FY 2014 Accomplishments:*** Oversight and management of engineering, logistics, contracts, and testing efforts for 9/18/36 IECU family and multiple trailer-mounted variants. Transition to production. Provide oversight and management of integrated heating/cooling units. ***FY 2016 Plans:***	0.198	-	0.050

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** L47 / *Improved Environmental Control Units Ed*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Oversight and management of engineering, logistics, contracts, and testing efforts for follow-on IECU variants.			
Accomplishments/Planned Programs Subtotals	2.867	-	0.976

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• MF9303: *OPA 3, Improved Environmental Control Units , MF9303*	6.269	9.235	18.876	-	18.876	26.434	11.903	1.523	1.552	Continuing	Continuing

Remarks

D. Acquisition Strategy

Complete Engineering and Manufacturing Development (EMD) for the 9/18/36K Improved Environmental Control Unit (IECU) variants and transition to production. Begin EMD for level efforts in support of multiple trailer-mounted IECU variants. The initial prototypes of the trailer-mounted variants will be assembled in house, with eventual production via depot-level integration of Government Furnished Equipment (GFE) from existing production contracts. Initial prototypes of the integrated fuel-fired heating and cooling systems will be procured via GFE and off-the-shelf components through third party vendors for assessment. This assessment will support development of a revised PD for eventual competitive procurement. Support technology insertions required to adapt IECUs to support future integrated Command Post heating and cooling requirements in support of Force 2025 and the Command Post ICD. Support development and evaluation of follow-on IECU variants.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	Project (Number/Name) L47 / *Improved Environmental Control Units Ed*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
9,18 and 36K Improved Environmental Control Unit (IECU)	Various	PM E2S2 : various	1.124	0.050	Feb 2014	-		-		-		-	-	1.174	Continuing
Trailer Variants	Various	PM E2S2 : various	0.433	0.073	Feb 2014	-		0.025	Dec 2015	-		0.025	-	0.531	Continuing
18K Vertical	Various	PM E2S2 : various	0.000	0.050	Feb 2014	-		-		-		-	-	0.050	-
Integrated heating/cooling units	Various	PM E2S2 : various	0.000	0.025	Feb 2014	-		0.025	Dec 2015	-		0.025	-	0.050	-
SBIR/STTR	Various	various : various	0.137	-		-		-		-		-	-	0.137	-
		Subtotal	1.694	0.198		-		0.050		-		0.050	-	1.942	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
9 ,18 and 36K Improved Environmental Control Unit (IECU)	C/CPFF	Mainstream Engineering : Vero Beach, FL	2.064	-		-		-		-		-	-	2.064	Continuing
Trailer Mounted variants	MIPR	CERDEC Night Vision Lab : Ft Belvoir, VA	0.000	0.400	Apr 2014	-		0.100	Feb 2016	-		0.100	-	0.500	-
18K Vertical	C/CPFF	TBD : TBD	1.685	0.400	Apr 2014	-		-		-		-	-	2.085	-
Integrated heating/cooling units	MIPR	CERDEC Night Vision Lab : Ft. Belvoir, VA	0.000	0.200	Apr 2014	-		0.100	Feb 2016	-		0.100	-	0.300	-
		Subtotal	3.749	1.000		-		0.200		-		0.200	-	4.949	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	Project (Number/Name) L47 / *Improved Environmental Control Units Ed*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
9, 18 and 36K Improved Environmental Control Unit (IECU)	MIPR	CERDEC : Fort Belvoir, VA	1.642	0.475	Dec 2013	-		-		-		-	-	2.117	-
18K Vertical	Various	CERDEC : Fort Belvoir, VA	3.507	0.175	Dec 2013	-		-		-		-	-	3.682	-
Trailer variants	MIPR	CERDEC : Fort Belvoir, VA	0.344	0.276	Dec 2013	-		0.300	Feb 2016	-		0.300	-	0.920	-
Integrated heating/cooling units	MIPR	CERDEC : Fort Belvoir, VA	0.000	0.065	Dec 2013	-		0.326	Feb 2016	-		0.326	-	0.391	-
		Subtotal	5.493	0.991		-		0.626		-		0.626	-	7.110	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
9,18 and 36K Improved Environmental Control Unit (IECU)	MIPR	ATEC : APG, MD	0.300	0.178	Apr 2014	-		-		-		-	-	0.478	-
Trailer Variants	MIPR	ATEC : APG, MD	0.199	0.150	Apr 2014	-		0.025	Feb 2016	-		0.025	-	0.374	Continuing
18K Vertical	MIPR	ATEC : APG, MD	0.000	0.200	Apr 2014	-		-		-		-	-	0.200	-
Integrated heating/cooling units	MIPR	ATEC : APG, MD	0.000	0.150	Apr 2014	-		0.075	Feb 2016	-		0.075	-	0.225	-
		Subtotal	0.499	0.678		-		0.100		-		0.100	-	1.277	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	11.435	2.867		-		0.976		-		0.976	-	15.278	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** L47 / *Improved Environmental Control Units Ed*

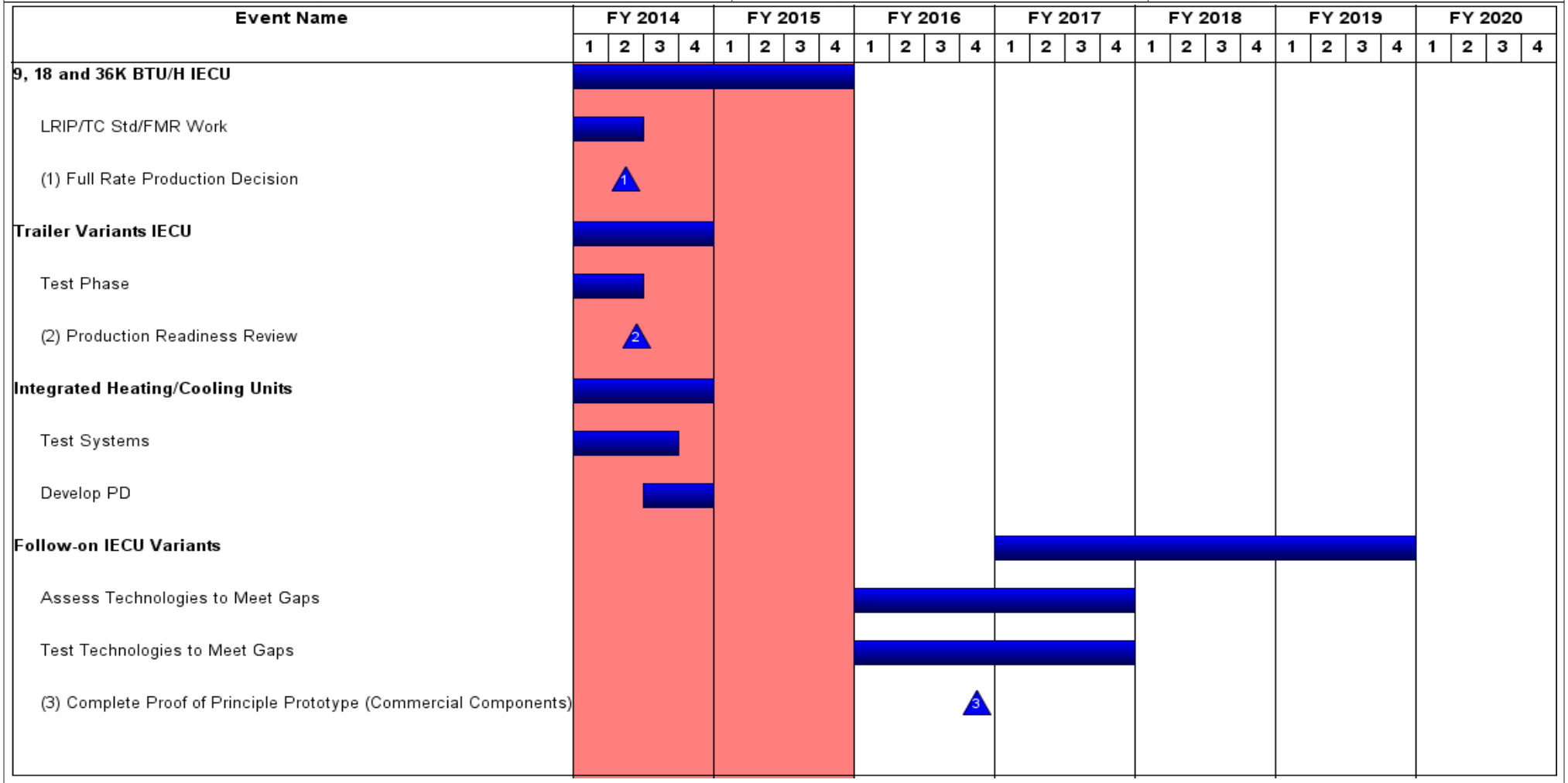


Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** L47 / *Improved Environmental Control Units Ed*

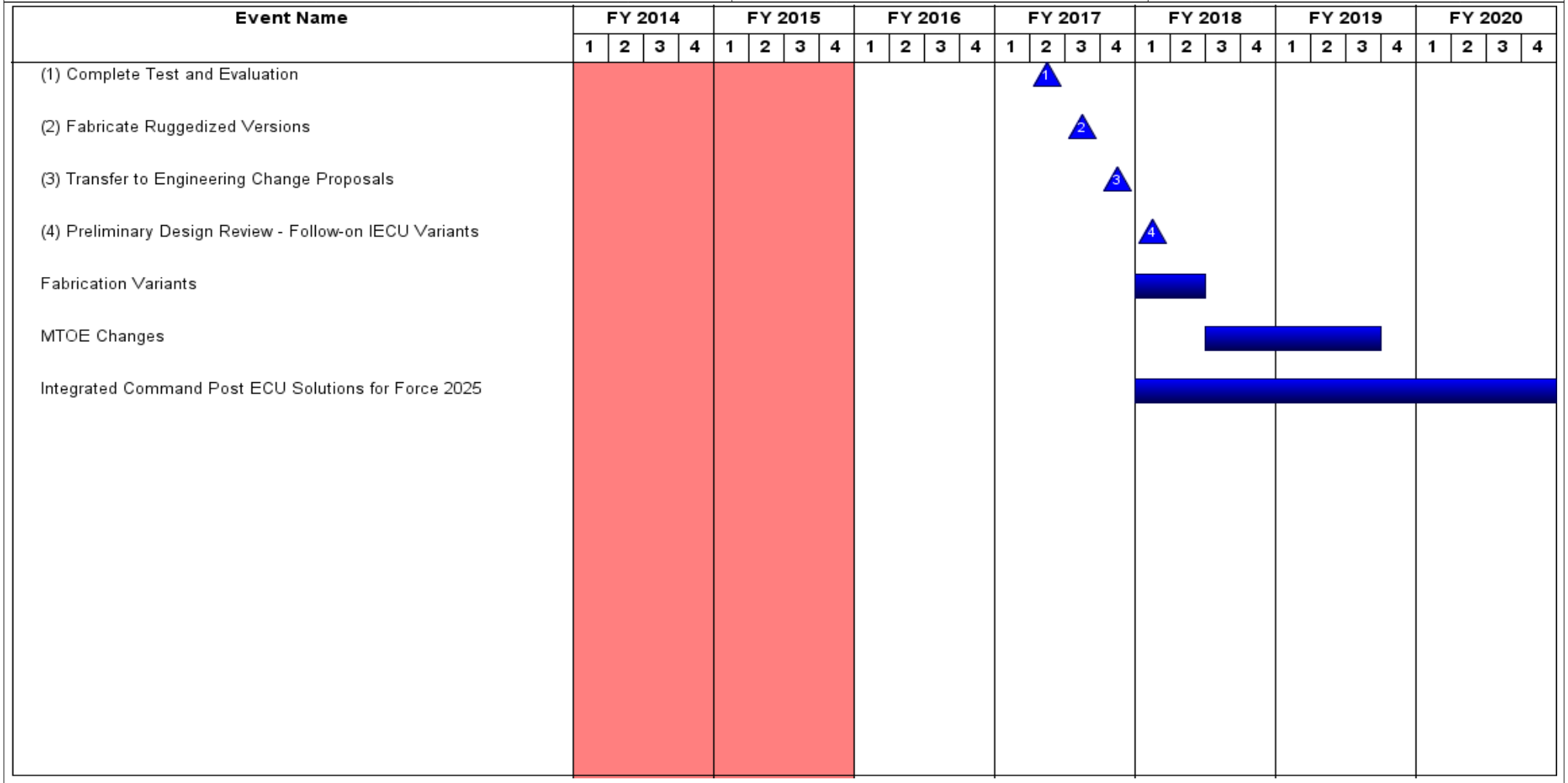


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** L47 / *Improved Environmental Control Units Ed*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
9, 18 and 36K BTU/H IECU	1	2009	4	2015
LRIP/TC Std/FMR Work	2	2013	2	2014
Full Rate Production Decision	2	2014	2	2014
Trailer Variants IECU	1	2013	4	2014
Test Phase	3	2013	2	2014
Production Readiness Review	2	2014	2	2014
Integrated Heating/Cooling Units	1	2013	4	2014
Test Systems	1	2014	3	2014
Develop PD	3	2014	4	2014
Follow-on IECU Variants	1	2017	4	2019
Assess Technologies to Meet Gaps	1	2016	4	2017
Test Technologies to Meet Gaps	1	2016	4	2017
Complete Proof of Principle Prototype (Commercial Components)	4	2016	4	2016
Complete Test and Evaluation	2	2017	2	2017
Fabricate Ruggedized Versions	3	2017	3	2017
Transfer to Engineering Change Proposals	4	2017	4	2017
Preliminary Design Review - Follow-on IECU Variants	1	2018	1	2018
Fabrication Variants	1	2018	2	2018
MTOE Changes	3	2018	3	2019
Integrated Command Post ECU Solutions for Force 2025	1	2018	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	Project (Number/Name) VR7 / *Combat Service Support Systems*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
VR7: *Combat Service Support Systems*	-	4.405	2.945	2.963	-	2.963	4.574	4.354	2.598	3.077	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

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

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Expeditionary Shelter Protection System (ESPS) ***Description:*** ESPS is a lightweight, rapidly deployable and reusable ballistic protection system that can be integrated with commonly used military shelters in expeditionary and remote base camps and outposts where more robust forms of ballistic protection (i.e. sandbags, concrete barriers) are not readily available or logistically feasible. ***FY 2015 Plans:*** Award EMD contract, procure test items and initiate logistics requirements for ESPS to support transition to production. ***FY 2016 Plans:*** Complete EMD testing, logistics requirements and initiate Milestone C documentation for ESPS to support transition into production in FY17.	-	0.550	0.861
Title: Family of Space Heaters ***Description:*** The family of Army Space Heaters support soldiers operating in basic, cold and extreme cold environments with a safe, portable, lightweight, multi-fueled, self-powered, space heaters for use in tents and/or expeditionary shelters that do not require an external power source. These heaters provide the much needed capability of providing heated air effectively and efficiently while eliminating the shortcomings of the antiquated, dangerous and inefficient heaters they are replacing in the inventory.	0.150	0.150	0.150

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** VR7 / *Combat Service Support Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
FY 2014 Accomplishments: Completed Improved Army Space Heater (IASH) Type II prototype and conducted Developmental Test (DT). Prepared performace based specification. ***FY 2015 Plans:*** Complete contract documentation, award contract, procure test items and initiate Production Qualification Testing (PQT) for IASH Type II. ***FY 2016 Plans:*** Complete PQT, logistics requirements, and prepare Type Classification documentation for IASH Type II to support transition to production in FY17.			
Title: Net-Zero Energy Efficiency Solutions	1.055	1.980	0.740
Description: Net-Zero Energy Efficiency Solutions reduce the operational energy and logistics footprint of the expeditionary base camp system, with the goal being a significant reduction in fuel, water, material and power requirements to sustain operations in the field. Effort includes reducing site preparation, sustainment, maintenance and spare parts requirements. Operating a base camp such as Force Provider requires a significant amount of logistics support and also produces an enormous amount of by products, both of which cost money, human effort (that means a risk in the form of soldiers on the road), and represents a potential vulnerability. ***FY 2014 Accomplishments:*** Conduct OT on Force Provider 150-Soldier module with integrated Advanced Medium-sized Mobile Power Source (AMMPS). Completed evaluation on waste reduction technologies, energy saving solar shades, insulating liners, and power grid reconfiguration. ***FY 2015 Plans:*** Conduct evaluation on Net-Zero energy efficiency solutions for Force Provider. Initiate DT/OT on Force Provider resource and energy efficient Rigid-Wall Shelter Based 150-Soldier Module with integrated state-of-the-art energy saving appliances and mature expeditionary shelter energy efficiency upgrades. Conduct technical testing on solar hot water heating and mature expeditionary shelter energy efficiency upgrades. Transition proven and validated capabilities into full-rate production. ***FY 2016 Plans:*** Conduct evaluation on Net-Zero energy efficiency solutions for Force Provider. Complete DT/OT on Force Provider Resource and Energy Efficient Rigid-Wall Shelter based 150-Soldier module with integrated state-of-the-art energy saving appliances and mature expeditionary shelter energy efficiency upgrades. Transition Rigid-Wall Shelter camp into production. Complete DT on			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** VR7 / *Combat Service Support Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Force Provider 150-Soldier module with integrated Advanced Medium-sized Mobile Power Source (AMMPS) microgrid. Transition proven and validated capabilities into full-rate production.			
Title: Laundry System Improvement ***Description:*** Provides an enhanced capability for field laundry with improved hot and cold weather performance, better compatibility with current and future combat clothing, and increased reliability, maintainability and ease of operation. ***FY 2015 Plans:*** Develop test prototypes of key laundry subsystems incorporating component replacements and upgrades to address identified field problems and equipment issues. ***FY 2016 Plans:*** Conduct Developmental Testing (DT) on prototype subsystems and components. Prepare Technical Data Packages (TDP) for modification kits and transition into production.	-	0.265	0.225
Title: Solid Waste Disposal for Small Base Camps ***Description:*** Provides an integrated waste management (reduction, treatment or disposal process) add-on capability that can safely process 1,000 lbs or more of mixed solid waste in a single day on site. Mixed solid waste produced on a single 150 person site must be properly managed through reduction, reuse, recycling, treatment, or disposal. Most of the waste is nonhazardous solid waste. Provides a substantial improvement over the current practice of burn pits that poses a health risk to Soldiers and/or the backhaul logistics burden. ***FY 2016 Plans:*** Complete Milestone B (MS B) for the Solid Waste Disposal Systems and obtain required environmental permits for test and operation. Prepare prototype and conduct Developmental Testing (DT).	-	-	0.685
Title: Containerized Ice Making System ***Description:*** Develops an add-on ice making capability that automatically dispenses and seals 10 lbs bags at a rate of a minimum of 3,600 pounds of ice per day. This capability is based upon Army current operational requirements for ice which is four pounds per Soldier per day. This capability enables support for up to 900 personnel. Current operations require external support to provide personnel with ice for cooling drinking water in extremely arid environments. This capability will reduce the sustainment risk and cost associated with transporting this commodity from external sources. The objective requirement enables stockage of ice to assist with surge operations. ***FY 2016 Plans:***	-	-	0.302

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** VR7 / *Combat Service Support Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Award contract for development of test prototype Containerized Ice Making Systems and conduct Developmental Testing (DT).			
Title: Contingency Basing Infrastructure (CBI) ***Description:*** Provide systems engineering support to contingency base camp infrastructure; support investment decisions; support materiel recommendations responsive to operational commander needs; establish and deliver a standardized CBI set of systems as a capability; provide Doctrine, Organization, Training, Materiel, Leadership and education, Personnel, Facilities, and Policy (DOTMLPF-P) considerations for operational requirements and to improve mission effectiveness and efficiency. ***FY 2014 Accomplishments:*** Continued to develop the tool set and knowledge base that will ultimately provide theater commanders with the information and recommendations to make optimal materiel choices and identify any impacts. Executed an Integrated System Requirements Review (I-SRR) for the development of the Contingency Base Interface to the Warfighter (CBIWar). Developed a new Desktop Analysis Tool based on MS Excel that enables base camp system definition and resource consumption estimates to be produced very quickly and efficiently using a common desktop computer. Developed new analytical capability for optimizing base camp designs by adapting a proven Whole System Trade Analysis Tool (WSTAT) previously developed and used for Ground Combat Vehicles to assess base camps. Expanded the capability/utilization of the System of Systems Analysis Toolset (SoSAT) for base camp analysis. Developed a base camp cluster model for an Infantry Brigade Combat Team to assess the impacts of individual system trades across a Ground Line of Communications cluster consisting of one medium base camp, five small base camps and twelve extra-small base camps. Conducted assessments of base camp system portfolios to define candidate systems found in current operational base camps. These candidate systems comprise the current base camp Materiel Baseline. Ongoing efforts will utilize these candidate systems to create base camp cluster models from which base camp performance improvements/ efficiencies can be measured. Program transitions to Budget Activity 654715 EC9 in FY15.	3.200	-	-
Accomplishments/Planned Programs Subtotals	4.405	2.945	2.963

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• 643804 VR8: *Combat Service Support Systems AD,*	1.558	2.690	4.048	-	4.048	4.654	4.557	2.566	3.020	Continuing	Continuing

Remarks

D. Acquisition Strategy

Accelerate product development and testing to transition into production.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** VR7 / *Combat Service Support Systems*

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	Project (Number/Name) VR7 / *Combat Service Support Systems*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Management Support	Various	PM Force Sustainment Systems : Natick, MA	0.322	0.137	Mar 2014	0.262		0.366		-		0.366	Continuing	Continuing	-
CBI Support	Various	PD CBI : Warren, MI	3.284	0.463		-		-		-		-	-	3.747	-
SBIR+STTR	TBD	Various : Various	0.077	-		-		-		-		-	-	0.077	-
		Subtotal	3.683	0.600		0.262		0.366		-		0.366	-	-	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Soldier Support Equipment	TBD	Various : Various	2.143	0.453	May 2014	1.138		1.017		-		1.017	Continuing	Continuing	-
Contingency Basing Infrastructure	Various	Various : Various	0.000	1.531		-		-		-		-	-	1.531	-
		Subtotal	2.143	1.984		1.138		1.017		-		1.017	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Soldier Support Equipment	Various	Various : Various	1.668	0.615	Mar 2014	1.545		1.580		-		1.580	Continuing	Continuing	-
Contingency Basing Infrastructure	Various	Various : Various	0.000	1.206		-		-		-		-	-	1.206	-
		Subtotal	1.668	1.821		1.545		1.580		-		1.580	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	7.494	4.405		2.945		2.963		-		2.963	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** VR7 / *Combat Service Support Systems*

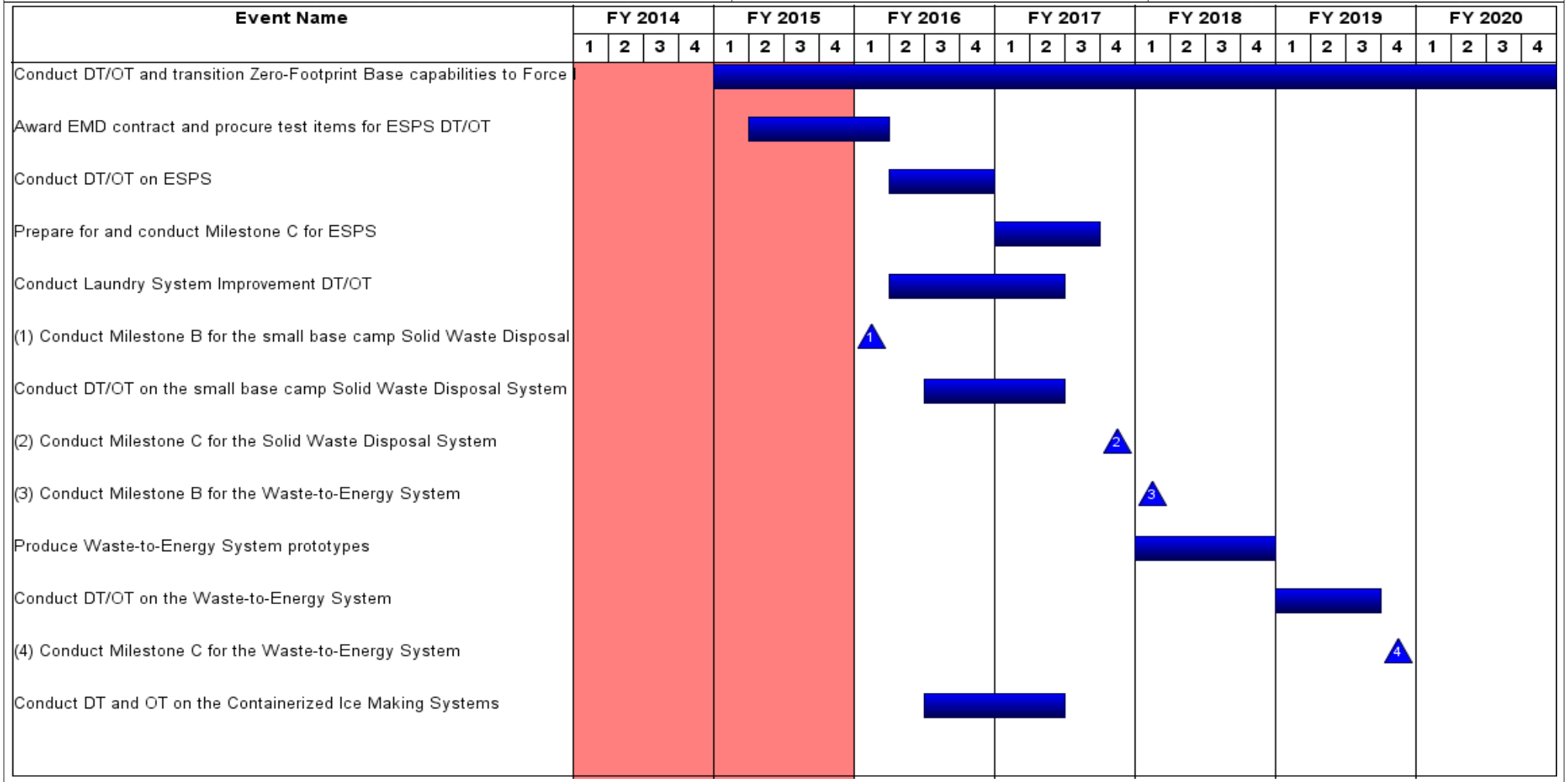


Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** VR7 / *Combat Service Support Systems*

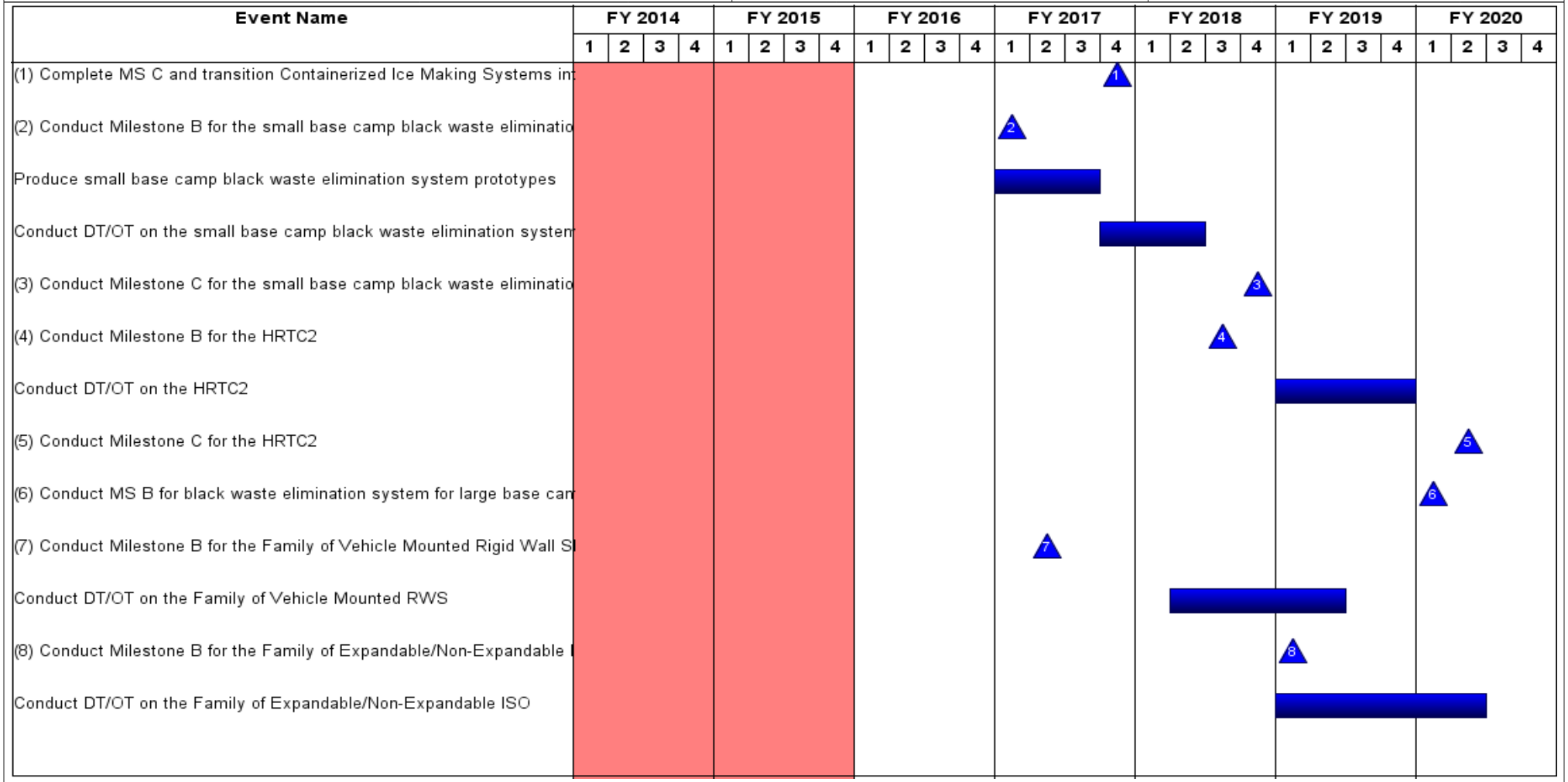


Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** VR7 / *Combat Service Support Systems*

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** VR7 / *Combat Service Support Systems*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Conduct DT/OT and transition Zero-Footprint Base capabilities to Force Provider.	1	2015	4	2020
Award EMD contract and procure test items for ESPS DT/OT	2	2015	1	2016
Conduct DT/OT on ESPS	2	2016	4	2016
Prepare for and conduct Milestone C for ESPS	1	2017	3	2017
Conduct Laundry System Improvement DT/OT	2	2016	2	2017
Conduct Milestone B for the small base camp Solid Waste Disposal System	1	2016	1	2016
Conduct DT/OT on the small base camp Solid Waste Disposal System	3	2016	2	2017
Conduct Milestone C for the Solid Waste Disposal System	4	2017	4	2017
Conduct Milestone B for the Waste-to-Energy System	1	2018	1	2018
Produce Waste-to-Energy System prototypes	1	2018	4	2018
Conduct DT/OT on the Waste-to-Energy System	1	2019	3	2019
Conduct Milestone C for the Waste-to-Energy System	4	2019	4	2019
Conduct DT and OT on the Containerized Ice Making Systems	3	2016	2	2017
Complete MS C and transition Containerized Ice Making Systems into production	4	2017	4	2017
Conduct Milestone B for the small base camp black waste elimination system	1	2017	1	2017
Produce small base camp black waste elimination system prototypes	1	2017	3	2017
Conduct DT/OT on the small base camp black waste elimination system	4	2017	2	2018
Conduct Milestone C for the small base camp black waste elimination system	4	2018	4	2018
Conduct Milestone B for the HRTC2	3	2018	3	2018
Conduct DT/OT on the HRTC2	1	2019	4	2019
Conduct Milestone C for the HRTC2	2	2020	2	2020
Conduct MS B for black waste elimination system for large base camps	1	2020	1	2020

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604804A / *Logistics and Engineer Equipment - Eng Dev*	**Project (Number/Name)** VR7 / *Combat Service Support Systems*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Conduct Milestone B for the Family of Vehicle Mounted Rigid Wall Shelters (RWS)	2	2017	2	2017
Conduct DT/OT on the Family of Vehicle Mounted RWS	2	2018	2	2019
Conduct Milestone B for the Family of Expandable/Non-Expandable ISO	1	2019	1	2019
Conduct DT/OT on the Family of Expandable/Non-Expandable ISO	1	2019	2	2020
Conduct Milestone B for the Family of Collapsible and Panelized RWS	4	2020	4	2020
Develop ULCANS arctic/snow variant and conduct DT/OT	1	2017	2	2018
Develop ULCANS urban variant and conduct DT/OT	3	2017	4	2019
Develop ESPS Overhead Protection System and conduct DT and OT	1	2020	4	2021
Award EMD contract and conduct PQT for IASH Type II	2	2015	4	2015
Complete PQT and prepare TC-STD documentation for IASH Type II	1	2016	4	2016

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604805A / *Command, Control, Communications Systems - Eng Dev*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	-	7.131	4.431	2.726	-	2.726	2.606	2.350	2.364	2.386	-	23.994
593: *Joint Battle Command - Platform (JBC-P)*	-	7.131	4.431	2.726	-	2.726	2.606	2.350	2.364	2.386	-	23.994

A. Mission Description and Budget Item Justification

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

Project 593, JBC-P, funds the Systems Engineering, Software Development and Testing of JBC-P. JBC-P, which includes Blue Force Tracking (BFT) and Army Aviation, and provides true Joint force Command and Control (C2) Situational Awareness (SA) and communications (e.g., terrestrial, celestial) capability at the platform level through command center locations (e.g., Network Operations Centers (NOC), Tactical Operation Centers (TOCs), Brigade Command Posts) and enables mission accomplishment across the entire spectrum of military operations.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	7.376	4.433	9.161	-	9.161
Current President's Budget	7.131	4.431	2.726	-	2.726
Total Adjustments	-0.245	-0.002	-6.435	-	-6.435
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-0.245	-0.002	-6.435	-	-6.435

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604805A / *Command, Control, Communications Systems - Eng Dev*	Project (Number/Name) 593 / *Joint Battle Command - Platform (JBC-P)*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
593: *Joint Battle Command - Platform (JBC-P)*	-	7.131	4.431	2.726	-	2.726	2.606	2.350	2.364	2.386	-	23.994
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Mounted Computing Environment (MCE) efforts were begun under Proj/PE 0604805A/593 – Joint Battle Command – Platform (JBC-P), as directed by the AAE, in support of the Common Operating Environment directive. The Army established MCE, Proj/PE 604818.EJ5 as a separate funding line in FY2016. This funding line segregates the costs of MCE from JBC-P.

A. Mission Description and Budget Item Justification

The Joint Battle Command - Platform (JBC-P) program is the cornerstone of joint forces Command and Control (C2) Situational Awareness (SA) and communications. JBC-P provides secure Blue Force Tracking capability in Platforms and Command Posts, providing soldiers and commanders a map-based Common Operating Picture of the battlefield, and as a result, reducing fratricide.

As part of the Army's Common Operating Environment (COE) Architecture initiative, developed to standardize end-user environments and enable streamlined deployment of new warfighting applications, JBC-P serves a primary role as the basis of the Mounted Computing Environment (MCE), one of six (6) environments within the COE framework. Future development of the Mounted CE will leverage JBC-P hardware and software to consolidate and integrate multiple warfighting systems in the Platform (Mounted) environment. This integrated Mounted CE, with its open standards, enhanced interoperability, and simplified end-user interface will speed delivery of new Mission Command applications to the warfighter while improving the effectiveness and value of current systems. MCE efforts will transfer from PE 0604805 Project 593 to PE 0604818 Project EJ5 in FY 2016.

Fiscal Year 2016 funding provides Software Design and Development, System Engineering, associated Test and Integration, and Program Management that supports the underlying JBC-P baseline and CDD threshold requirements.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Software Development	2.483	1.271	0.782
Description: Develop capabilities, product applications, platform interoperability, and system services across the JBC-P family of systems, to include the development of capabilities to meet Key Performance Parameters (KPPs), and other system attributes. Also develop unique software and integration capabilities in support of the Mounted Computing Environment (MCE), part of the Common Operating Environment (COE). Develop Multi-Level Security Domains for Network, Users, and Information.			
FY 2014 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604805A / *Command, Control, Communications Systems - Eng Dev*	**Project (Number/Name)** 593 / *Joint Battle Command - Platform (JBC-P)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Software efforts included migrating to Commercial Off The Shelf (COTS) (Android) and integrating additional Mission Command capabilities including precision fires and collaboration/planning functions for platform systems. Migrated to common open interfaces across other platform components (sensors, radios) in order to reduce complexity and make integration common across all platform vehicle types (VICTORY). Co-hosted systems/application on the Mounted Family of Computer Systems (MFoCS), i.e. router switch, forward observer system in order to reduce Size Weight and Power (SWaP) on platforms. Built automated tools to support compliance with MCE and COE standards. ***FY 2015 Plans:*** Funding is required for on-going software development efforts focused on the migration of JBC-P and other platform systems to the MCE and COE standards. This effort includes migrating to specific network communications standards, and providing routing services on a COTS operating system (Android). Software capabilities also under migration to MCE standards include the use of Common Geospatial (map) services and additional Vehicle Integration for C4ISR/EW Interoperability (VICTORY) component types. Funds are also required for continued conduct of User Juries to assess software maturity. ***FY 2016 Plans:*** Develop capabilities, product applications, platform interoperability, and system services across the JBC-P family of systems, to include the development of capabilities to meet Key System Attributes (KSAs) in the CDD (in lieu of CPD).			
Title: Software/Systems Engineering ***Description:*** Perform Software/Systems Engineering in support of the development of JBC-P capabilities, applications, and services, to include, but not limited to, conducting engineering studies, architecture development (both software and network), system analyses, technical readiness assessments, technical interchange meetings/events, and development of related reports and other deliverables. ***FY 2014 Accomplishments:*** Continued system engineering efforts for JBC-P in support of COE baselines, focusing on hardware/software integration, engineering and development of common services across platforms. Included planning and engineering of future MCE capabilities using COTS (Android), i.e.: Common Authentication. Performance characterization on different HW/SW configurations using MFoCS. ***FY 2015 Plans:*** Funding is required for continued system engineering efforts in support of COE baselines and expanding common services across platforms. Includes planning and engineering of future MCE capabilities using COTS (Android), including Shared Software Databus, Common Geospatial (map) Services, Common Overlay, and Single Security Services. ***FY 2016 Plans:***	2.908	2.043	1.257

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604805A / *Command, Control, Communications Systems - Eng Dev*	**Project (Number/Name)** 593 / *Joint Battle Command - Platform (JBC-P)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Continue system engineering efforts for JBC-P balance of CDD threshold requirements and support of the Battle Command Product Line.			
Title: Test, Evaluation and Integration ***Description:*** Plan and conduct system software acceptance testing from CDD for baseline products, Integration Events (i.e., tests and assessments) in support of the JBC-P Family of Systems, to include Risk Reduction Events, vulnerability testing, and Army Interoperability Certification (AIC) testing. ***FY 2014 Accomplishments:*** Tested software capability in support of the Network Operations Center (NOC). Established tools and a process for 3rd party application testing and accreditation. ***FY 2015 Plans:*** Ongoing Verification & Validation efforts of MCE, HW/SW integration testing, 3rd party application testing and accreditation. Support for Army Warfighting Assessments (AWA), User Juries and other demonstrations for MCE. ***FY 2016 Plans:*** Test software capability, Developmental Testing (DTs), and Risk Reduction Events (RREs) for continued support of JBC-P.	0.314	0.250	0.154
Title: Program Management ***Description:*** JBC-P Program Management, including Technical, Logistics, and Business staff oversight. ***FY 2014 Accomplishments:*** During this timeframe, provided technical, logistics and business oversight for JBC-P FoS software development and system engineering activities. Program Management included funds execution, contract management, and logistical support to program's RDT&E activities. Included establishment of the MCE Governance process, which includes participation in Common Operating Environment (COE) working group infrastructure, operations, participation in Technical Advisory boards, system of systems engineering & the Platform Integrated Process Team (IPT) efforts. ***FY 2015 Plans:*** Provide program management, logistics, and business oversight for JBC-P/MCE Software/System Engineering activities. Program Management includes overall management of program milestones, major events, funds execution, contract management, and logistical support. Includes management of the MCE Governance process, which includes participation in COE working group infrastructure, operations, participation in Technical Advisory boards, system of systems engineering & the Platform IPT efforts. ***FY 2016 Plans:***	1.426	0.867	0.533

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604805A / *Command, Control, Communications Systems - Eng Dev*	**Project (Number/Name)** 593 / *Joint Battle Command - Platform (JBC-P)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
During this timeframe, will provide technical, logistics and business oversight for JBC-P FoS software development and system engineering activities. Program Management includes funds execution, contract management, and logistical support to program's RDT&E activities.			
Accomplishments/Planned Programs Subtotals	7.131	4.431	2.726

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• Joint Battle Command - Platform: *OPA W61990*	65.379	87.892	133.339	-	133.339	136.537	131.990	134.955	144.360	-	834.452
• Mounted Computing Environment (MCE): *RDTE 654818 PROJ EJ5*	-	-	12.370	-	12.370	15.669	18.798	16.994	7.839	-	71.670

Remarks

Procurement funding in Fiscal Year 2014 through 2020 (Base funding) is designated for the procurement, fielding, and program management of JBC-P Family of Systems including JBC-P, JBC-P Log, and the implementation of the Mounted Computing Environment (MCE).

A MCE line was created under PE 0604818A - Army Tactical Command & Control Hardware & Software to segregate the costs for MCE Development. This is for MCE Software Development, Software/Systems Engineering, Test, Evaluation, Integration, and Program Management.

D. Acquisition Strategy

The program entered Milestone B (Engineering and Manufacturing Development phase) in September 2009. RDTE funding for JBC-P began in Fiscal Year 2010. The Acquisition Strategy Report (ASR) was approved in July 2012. The Milestone Decision Authority (MDA) approved a Milestone C, conditional on positive Limited User Test (LUT) results, in July 2012.

The JBC-P Capabilities Development Document in lieu of Capabilities Production Document (CDD ILO CPD) was Joint Requirements Oversight Council (JROC) approved March 2013. Completed Initial Operational Test & Evaluation (IOT&E) as part of Network Integration Evaluation (NIE) 13.2 in 3QFY13. The IOT&E tested the JBC-P system software on existing FBCB2 hardware (non-dismountable vehicle systems) and future production-representative hardware. The MDA authorized entry into Full Rate Production (FRP) and deployment for JBC-P V1.4, December 2013, conditional on achieving Army Interoperability Certification (AIC) and Joint Interoperability Test Certification (JITC) prior to fielding.

As encouraged by DoD policy, development efforts are being performed by the Software Engineering Directorate (SED) of the Aviation and Missile Research, Development and Engineering Center (AMRDEC). Any additional development efforts in the approved CDD in lieu of CPD that cannot be accomplished by either SED

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604805A / *Command, Control, Communications Systems - Eng Dev*	**Project (Number/Name)** 593 / *Joint Battle Command - Platform (JBC-P)*

or SEC will be obtained via other existing contract vehicles. Hardware along with fielding, training and field support efforts will be obtained through existing competitively awarded contracts.

This JBC-P funding develops the unique JBC-P capabilities that serve as the foundational element and core software platform of the MCE and provides additional visibility of MCE development in support of COE.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604805A / *Command, Control, Communications Systems - Eng Dev*	Project (Number/Name) 593 / *Joint Battle Command - Platform (JBC-P)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JBC-P Software Development	MIPR	Multiple : Multiple	62.143	2.483		1.271		0.782		-		0.782	21.303	87.982	-
JBC-P Software/System Engineering	MIPR	Multiple : Multiple	30.718	2.908		2.044		1.257		-		1.257	9.714	46.641	-
		Subtotal	92.861	5.391		3.315		2.039		-		2.039	31.017	134.623	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PM Support (Gov't-Core)	Sub Allot	PM JBC-P : Aberdeen Proving Ground (APG), MD	2.894	1.426		0.867		0.533		-		0.533	2.458	8.178	-
		Subtotal	2.894	1.426		0.867		0.533		-		0.533	2.458	8.178	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Develop and Conduct Tests and Assessments	MIPR	Multiple : Multiple	25.508	0.314		0.249		0.154		-		0.154	9.757	35.982	-
		Subtotal	25.508	0.314		0.249		0.154		-		0.154	9.757	35.982	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	121.263	7.131		4.431		2.726		-		2.726	43.232	178.783	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604805A / *Command, Control, Communications Systems - Eng Dev*	**Project (Number/Name)** 593 / *Joint Battle Command - Platform (JBC-P)*

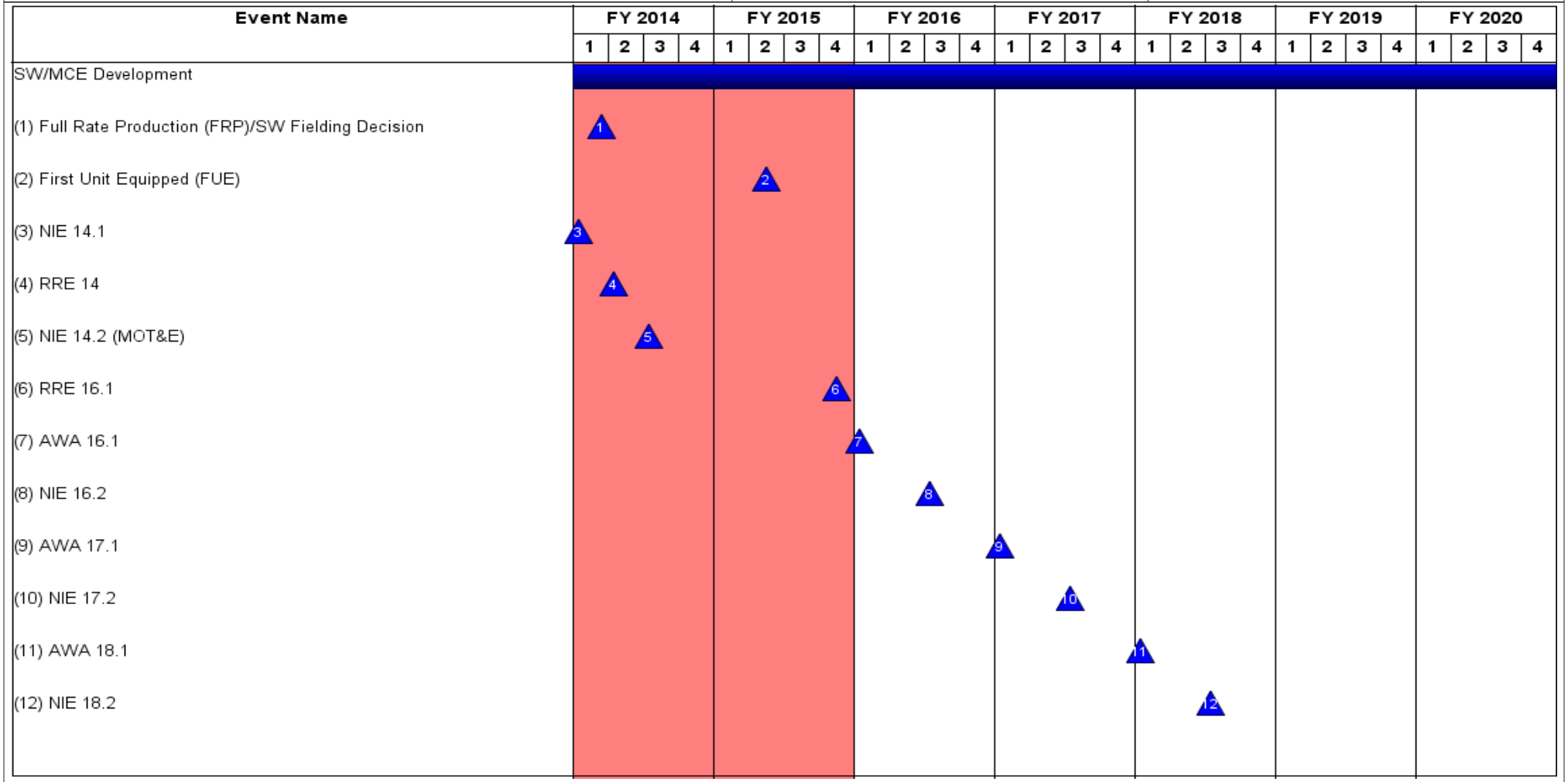


Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604805A / *Command, Control, Communications Systems - Eng Dev*	**Project (Number/Name)** 593 / *Joint Battle Command - Platform (JBC-P)*

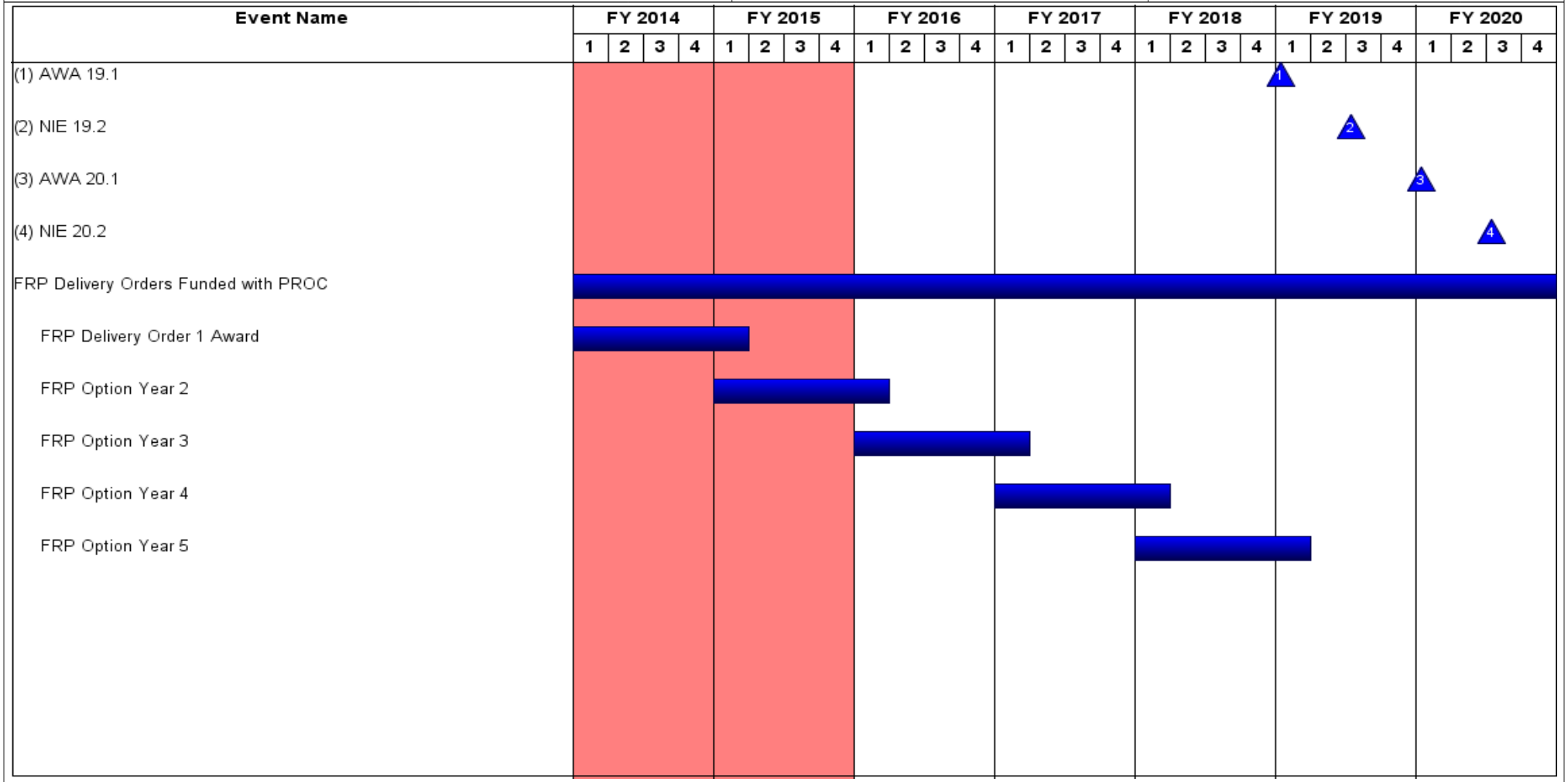


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604805A / *Command, Control, Communications Systems - Eng Dev*	**Project (Number/Name)** 593 / *Joint Battle Command - Platform (JBC-P)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
SW/MCE Development	1	2010	4	2020
Full Rate Production (FRP)/SW Fielding Decision	1	2014	1	2014
First Unit Equipped (FUE)	2	2015	2	2015
NIE 14.1	1	2014	1	2014
RRE 14	2	2014	2	2014
NIE 14.2 (MOT&E)	3	2014	3	2014
RRE 16.1	4	2015	4	2015
AWA 16.1	1	2016	1	2016
NIE 16.2	3	2016	3	2016
AWA 17.1	1	2017	1	2017
NIE 17.2	3	2017	3	2017
AWA 18.1	1	2018	1	2018
NIE 18.2	3	2018	3	2018
AWA 19.1	1	2019	1	2019
NIE 19.2	3	2019	3	2019
AWA 20.1	1	2020	1	2020
NIE 20.2	3	2020	3	2020
FRP Delivery Orders Funded with PROC	1	2014	4	2020
FRP Delivery Order 1 Award	1	2014	1	2015
FRP Option Year 2	1	2015	1	2016
FRP Option Year 3	1	2016	1	2017
FRP Option Year 4	1	2017	1	2018

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604805A / *Command, Control, Communications Systems - Eng Dev*	**Project (Number/Name)** 593 / *Joint Battle Command - Platform (JBC-P)*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
FRP Option Year 5	1	2018	1	2019

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604807A *I Medical Materiel/Medical Biological Defense Equipment - Eng Dev*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	-	33.890	30.384	45.412	-	45.412	42.817	44.150	53.065	57.369	Continuing	Continuing
812: *Mil HIV Vac&Drug Dev*	-	3.770	1.499	5.031	-	5.031	4.812	5.475	5.588	5.751	Continuing	Continuing
832: *Field Medical Systems Engineering Development*	-	18.081	18.197	25.029	-	25.029	24.610	25.212	32.495	35.030	Continuing	Continuing
849: *Infec Dis Drug/Vacc Ed*	-	12.039	10.688	14.953	-	14.953	13.281	13.349	14.982	16.588	Continuing	Continuing
VS8: *MEDEVAC Mission Equipment Package (MEP) - End Dev*	-	-	-	0.399	-	0.399	0.114	0.114	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

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

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

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

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

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

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army	Date: February 2015
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604807A *I Medical Materiel/Medical Biological Defense Equipment - Eng Dev*

This program is managed by U.S. Army Medical Materiel Development Activity (USAMMDA) and U.S. Army Medical Materiel Agency (USAMMA) of the US Army Medical Research and Materiel Command.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	39.447	30.397	48.304	-	48.304
Current President's Budget	33.890	30.384	45.412	-	45.412
Total Adjustments	-5.557	-0.013	-2.892	-	-2.892
• Congressional General Reductions	-	-0.013			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-4.292	-			
• SBIR/STTR Transfer	-1.265	-			
• Adjustments to Budget Years	-	-	-2.892	-	-2.892

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604807A / *Medical Materiel/Medical Biological Defense Equipment - Eng Dev*	Project (Number/Name) 812 / *Mil HIV Vac&Drug Dev*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
812: *Mil HIV Vac&Drug Dev*	-	3.770	1.499	5.031	-	5.031	4.812	5.475	5.588	5.751	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

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

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

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Military HIV Vaccine and Drug Development	3.770	1.499	5.031
Description: This project provides funds for engineering and manufacturing development of candidate vaccines and drugs to permit large-scale field testing of vaccines for medical countermeasures to HIV ***FY 2014 Accomplishments:*** Continued to refine vaccine administration schedule as well as clinical trial design based on data from previous clinical trials. Adjusted plan for Regional well-controlled clinical trial large enough to demonstrate vaccine efficacy which initiated mid-2013 future Prime/Boost Regional Phase 3 Study to Confirm Safety and Effectiveness in a Diverse Population, planned to begin in early 2018. ***FY 2015 Plans:*** Continue to refine vaccine administration schedule as well as clinical trial design based on data from previous clinical trials. Continue to adjust plan for Regional well-controlled clinical trial large enough to demonstrate vaccine efficacy which initiated mid-2013. ***FY 2016 Plans:*** Will begin early testing of new Envelope glycoprotein 120 bivalent products in prime-boost formal will allow for efficacy site preparation and potential trial start in Q1 of FY17. Will begin final site selection and ramp up of efficacy trial activities.			
Accomplishments/Planned Programs Subtotals	3.770	1.499	5.031

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604807A / *Medical Materiel/Medical Biological Defense Equipment - Eng Dev*	**Project (Number/Name)** 812 / *Mil HIV Vac&Drug Dev*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

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

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604807A / *Medical Materiel/Medical Biological Defense Equipment - Eng Dev*	Project (Number/Name) 812 / *Mil HIV Vac&Drug Dev*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Medical Product Development Management Services Cost	Various	Various : Various	1.638	0.823		0.173		1.018		-		1.018	Continuing	Continuing	-
		Subtotal	1.638	0.823		0.173		1.018		-		1.018	-	-	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Medical Product Development Cost	Various	Henry M. Jackson Foundation, : Various	32.326	0.951		0.325		2.000		-		2.000	Continuing	Continuing	Continuing
		Subtotal	32.326	0.951		0.325		2.000		-		2.000	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Medical Product Development Support Cost	Various	Various : Various	0.657	0.748		0.301		0.963		-		0.963	Continuing	Continuing	-
		Subtotal	0.657	0.748		0.301		0.963		-		0.963	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Medical Product Development T&E Cost	Various	Henry M. Jackson Foundation, : Various	25.147	1.248		0.700		1.050		-		1.050	Continuing	Continuing	Continuing
		Subtotal	25.147	1.248		0.700		1.050		-		1.050	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604807A / *Medical Materiel/Medical Biological Defense Equipment - Eng Dev*	Project (Number/Name) 812 / *Mil HIV Vac&Drug Dev*	

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	59.768	3.770		1.499		5.031		-		5.031	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604807A / *Medical Materiel/Medical Biological Defense Equipment - Eng Dev*	**Project (Number/Name)** 812 / *Mil HIV Vac&Drug Dev*

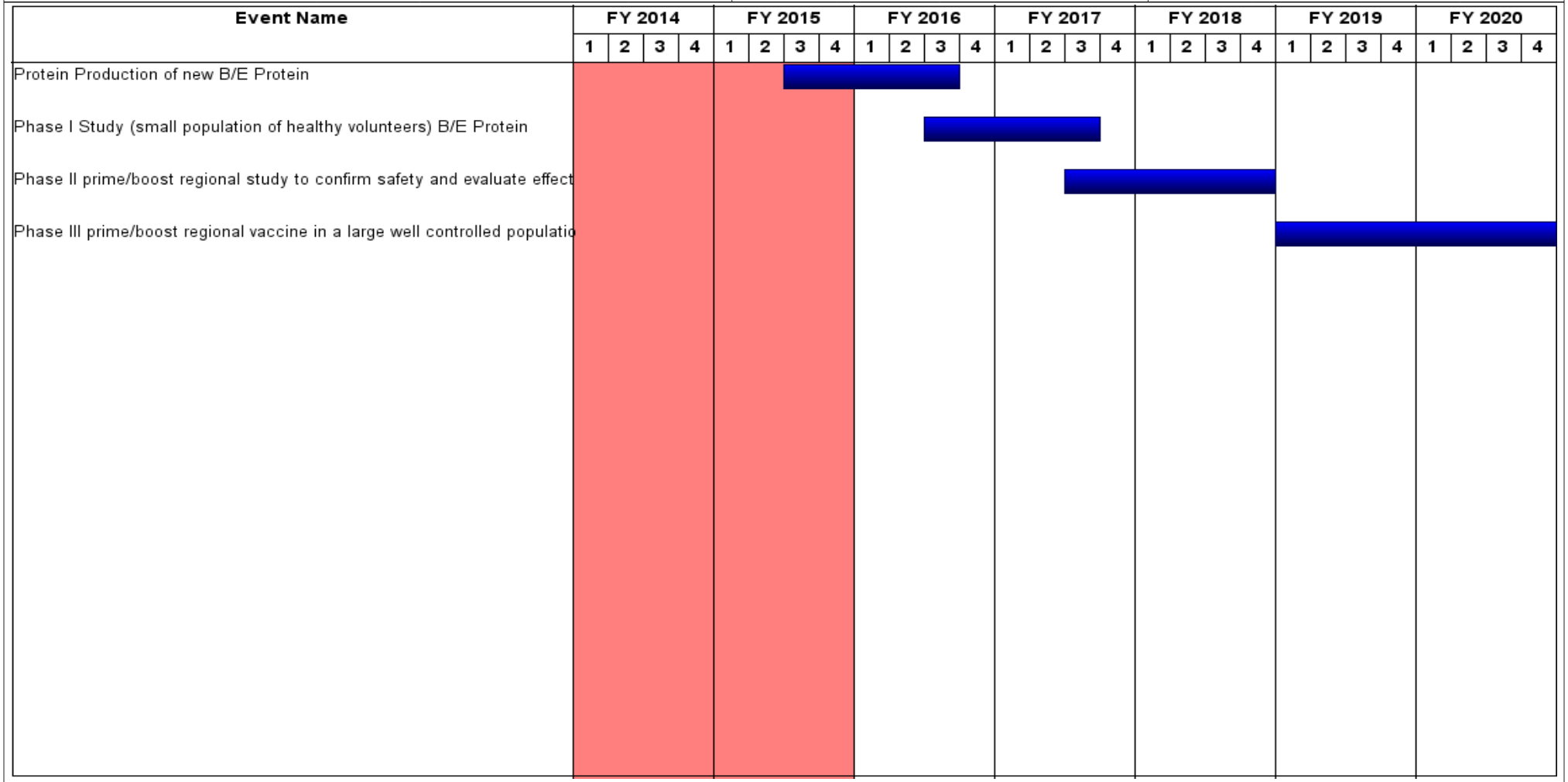


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604807A / *Medical Materiel/Medical Biological Defense Equipment - Eng Dev*	**Project (Number/Name)** 812 / *Mil HIV Vac&Drug Dev*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Protein Production of new B/E Protein	3	2015	3	2016
Phase I Study (small population of healthy volunteers) B/E Protein	3	2016	3	2017
Phase II prime/boost regional study to confirm safety and evaluate effectiveness	3	2017	4	2018
Phase III prime/boost regional vaccine in a large well controlled population to	1	2019	4	2021

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604807A / *Medical Materiel/Medical Biological Defense Equipment - Eng Dev*	Project (Number/Name) 832 / *Field Medical Systems Engineering Development*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
832: *Field Medical Systems Engineering Development*	-	18.081	18.197	25.029	-	25.029	24.610	25.212	32.495	35.030	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

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

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

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Field Medical Systems Engineering Development PM Medical Devices	0.943	2.984	3.260
Description: This project funds the engineering and manufacturing development of medical products for enhanced combat casualty care managed by PM Medical Devices.			
FY 2014 Accomplishments: Oxygen Generator (15 LPM) System: Army efforts are airworthiness certification for MEDEVAC aircraft and other Army-unique requirements; Air Force has funding to complete the project for their needs. Replacement for the M-138 Steam Sterilizer: Continued planned testing of devices designed and developed in previous years. Medical Equipment Sets Development: Continued development and testing to ensure the most current and cost effective devices are being utilized. Equipment was selected for modernization based on its own life cycle plan as part of a Sets, Kits and Outfits (SKO). Modernization also occurred when products are discontinued, new models were available and new technology was introduced to meet current standard of patient care. TBI Diagnostic Assay System Increment II Point of Care Device: Candidate product entered pivotal clinical trial and prepared to obtain FDA approval once transition from project 836 was completed.			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604807A / *Medical Materiel/Medical Biological Defense Equipment - Eng Dev*	**Project (Number/Name)** 832 / *Field Medical Systems Engineering Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Oxygen Generator (15 LPM) System: An MOA was developed in FY13 between USAMMA and the USAF to address this joint requirement. At this time no Army funds are projected for this project. Anticipate DHP RDT&E funds to be used in support of the joint requirement. Replacement for the M-138 Steam Sterilizer: In FY13 the sterilizer project had undergone a major shift in contract strategy. Funds will be used to allow a manufacturer to fully develop and achieve FDA approval by the end of FY15. At the end of the contract period, it is fully anticipated that the Army will have a new sterilizer available for fielding. Moved this project through the DOD Acquisition process to accommodate the modernization effort. Medical Equipment Sets Development: Continue development and testing to ensure the most current and cost effective devices are being utilized. Equipment is selected for modernization based on its own life cycle plan as part of a Sets, Kits and Outfits (SKO). Modernization also occurs when products are discontinued, new models are available and new technology introduced to meet the current standard of patient care. TBI Diagnostic Assay System Increment II Point of Care Device: The focus of this effort is to use the current Biomarker technology developed by Banyan and cross-level all known technologies to Abbott Diagnostics. Contracting efforts are in place to facilitate this path forward. Army currently uses the i-STAT in assemblages. The intent of this effort is to modernize the i-STAT platform to accommodate the new cartridges associated with the TBI Biomarkers. Noninvasive Neurodiagnostics TBI: Noninvasive Neurodiagnostic technologies for TBI is multi-focused program that transitions product from S&T and Commercial Off the Shelf (COTS) products. Efforts to collate all non-invasive technologies into one integrated IPT are currently in place. The 3 technologies currently involved are the Eye- Tracking System, the QEEG and Balance Platforms. Future components of the multi-focused approach fall under the scope of this line item. Anticipate full-up IPTs with funding allocations designated in FY15. Impedance Threshold Device for the Treatment of TBI: Current device has a 510(k) (Premarket Notification) clearance for multiple indications. The submission of a new 510(k) is planned to cover the expanded indications for the currently fielded device. Advanced Wound Dressing: Conducting comparative studies for the Advanced Wound Care COTS products (in-vivo animal or human studies).			
FY 2016 Plans: Oxygen Generator (15 LPM) System: In FY16 it is anticipated product will transition out of Adv. Development and be procured with Army procurement (OPA) funds. Replacement for the M-138 Steam Sterilizer: FDA clearance now expected by the end of Fy14 and MS-C scheduled for October 2014 to transition product to procurement. Medical Equipment Sets Development: Will continue development and testing to ensure the most current and cost effective devices are being utilized. Equipment is selected for modernization based on its own life cycle plan as part of a Sets, Kits and Outfits (SKO). Modernization also occurs if a product will be discontinued, new models will be available and new technology will be developed to meet the users need. TBI Diagnostic Assay System Increment II Point of Care Device: This product has transitioned from Army to DoD RDTE and will be developed with DoD funding. Noninvasive Neurodiagnostics TBI: The 3 technologies currently involved are the Eye-Tracking System, the QEEG and Balance Platforms. None of these system are anticipated to be ready at this time for transition			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604807A / *Medical Materiel/Medical Biological Defense Equipment - Eng Dev*	**Project (Number/Name)** 832 / *Field Medical Systems Engineering Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
to advanced development. Advanced Wound Dressing: Will continue conducting comparative studies for the Advanced Wound Care commercial products (in-vivo animal or human studies).			
Title: Field Medical Systems Engineering Development PM Pharmaceuticals ***Description:*** Funding is provided for engineering and manufacturing development of medical products managed by PM Pharmaceuticals for enhanced combat casualty care and follow-on care, including rehabilitation. ***FY 2014 Accomplishments:*** Cryopreserved Platelets: Completed Phase 2 safety and effectiveness clinical trial in cancer patients with platelet deficiency and continued development of Phase 3 clinical testing network and protocols, if Phase 3 Pivotal clinical trial is required by the U.S. Food and Drug Administration. Freeze-Dried Plasma Program: Continued development and validation of a sustainable current Good Manufacturing Practices manufacturing process in support of U.S. Food and Drug Administration licensure; and initiate Phase 2b expanded safety and effectiveness clinical studies. ***FY 2015 Plans:*** Cryopreserved Platelets: Cryopreserved Platelets schedule will be extended one year due to the FDA requiring an additional safety clinical study. Begin Phase 2 efficacy clinical trial in cancer patients with platelet deficiency and continue development of Phase 3 clinical testing and protocols for pivotal study. Freeze-Dried Plasma Program: Current Freeze Dried Plasma development effort terminated in FY13 with prime systems contractor due to bankruptcy. Schedule revised for new development effort begin in FY14 and continue Phase 2b safety clinical study. ***FY 2016 Plans:*** Cryopreserved Platelets: Will continue the Phase 2 Efficacy study in patients with complex cardiac bypass and/or thrombocytopenic patients with World Health Organization Grade 2 or higher bleeding. Will continue development of Phase 3 clinical testing and protocols for pivotal study. Freeze-Dried Plasma Program: Will continue the Phase 2 clinical trials. Will continue manufacturing development and validation of Freeze-Dried Plasma batches.	11.920	10.463	14.978
Title: Field Medical Systems Engineering Development PM Integrated Clinical Systems (ICS) ***Description:*** This project funds the engineering and manufacturing development of medical products managed by PM ICS for enhanced combat casualty care and follow-on care, including rehabilitation. ***FY 2015 Plans:*** Pre-Hospital Medical Informatics Transport: Combat Developers validate requirements for the Pre-Hospital Medical Informatics Transport system. ***FY 2016 Plans:***	-	1.357	4.923

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604807A / *Medical Materiel/Medical Biological Defense Equipment - Eng Dev*	**Project (Number/Name)** 832 / *Field Medical Systems Engineering Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Pre-Hospital Medical Informatics Transport: Combat Developers will begin the engineering and manufacturing development phase for the Pre-Hospital Medical Informatics Transport:.			
Title: Field Medical Systems Engineering Development PM Medical Support Systems	5.218	3.393	1.868
Description: This project funds the engineering and manufacturing development of medical products managed by PM Medical Support Systems for enhanced combat casualty care and follow-on care, including rehabilitation. ***FY 2014 Accomplishments:*** Modernization of medical equipment sets: As part of the medical equipment sets, continued to perform form, fit and function of field medical sink, and continued to evaluate commercial litters and cold chain storage devices. Airworthiness Testing: Continued to evaluate modernization efforts and conduct airworthiness testing for medical equipment sets Medical Evacuation and Treatment Vehicles Medical Equipment Set and Mission Essential Package with products covering preventive medicine, air and ground medical evacuation, and fresh water/waste water systems. Medical Evac and Treatment Vehicles Medical Equipment Set and Mission Essential Package: Completed operational testing of the ISO operating room shelter and finalized Force Provider soft-walled shelter for procurement. Continued collaboration with Program Executive Office Combat Support/Combat Support Service (PEO CS/CSS) and Program Executive Office Ground Combat Systems (PEO GCS) on development efforts for emerging medical vehicle evacuation/ casualty evacuation (CASEVAC) variants. Medical variants that will be collaborated on with PEO CS/CSS consisted of medical shelters, Mine Resistant Ambush Protected (MRAP), Armored Multipurpose Vehicle (AMPV), and Joint Light Tactical Vehicle (JLTV). Collaborated with PEO GCS on medical variants for the Heavy Brigade Combat Team (HBCT). Environmental Sentinel Biomonitor (ESB): Completed operational testing of the Environmental Sentinel Biomonitor (ESB) when it transitioned from project 836 and conducted a Milestone C (Engineering, Manufacturing and Development phase review). The ESB will assist preventative medicine personnel certify water capabilities by providing a presumptive screening capability that can rapidly identify toxicity in water. ***FY 2015 Plans:*** Modernization of medical equipment sets: As part of the medical equipment sets, complete form, fit and function of field medical sink, continue to evaluate commercial litters, cold chain storage devices and commercial items. Airworthiness Testing: Continue to evaluate modernization efforts and conduct airworthiness testing for medical equipment sets Medical Evacuation and Treatment Vehicles Medical Equipment Set and Mission Essential Package with products covering air and ground medical evacuation. Medical Evac and Treatment Vehicles Medical Equipment Set and Mission Essential Package: Continue collaboration with Program Executive Office Combat Support/Combat Service Support (PEO CS/&CSS) and Program Executive Office Ground Combat Systems (PEO GCS) on development efforts for emerging medical vehicle evacuation/casualty evacuation (CASEVAC) package. Environmental Sentinel Biomonitor (ESB): Complete operational testing of the Environmental Sentinel Biomonitor (ESB) and conduct a Milestone C (Engineering, Manufacturing and Development phase review). Milestone C start delayed in FY14. The ESB will assist preventative medicine personnel certify water capabilities by providing a presumptive screening			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604807A / *Medical Materiel/Medical Biological Defense Equipment - Eng Dev*	**Project (Number/Name)** 832 / *Field Medical Systems Engineering Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
capability that can rapidly identify toxicity in water. Waste Treatment System for the CSH: Develop Waste Treatment System (WTS) for the CSH. The WTS will render liquid and other fluid medical (biohazard) waste products sterile and otherwise inert to the environment in austere, deployed locations. Current methods do mitigate the risk of contamination, but only reduce the levels of agents left behind; they cannot assure total inactivation of all pathogens or the neutralization of chemical agents. Altitude Readiness Management System (ARMS): Complete validation/verification of the Altitude Readiness Management System (ARMS). The ARMS product is a handheld sensor and software decision device to plan, monitor, and manage unit altitude illness risk and task performance prediction. Transition from 836. Improved Vector Trap: Develop prototypes of the Improved Vector Trap for testing. The Improved Vector Trap is a device which allows for the attraction and subsequent collection of disease-carrying insects for disease risk assessment. Transition from 836. Portable Vector Identification Workstation: Begin development of field deployable Vector Identification Workstation to provide situational awareness necessary to prevent/mitigate vector borne threats and associated environmental hazards. ***FY 2016 Plans:*** Modernization of medical equipment sets: As part of the medical equipment sets, will complete evaluations of commercial litters, cold chain storage devices and commercial items. Airworthiness Testing: Will continue to evaluate modernization efforts and conduct airworthiness testing for medical equipment sets Medical Evacuation and Treatment Vehicles Medical Equipment Set and Mission Essential Package with products covering air and ground medical evacuation. Per Army Regulation 70-62, Airworthiness Qualification of Aircraft Systems, all "carry-on" equipment, to include medical devices, must have an Airworthiness release. Medical Evac and Treatment Vehicles Medical Equipment Set and Mission Essential Package: Will continue collaboration with Program Executive Office (PEO) Combat Support/Combat Service Support (PEO CS&CSS) and PEO Ground Combat Systems (PEO GCS) on development efforts for AMPV evacuation and treatment platforms. Environmental Sentinel Biomonitor (ESB): Will finish Advanced Development of Environmental Sentinel Biomonitor with a MS C planned for early FY16 and will transition product to procurement. Waste Treatment System for the CSH: Will transition from Small Business Innovation Research in FY16 due to delays in development/ prototype evaluation. Will start development of Waste Treatment System (WTS) for the Combat Support Hospital. Altitude Readiness Management System (ARMS): Will transition the ARMS product to PEO Soldier and closeout the Advance Development effort. Improved Vector Trap: Will continue prototype development of Vector Traps for user evaluation. Portable Vector Identification Workstation: Will complete user evaluation of the field deployable vector identification workstation and add to Entomology Set.			
Accomplishments/Planned Programs Subtotals	18.081	18.197	25.029

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604807A / *Medical Materiel/Medical Biological Defense Equipment - Eng Dev*	**Project (Number/Name)** 832 / *Field Medical Systems Engineering Development*

D. Acquisition Strategy

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

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604807A / *Medical Materiel/Medical Biological Defense Equipment - Eng Dev*	Project (Number/Name) 832 / *Field Medical Systems Engineering Development*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Medical Product Development Management Services Cost	Various	Various : Various	25.055	2.664		2.610		1.867		-		1.867	Continuing	Continuing	Continuing
		Subtotal	25.055	2.664		2.610		1.867		-		1.867	-	-	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Freeze-dried Human Plasma	Various	HemCon Medical Technologies, Inc, : Tigard OR	27.274	5.476		-		0.033		-		0.033	Continuing	Continuing	Continuing
Hypertonic Saline Dextran	Various	National Institutes of Health, National Heart, Lung and Blood Institute (NHLBI) : Various	15.100	-		-		-		-		-	Continuing	Continuing	Continuing
Medical Product Development Cost	Various	Various : Various	3.510	0.608		1.124		1.548		-		1.548	Continuing	Continuing	Continuing
Extended Life Red Blood Cell Product	Various	Hemerus Medical, LLC, : Various	3.140	-		-		-		-		-	Continuing	Continuing	Continuing
Cryopreserved Platelets	Various	Clinical Research Management, Inc : Hinckley, OH	0.000	1.200		1.911		0.359		-		0.359	-	3.470	-
Cryopreserved Platelets	Various	Multiple DoD activities and Dartmouth Hitchcock Med Ctr : North Potomac, MD	14.362	-		-		-		-		-	Continuing	Continuing	Continuing
Cryopreserved Platelets	Various	TBD : TBD	0.000	1.450		-		0.500		-		0.500	-	1.950	-
Intracellular Hemorrhage Treatment	TBD	TBD : TBD	0.000	-		-		0.750		-		0.750	-	0.750	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604807A / *Medical Materiel/Medical Biological Defense Equipment - Eng Dev*	Project (Number/Name) 832 / *Field Medical Systems Engineering Development*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TBI Diagnostic Assay System - Increment II (benchtop/POC/ Bandits)	Various	Banyan BioMarkers, Inc : Alachua, FL	0.000	0.373		-		-		-		-	-	0.373	-
Noninvasive Neurodiagnostics	TBD	TBD : TBD	0.000	-		2.647		-		-		-	-	2.647	-
Impedance Threshold Device for the Treatment of Traumatic Brain Injury	TBD	Advance Circulatory Systems Inc. : Roseville, MN	0.000	-		0.335		4.747		-		4.747	-	5.082	-
Pre-Hospital Medical Informatics Transport (Ground Transport Telemedicine)	TBD	TBD : TBD	0.000	-		0.950		1.586		-		1.586	-	2.536	-
		Subtotal	63.386	9.107		6.967		9.523		-		9.523	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Regulatory Support	Various	Clinical Research Management,Inc,. : Various	5.557	-		0.659		0.307		-		0.307	Continuing	Continuing	Continuing
Medical Product Development Support Cost	Various	Various : Various	5.854	2.807		-		1.548		-		1.548	Continuing	Continuing	Continuing
Medical Equipment Sets Development	Various	Various : Various	0.000	0.455		2.342		-		-		-	-	2.797	-
		Subtotal	11.411	3.262		3.001		1.855		-		1.855	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604807A / *Medical Materiel/Medical Biological Defense Equipment - Eng Dev*	Project (Number/Name) 832 / *Field Medical Systems Engineering Development*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Medical Product Development T&E Cost	Various	Various : Various	12.624	1.784		-		1.615		-		1.615	Continuing	Continuing	Continuing
Cryopreserved Platelets	TBD	TBD : TBD	0.000	1.150		1.743		6.101		-		6.101	-	8.994	-
Medical Equipment Sets Development	Various	Various : Various	0.000	0.114		1.092		-		-		-	-	1.206	-
Freeze Dried Plasma	C/CPFF	TBD : TBD	0.000	-		2.784		4.068		-		4.068	-	6.852	-
		Subtotal	12.624	3.048		5.619		11.784		-		11.784	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	112.476	18.081		18.197		25.029		-		25.029	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604807A / *Medical Materiel/Medical Biological Defense Equipment - Eng Dev*	**Project (Number/Name)** 832 / *Field Medical Systems Engineering Development*

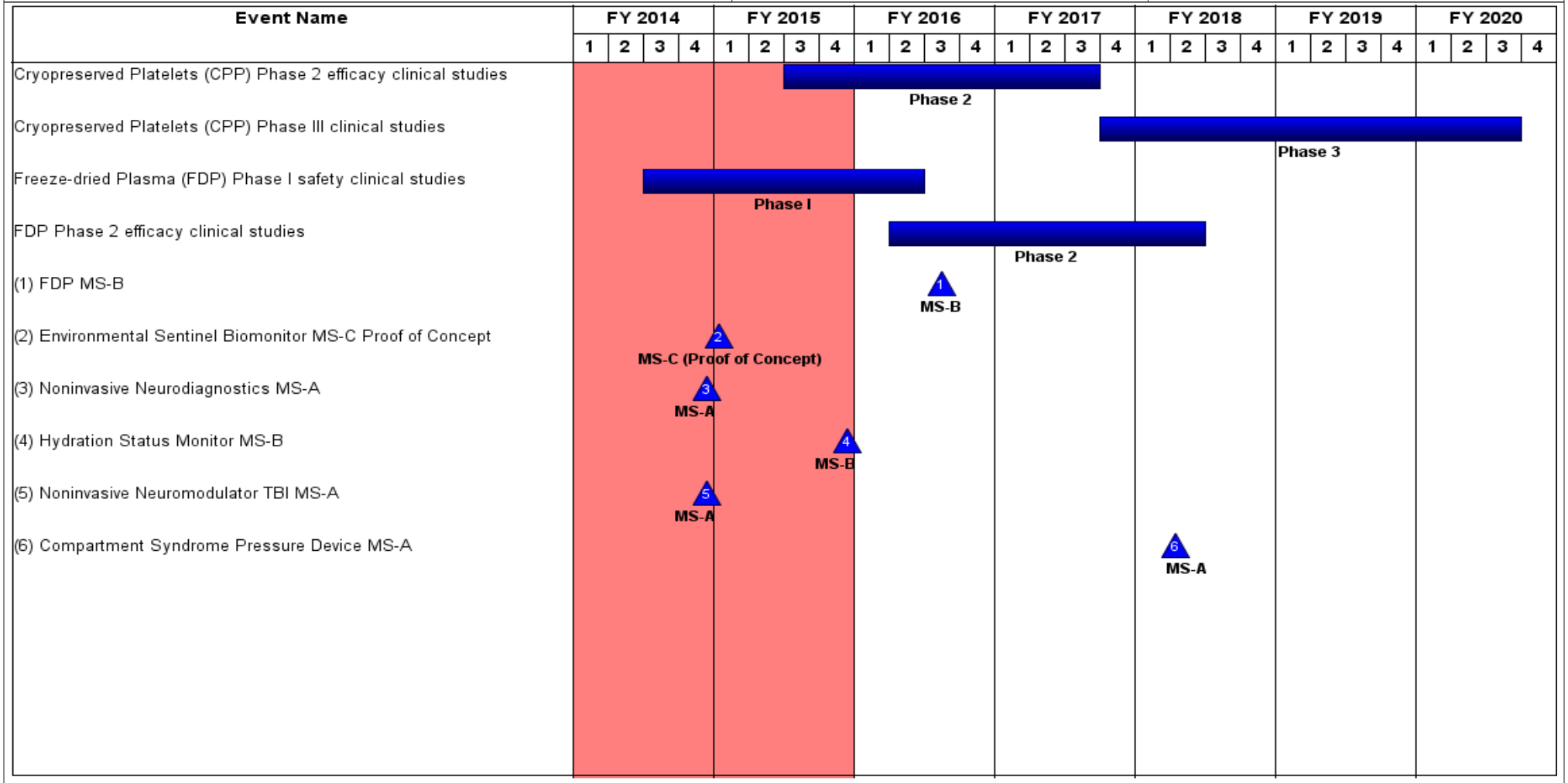


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604807A / *Medical Materiel/Medical Biological Defense Equipment - Eng Dev*	**Project (Number/Name)** 832 / *Field Medical Systems Engineering Development*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Cryopreserved Platelets (CPP) Phase 2 efficacy clinical studies	3	2015	3	2017
Cryopreserved Platelets (CPP) Phase III clinical studies	4	2017	3	2020
Freeze-dried Plasma (FDP) Phase I safety clinical studies	3	2014	2	2016
FDP Phase 2 efficacy clinical studies	2	2016	2	2018
FDP MS-B	3	2016	3	2016
Environmental Sentinel Biomonitor MS-C Proof of Concept	1	2015	1	2015
Noninvasive Neurodiagnostics MS-A	4	2014	4	2014
Hydration Status Monitor MS-B	4	2015	4	2015
Noninvasive Neuromodulator TBI MS-A	4	2014	4	2014
Compartment Syndrome Pressure Device MS-A	2	2018	2	2018

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604807A / *Medical Materiel/Medical Biological Defense Equipment - Eng Dev*	Project (Number/Name) 849 / *Infec Dis Drug/Vacc Ed*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
849: *Infec Dis Drug/Vacc Ed*	-	12.039	10.688	14.953	-	14.953	13.281	13.349	14.982	16.588	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

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

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Infectious Disease Drug and Vaccine Engineering Development	12.039	10.688	14.953
Description: Funding for research and development efforts for Drugs and Vaccines. ***FY 2014 Accomplishments:*** Dengue Tetravalent Vaccine (DTV): Continued patient follow up and serology (study of blood serum) and immunology (study of body's immune system) testing to determine persistence of protection for phase 3 (safety and effectiveness Clinical trials on >300 subjects) endemic region studies, continued performance of military-specific needs US adult clinical studies, and continued studies to determine if the vaccine will protect against the disease. Next Generation Malaria Prophylaxis: Continued Pivotal clinical trials and began efforts to determine if licensing in Australia is feasible. Topical Antileishmanial Cream (TLC, Paromomycin/Gentamicin): Completed New World Phase 3 (safety and effectiveness clinical trials > 300 subjects) clinical trial and Treatment Protocol for Phase 3 site(s), and completed Pivotal clinical trials in Tunisia and the U.S. Dengue Joint Biological Agent identification and Diagnostic System (JBAIDS): An updated Analysis of Alternatives (AoA) and requirements analysis helped to determine that the Dengue JBAIDS capability does not meet user needs; therefore, the project has been terminated. Leishmania Rapid Diagnostic Device (LRDD): Conducted milestone C (Engineering, Manufacturing and Development phase			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604807A / *Medical Materiel/Medical Biological Defense Equipment - Eng Dev*	**Project (Number/Name)** 849 / *Infec Dis Drug/Vacc Ed*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016

review) review, obtained FDA approval, and began fielding. The Leishmania Skin Test (LST) project: The response from the FDA indicated they would only support limited clinical utility and required additional product characterization and additional clinical trial requirements helped to determine that the LST capability does not meet user needs; therefore, the project has been terminated. Antimalarial Drug, Artesunate Intravenous: Planned to obtain FDA approval and begin fielding to prevent deaths from severe or complicated Malaria. Phase 3 (Safety and Effectiveness Clinical trials on 250 to 3000 subjects). Preventive Medicine advanced detection devices: For the control/mitigation of arthropod (insect) borne diseases, began field testing and evaluation. Preventive Medicine advanced pesticides: Began field testing and evaluation. Preventive Medicine spatial repellents: Began field testing and evaluation. Preventive Medicine arthropod collection devices: Began field testing and evaluation. Preventive Medicine arthropod collection devices: Began field testing and evaluation. Infectious Disease Diagnostic products: Began field testing and evaluation of several product candidates to include: Scrub Typhus, Rickettsiae, and Sand Fly Fever.

FY 2015 Plans:

Dengue Tetravalent Vaccine (DTV): Continue patient follow up and complete Phase 3 pivotal clinical trials and adult/military-specific indication studies. Continue and complete follow up of Phase 2 military-specific / immunological evaluation study in Syracuse, NY. Development of Biologic License Application (BLA) for US Licensure, development of Final reports, continue trial-related activities and data analysis. Validate Commercial Partner production of batches at their dedicated manufacturing facility. Next Generation Malaria Prophylaxis: Complete New Drug Application (NDA) preparatory work for a supplemental NDA filing with commercial partner Glaxo-Smith Kline after halting activities associated with a phase 3 studies that is no longer needed. Topical Antileishmanial Cream (TLC, Paromomycin/Gentamicin): Transition from project 808 in FY14. Complete Phase 3 New World clinical trial in FY15 based on additional guidance and requirements from the FDA. Conduct MS-C decision review and submit New Drug Application to the FDA. Leishmania Rapid Diagnostic Device (LRDD): Complete fielding/delivery of Leishmania Rapid Diagnostic Device. Antimalarial Drug, Artesunate Intravenous: Conduct MS-C decision review and submit New Drug Application to the FDA sent in FY14. Plan to obtain FDA approval in FY15 and begin fielding/delivery of Antimalarial Drug, Artesunate Intravenous. Preventive Medicine advanced detection devices: For the control/mitigation of arthropod (insect) borne diseases, begin field testing and evaluation. Preventive Medicine advanced pesticides: Begin field testing and evaluation. Preventive Medicine spatial repellents: Begin field testing and evaluation. Preventive Medicine arthropod collection devices: Begin field testing and evaluation. Preventive Medicine arthropod collection devices: Begin field testing and evaluation. Infectious Disease Diagnostic products: Begin field testing and evaluation of several product candidates to include: Scrub Typhus, Rickettsiae, and Sand Fly Fever.

FY 2016 Plans:

Dengue Tetravalent Vaccine (DTV): Will complete Phase 3 pivotal clinical trials and adult/military-specific indication studies. Will submit the master file (product documentation) for endemic countries to the FDA. Will complete Milestone C package. Development of Biologic License Application (BLA) for US Licensure, development of Final reports will near completion for BLA submission in FY17 to the FDA. Commercial Partner will produce validation lots at their dedicated manufacturing facility.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604807A / *Medical Materiel/Medical Biological Defense Equipment - Eng Dev*	**Project (Number/Name)** 849 / *Infec Dis Drug/Vacc Ed*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Next Generation Malaria Prophylaxis: Will continue to complete New Drug Application preparatory work for filing with the FDA. The IPT will initiate a retinal safety study in 2016 and prepare the protocols for required soldier specific studies that need to be completed. Topical Antileishmanial Cream (TLC, Paromomycin/Gentamicin): The New Drug Application submission package will be completed and submitted to the FDA for approval. The manufacturing process will be validated in preparation for commercial production of the cream. The expanded access and treatment protocols will continue through FY 16. Antimalarial Drug, Artesunate Intravenous: Will continue to support FDA inquiries during the review process of the New Drug Application. Will be working with the commercial partner to support marketing and distribution plans for the drug. Preventive Medicine advanced detection devices: These products fall into the category military operational requirements and are Commercial-Off-The-Shelf (COTS). As such, they have moved to a more appropriate Program Element (PE 836 or 832) and will be listed as separate products when they are considered for military use. Preventive Medicine advanced pesticides: These products fall into the category military operational requirements and are Commercial-Off-The-Shelf (COTS). As such, they have moved to a more appropriate Program Element (PE 836 or 832) and will be listed as separate products when they are considered for military use. Preventive Medicine spatial repellents: These products fall into the category military operational requirements and are Commercial-Off-The-Shelf (COTS). As such, they have moved to a more appropriate Program Element (PE 836 or 832) and will be listed as separate products when they are considered for military use. Preventive Medicine arthropod collection devices: These products fall into the category military operational requirements and are Commercial-Off-The-Shelf (COTS). As such, they have moved to a more appropriate Program Element (PE 836 or 832) and will be listed as separate products when they are considered for military use. Preventive Medicine arthropod collection devices: These products fall into the category military operational requirements and are Commercial-Off-The-Shelf (COTS). As such, they have moved to a more appropriate Program Element (PE 836 or 832) and will be listed as separate products when they are considered for military use. Infectious Disease Diagnostic products: Delays in the previous year's transition for infectious disease diagnostic products from S&T are due to product maturity. Will begin field testing and evaluation of several product candidates to include: Scrub Typhus, Rickettsiae, and Sand Fly Fever. Dengue Vaccine Block II: Will begin preparation for human challenge efforts to show vaccine efficacy and animal studies to determine correlates of immunity in preparation for Phase III clinical trials. Arthropod Control/Surveillance: Will begin field testing and evaluation of a Dengue Rapid Diagnostic.			
Accomplishments/Planned Programs Subtotals	12.039	10.688	14.953

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604807A / *Medical Materiel/Medical Biological Defense Equipment - Eng Dev*	**Project (Number/Name)** 849 / *Infec Dis Drug/Vacc Ed*

D. Acquisition Strategy

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

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604807A / *Medical Materiel/Medical Biological Defense Equipment - Eng Dev*	Project (Number/Name) 849 / *Infec Dis Drug/Vacc Ed*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Medical Product Development Management Services Cost	Various	Various : Various	16.661	2.220		0.265		0.712		-		0.712	Continuing	Continuing	Continuing
Medical Product Development Management Services Cost	C/CPFF	General Dynamics Information Technology : Frederick MD	0.000	-		1.012		2.263		-		2.263	-	3.275	-
		Subtotal	16.661	2.220		1.277		2.975		-		2.975	-	-	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Medical Product Development Cost	Various	Various : Various	28.215	4.629		1.326		2.007		-		2.007	Continuing	Continuing	Continuing
Topical Antileishmanial Drug	TBD	TBD : TBD	2.400	-		-		-		-		-	-	2.400	-
Topical Antileishmanial Drug	C/CPFF	Advantar Laboratories, INC : TBD	0.000	-		1.355		0.662		-		0.662	-	2.017	-
Dengue Tetravalent Vaccine	TBD	TBD : TBD	0.000	-		1.525		0.648		-		0.648	-	2.173	-
Hemorrhagic Fever W/ Renal Syndrome	C/TBD	TBD : TBD	0.000	-		-		1.000		-		1.000	-	1.000	-
		Subtotal	30.615	4.629		4.206		4.317		-		4.317	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Medical Product Development Support Cost	Various	Various : Various	14.563	2.624		0.690		1.503		-		1.503	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604807A / *Medical Materiel/Medical Biological Defense Equipment - Eng Dev*	Project (Number/Name) 849 / *Infec Dis Drug/Vacc Ed*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Medical Product Development Support Cos	PO	Clinical Research Management, In : Hinckley, OH	0.000	-		3.168		0.287		-		0.287	-	3.455	-
		Subtotal	14.563	2.624		3.858		1.790		-		1.790	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Medical Product Development T&E Cost	Various	Various : Various	36.467	1.182		1.347		2.725		-		2.725	Continuing	Continuing	Continuing
Product Development of Dengue Tetravalent Vaccine	Various	TBD : TBD	0.000	1.384		-		3.146		-		3.146	-	4.530	-
		Subtotal	36.467	2.566		1.347		5.871		-		5.871	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	98.306	12.039		10.688		14.953		-		14.953	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604807A / *Medical Materiel/Medical Biological Defense Equipment - Eng Dev*	**Project (Number/Name)** 849 / *Infec Dis Drug/Vacc Ed*

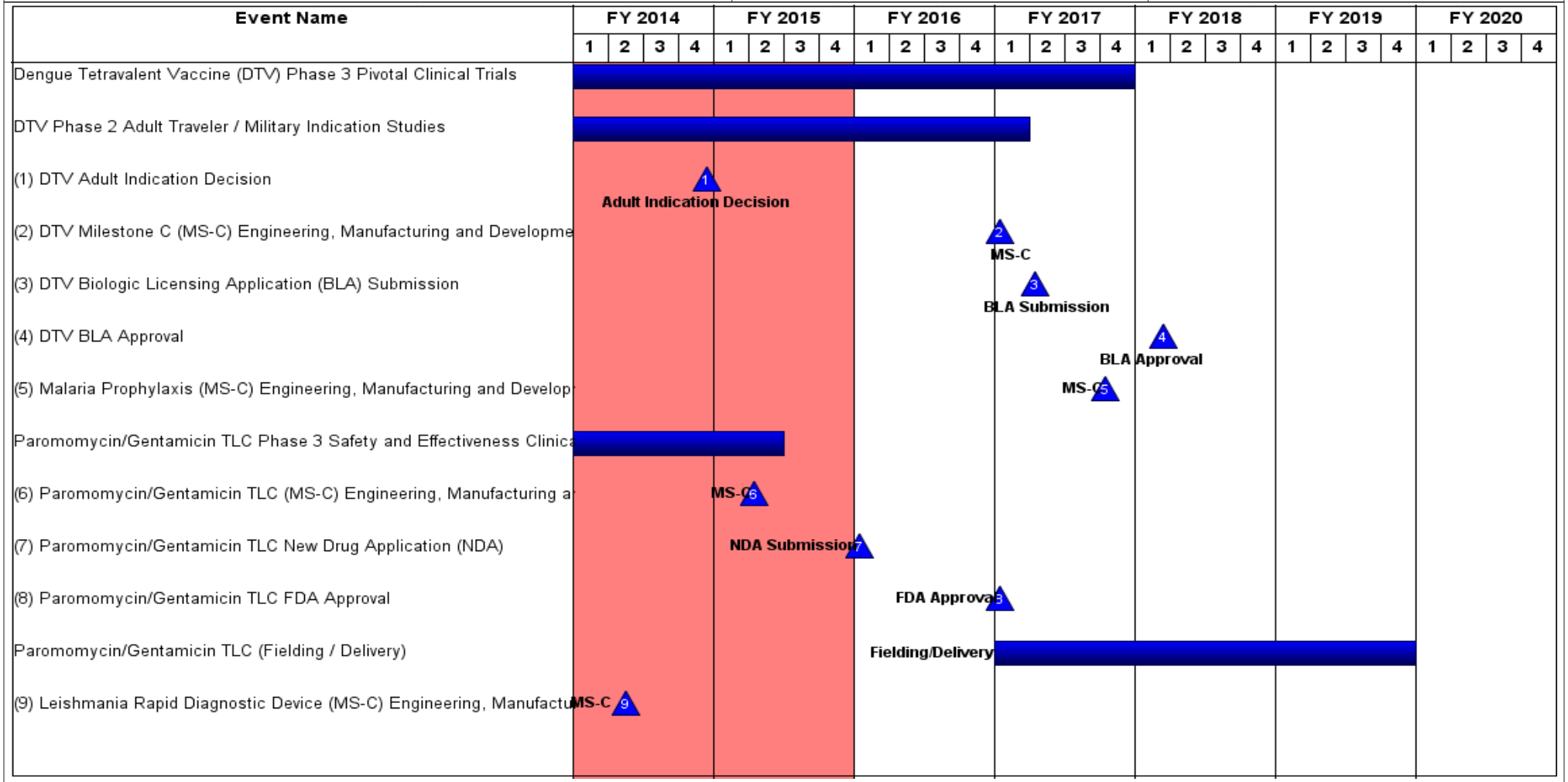


Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604807A / *Medical Materiel/Medical Biological Defense Equipment - Eng Dev*	**Project (Number/Name)** 849 / *Infec Dis Drug/Vacc Ed*

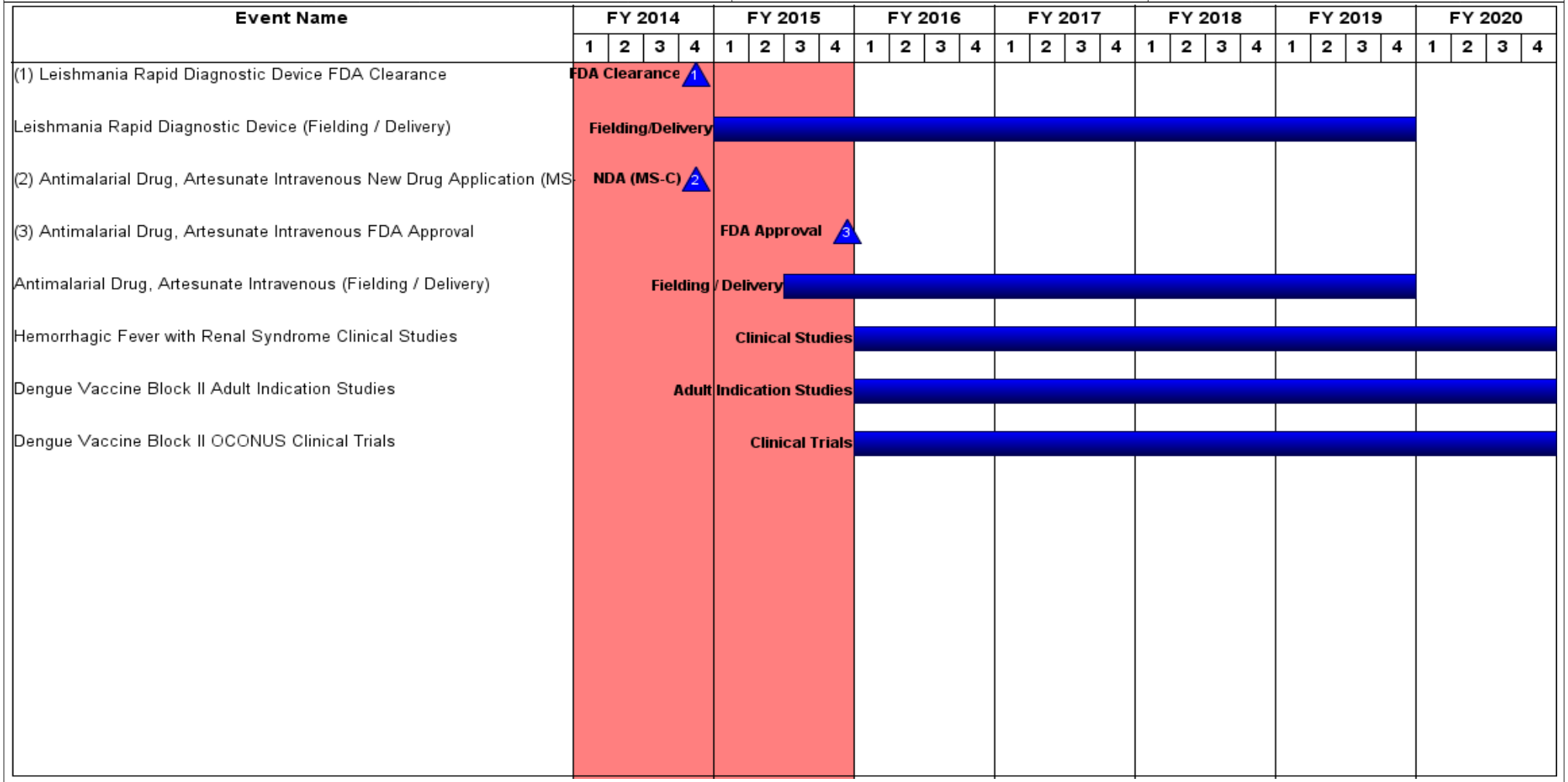


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604807A / *Medical Materiel/Medical Biological Defense Equipment - Eng Dev*	**Project (Number/Name)** 849 / *Infec Dis Drug/Vacc Ed*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Dengue Tetravalent Vaccine (DTV) Phase 3 Pivotal Clinical Trials	1	2011	4	2017
DTV Phase 2 Adult Traveler / Military Indication Studies	2	2012	1	2017
DTV Adult Indication Decision	4	2014	4	2014
DTV Milestone C (MS-C) Engineering, Manufacturing and Development phase review	1	2017	1	2017
DTV Biologic Licensing Application (BLA) Submission	2	2017	2	2017
DTV BLA Approval	1	2018	2	2018
Malaria Prophylaxis (MS-C) Engineering, Manufacturing and Development phase	4	2017	4	2017
Paromomycin/Gentamicin TLC Phase 3 Safety and Effectiveness Clinical Trial	3	2011	2	2015
Paromomycin/Gentamicin TLC (MS-C) Engineering, Manufacturing and Development	2	2015	2	2015
Paromomycin/Gentamicin TLC New Drug Application (NDA)	1	2016	1	2016
Paromomycin/Gentamicin TLC FDA Approval	1	2017	1	2017
Paromomycin/Gentamicin TLC (Fielding / Delivery)	1	2017	4	2019
Leishmania Rapid Diagnostic Device (MS-C) Engineering, Manufacturing and Develop	2	2014	2	2014
Leishmania Rapid Diagnostic Device FDA Clearance	4	2014	4	2014
Leishmania Rapid Diagnostic Device (Fielding / Delivery)	1	2015	4	2019
Antimalarial Drug, Artesunate Intravenous New Drug Application (MS-C)	4	2014	4	2014
Antimalarial Drug, Artesunate Intravenous FDA Approval	4	2015	4	2015
Antimalarial Drug, Artesunate Intravenous (Fielding / Delivery)	3	2015	4	2019
Hemorrhagic Fever with Renal Syndrome Clinical Studies	1	2016	4	2020
Dengue Vaccine Block II Adult Indication Studies	1	2016	4	2020
Dengue Vaccine Block II OCONUS Clinical Trials	1	2016	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604807A / *Medical Materiel/Medical Biological Defense Equipment - Eng Dev*	Project (Number/Name) VS8 / *MEDEVAC Mission Equipment Package (MEP) - End Dev*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
VS8: *MEDEVAC Mission Equipment Package (MEP) - End Dev*	-	-	-	0.399	-	0.399	0.114	0.114	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Interim MEDEVAC Mission Support System (IMMSS) is not a new start. Funding for this project started in FY 2013.

A. Mission Description and Budget Item Justification

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

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Interim MEDEVAC Mission Support System (IMMSS)	-	-	0.399
Description: Interim MEDEVAC Mission Support System (IMMSS) - Patient Handling System for safely handling patient through a system of seats, patient litters etc. ***FY 2016 Plans:*** Any modifications to the IMMSS that are made based on new paramedic skills will require validation and verification. Will develop plans for required validation and verification to address the new paramedic skills.			
Accomplishments/Planned Programs Subtotals	-	-	0.399

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

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

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604807A / *Medical Materiel/Medical Biological Defense Equipment - Eng Dev*	**Project (Number/Name)** VS8 / *MEDEVAC Mission Equipment Package (MEP) - End Dev*

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604807A / *Medical Materiel/Medical Biological Defense Equipment - Eng Dev*	Project (Number/Name) VS8 / *MEDEVAC Mission Equipment Package (MEP) - End Dev*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MEDEVAC Mission Sensor Forward Looking Infrared	TBD	Redstone Arsenal, : AL	1.721	-		-		0.399		-		0.399	-	2.120	-
		Subtotal	1.721	-		-		0.399		-		0.399	-	2.120	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Medical Product Development Support Cost	SS/UCA	Redstone Arsenal : AL	0.621	-		-		-		-		-	-	0.621	-
		Subtotal	0.621	-		-		-		-		-	-	0.621	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	2.342	-		-		0.399		-		0.399	-	2.741	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604807A / *Medical Materiel/Medical Biological Defense Equipment - Eng Dev*	**Project (Number/Name)** VS8 / *MEDEVAC Mission Equipment Package (MEP) - End Dev*

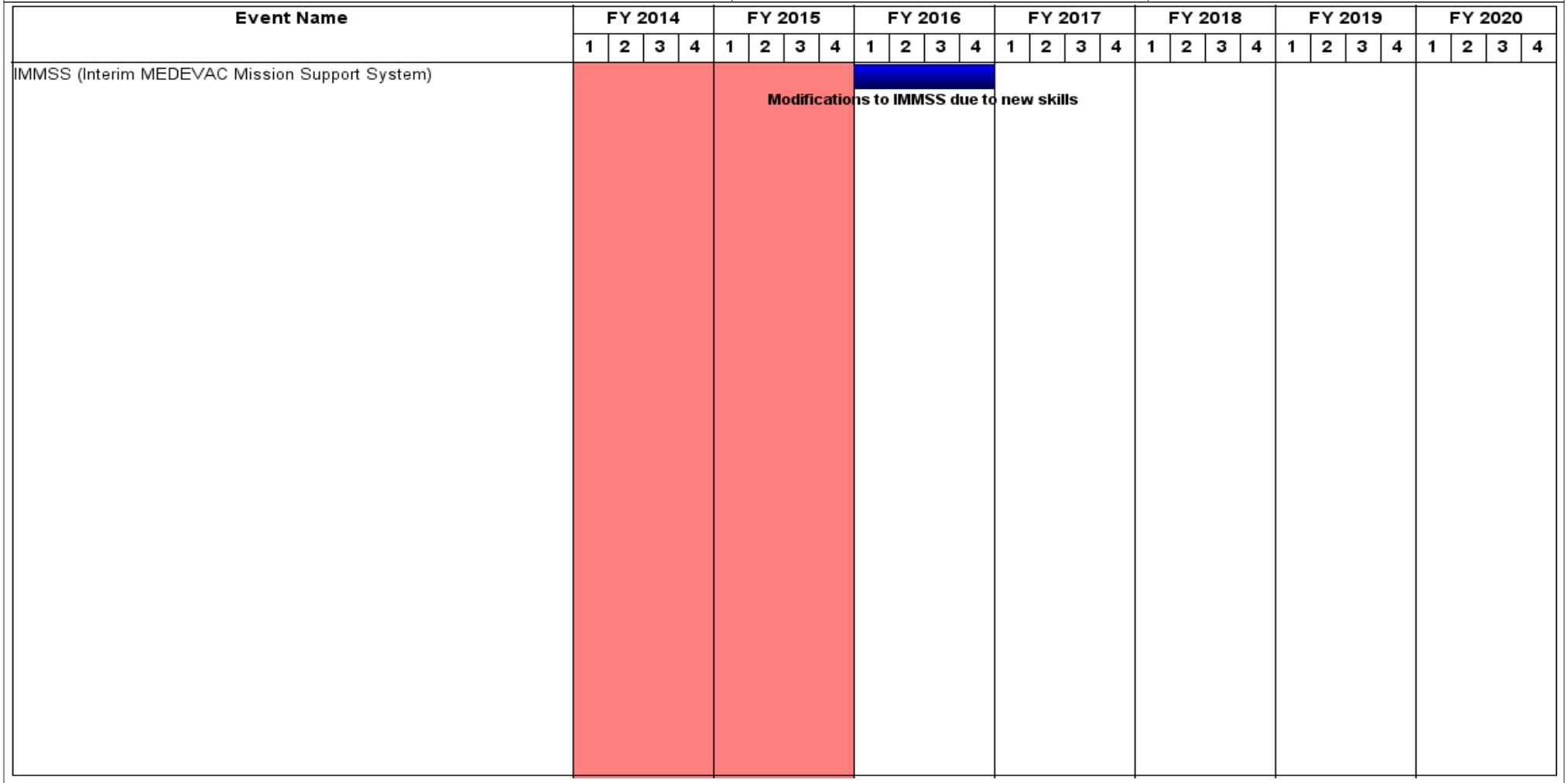


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604807A / *Medical Materiel/Medical Biological Defense Equipment - Eng Dev*	**Project (Number/Name)** VS8 / *MEDEVAC Mission Equipment Package (MEP) - End Dev*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
IMMSS (Interim MEDEVAC Mission Support System)	1	2016	4	2016

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604808A / *Landmine Warfare/Barrier - Eng Dev*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	-	87.895	57.674	55.215	-	55.215	45.750	16.214	3.958	4.991	Continuing	Continuing
016: *Close Combat Capabilities ENG DEV*	-	-	-	1.629	-	1.629	3.500	-	-	-	-	5.129
415: *Mine Neutral/Detection*	-	65.647	47.003	49.296	-	49.296	42.250	16.214	3.958	4.991	Continuing	Continuing
434: *Anti-Personnel Landmine Alternatives (NSD)*	-	22.248	10.671	4.290	-	4.290	-	-	-	-	-	37.209

Note

FY 2014: Budget supports Project 415, Mine Neutral/Detection and Project 434, Anti-Personnel Landmine Alternatives (NSD). Budget reprogramming of $1.800 million and $X.XXX million for SBIR/STTR reductions.

FY 2015: Budget supports Project 415, Mine Neutral/Detection and Project 434, Anti-Personnel Landmine Alternatives (NSD).

FY 2016: Budget supports Project 016 Close Combat Capabilities, Project 415, Mine Neutral/Detection and Project 434, Anti-Personnel Landmine Alternatives (NSD).

The FY 2016 funding request was reduced for $13.782 million to account for the availability of prior year execution balances.

A. Mission Description and Budget Item Justification

This program element (PE) provides for the engineering and manufacturing development (EMD) and demonstation of networked munitions, countermine systems, and counter improvised explosive device capabilities. This PE also implements the National Landmine Policy to develop alternatives to the non-self-destructing counter mobility anti-personnel landmine systems. The PE contributes to area access and area denial (A2/AD) to support unified land operations and improve soldier survivability.

Project 016, Close Combat Capabilities provides for developing improvements to legacy dismounted lane breaching, specifically the Anti-Personnel Obstacle Breaching System (APOBS), and in so doing, provides a pathway to the next generation of dismounted lane breaching systems such as the Rapid Assault Lane Line Charge (RALLC) and the Dismounted Explosive Breaching System (DEBS). The efforts will address capability gaps identified during combat operations and will focus on weight reduction, improved scalability, collateral damage reduction, metallic content elimination, deployment accuracy improvement, and increased effectiveness against the current threat.

Project 415, Mine Neutralization/Detection provides for development of next generation standoff, detection, and neutralization capability programs such as Husky Mounted Detection System (HMDS), Route Clearance & Interrogation System (RCIS), Vehicle Optics Sensor System (VOSS), Autonomous Mine Detection System

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army	Date: February 2015
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604808A *I Landmine Warfare/Barrier - Eng Dev*

(AMDS), Route Clearance Vehicles (RCV) and Enablers, Multi-Function Video Display (MVD) and Add on Armor (AoA) kits. It also supports development of Explosive Hazard Pre-Detonation (EHP) capability to neutralize/detonate a broad spectrum of improvised explosive hazards while on the move to support area access route clearance missions.

Project 434, Spider Increment 1A will build upon the existing M7 Spider system. The M7 Spider system is a hand-emplaced, remotely controlled (Man-In-The-Loop) system that provides highly responsive terrain-shaping and protection capabilities. M7 Spider replaces persistent anti-personnel landmines, is compliant with US National Landmine policy, and has been fielded to US forces in support of Operation Enduring Freedom and currently being fielded to Engineers and Brigade Combat Teams in the Active and Army National Guard components. Additional capabilities will be developed to enhance the Spider Remote Control Station and demonstrate the ability to employ legacy Government-Off-The-Shelf (GOTS) lethal and non-lethal anti-personnel (AP) munitions and counter mobility obstacles. Spider Increment 1A will utilize an open system architecture to facilitate future munition integration. Further, Spider Increment 1A will complete the development of the Non-Lethal Launcher (NLL) XM809 and XM810.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	92.236	57.705	52.477	-	52.477
Current President's Budget	87.895	57.674	55.215	-	55.215
Total Adjustments	-4.341	-0.031	2.738	-	2.738
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-1.800	-			
• SBIR/STTR Transfer	-1.962	-0.031			
• Adjustments to Budget Years	-	-	2.738	-	2.738
• Other Adjustments 1	-0.579	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604808A / *Landmine Warfare/Barrier - Eng Dev*	Project (Number/Name) 016 / *Close Combat Capabilities ENG DEV*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
016: *Close Combat Capabilities ENG DEV*	-	-	-	1.629	-	1.629	3.500	-	-	-	-	5.129
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Close Combat Capabilities Engineering Development project develops improvements to legacy dismounted lane breaching, specifically the Anti-Personnel Obstacle Breaching System (APOBS), and in so doing, provides a pathway to the next generation of dismounted lane breaching systems such as the Rapid Assault Lane Line Charge (RALLC) and the Dismounted Explosive Breaching System (DEBS). These efforts will address capability gaps identified during combat operations and will focus on weight reduction, improved scalability, collateral damage reduction, metallic content elimination, deployment accuracy improvement, and increased effectiveness against the current threat.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Dismounted Lane Breaching System ***Description:*** Develops materiel solutions that address operational issues with APOBS related to its weight, lack of scalability, collateral damage, residual metallic debris, deployment accuracy, and effectiveness. ***FY 2016 Base Plans:*** Perform trade studies/cost-benefit analyses to prioritize user identified capability gaps and the material solutions that address them; Prepare Preliminary Design; Prepare contract Statement of Work (SOW); Draft Test Plans.	-	-	1.629	-	1.629
Accomplishments/Planned Programs Subtotals	-	-	1.629	-	1.629

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604808A / *Landmine Warfare/Barrier - Eng Dev*	Project (Number/Name) 016 / *Close Combat Capabilities ENG DEV*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Dismounted Lane Breaching System - Program Management	MIPR	PM CCS : Picatinny Arsenal, NJ	0.000	-		-		0.100		-		0.100	Continuing	Continuing	Continuing
		Subtotal	0.000	-		-		0.100		-		0.100	-	-	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Dismounted Lane Breaching System - Preliminary Design Efforts	MIPR	ARDEC, : Picatinny Arsenal, NJ	0.000	-		-		1.100		-		1.100	Continuing	Continuing	Continuing
		Subtotal	0.000	-		-		1.100		-		1.100	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Dismounted Lane Breaching System - Trade Studies, SOW and Test Plan Prep	MIPR	ARDEC : Picatinny Arsenal, NJ	0.000	-		-		0.429		-		0.429	Continuing	Continuing	Continuing
		Subtotal	0.000	-		-		0.429		-		0.429	-	-	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	-		-		1.629		-		1.629	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604808A / *Landmine Warfare/Barrier - Eng Dev*	**Project (Number/Name)** 016 / *Close Combat Capabilities ENG DEV*

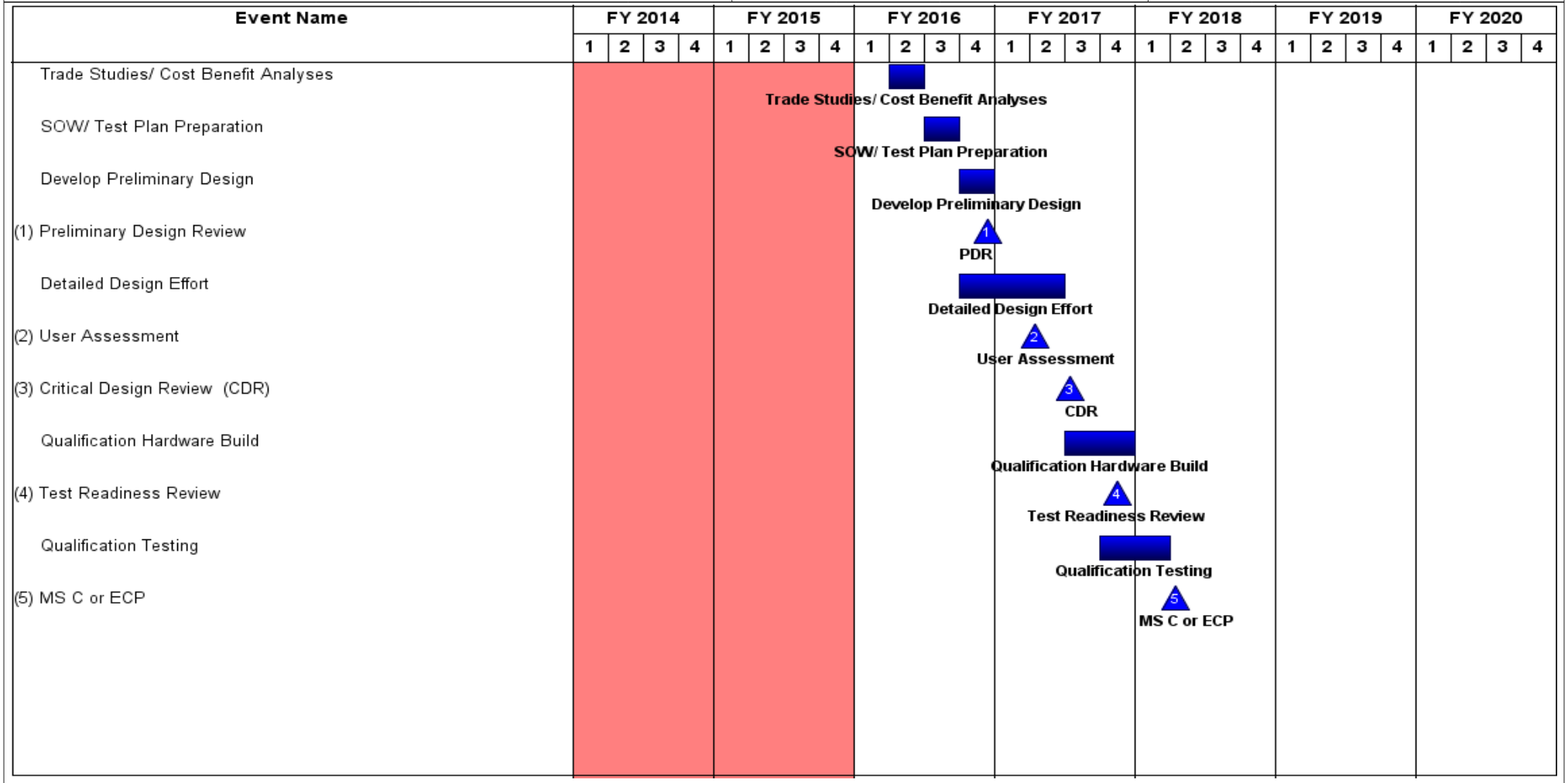


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604808A / *Landmine Warfare/Barrier - Eng Dev*	**Project (Number/Name)** 016 / *Close Combat Capabilities ENG DEV*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Trade Studies/ Cost Benefit Analyses	2	2016	2	2016
SOW/ Test Plan Preparation	3	2016	3	2016
Develop Preliminary Design	4	2016	4	2016
Preliminary Design Review	4	2016	4	2016
Detailed Design Effort	4	2016	2	2017
User Assessment	2	2017	2	2017
Critical Design Review (CDR)	3	2017	3	2017
Qualification Hardware Build	3	2017	4	2017
Test Readiness Review	4	2017	4	2017
Qualification Testing	4	2017	1	2018
MS C or ECP	2	2018	2	2018

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604808A / *Landmine Warfare/Barrier - Eng Dev*	Project (Number/Name) 415 / *Mine Neutral/Detection*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
415: *Mine Neutral/Detection*	-	65.647	47.003	49.296	-	49.296	42.250	16.214	3.958	4.991	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

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

The Husky Mounted Detection System (HMDS) is a counter-explosive device capability that provides standoff detection and marking of metallic and low-metallic surface-laid and shallow-buried antitank landmines, unexploded ordnance, trigger mechanisms, and deep buried metallic Improvised Explosive Devices (IEDs) and metallic encased caches in support of route and area-clearance operations. It provides area access and freedom of movement for the Commander. HMDS is a mission equipment package, mounted on the Husky route clearance vehicle, which consists of a Ground Penetrating Radar (GPR), Deep Buried Detection (DBD) capability, and Semi-Autonomous Control capability (SAC). Program is broken out into three increments. The GPR (Increment A1) will detect and accurately mark a broad spectrum of suspected explosive hazards and trigger mechanisms in a wider range of road surfaces and varying soil conditions. The DBD capability (Increment A2) will detect and accurately mark suspected deep buried metallic Improvised Explosive Devices (IEDs) and metallic encased caches. The SAC capability (Increment B) will enable an operator to remotely and semi-autonomously control all functions of the Husky and HMDS from inside the Mine Protected Clearance Vehicle, improving survivability of the operator during the detection mission. The HMDS Common Operating Group (COG) is comprised of the Common Installation Kits, DBD Trainer and GPR Trainer.

The Route Clearance & Interrogation System (RCIS) consists of two semi-autonomous vehicles and designated control vehicles which provide a standoff capability to detect and neutralize the full spectrum of explosive hazards by integrating a semi-autonomous kit onto a High Mobility Engineering Excavator (HMEE) and the RG-31 and an Operator Control Unit (OCU) onto a designated RG-31 or Buffalo. RCIS Type 1 semi-autonomous kit will be integrated onto the HMEE and be capable of interrogating and classifying explosive hazards. RCIS Type 2 semi-autonomous kit will be integrated onto an RG-31/Medium Mine Protected Vehicle (MMPV) Type II vehicle and be able to detect, neutralize and proof explosive hazards. The OCU will be integrated into both a RG-31 MMPV and Buffalo. RCIS capabilities will be fielded to Route Clearance Squads and Engineer Platoons. RCIS Type 1 and Type 2 are being procured as separate increments.

MTRS Inc II will provide a single medium sized robot configuration common across all users. The program would create one common material solution by using the reset on hand unmanned ground vehicle (UGV) chassis as the base platform with a modular design to allow different payloads for each end user. Based on the cost savings, schedule improvement, and the need to expeditiously field the capability to the war fighter this approach was chosen; in addition to the commonality of systems across the Army. A bridging strategy led by the Robot Logistics Support Center (RLSC) will support any emerging urgent requirements until the MTRS Inc II is fielded. The upgraded UGV will be the materiel solution for MTRS Inc II.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604808A / *Landmine Warfare/Barrier - Eng Dev*	**Project (Number/Name)** 415 / *Mine Neutral/Detection*

The Interoperability effort includes development of RCIS Type 1 and RCIS Type 2 interface requirements in UGV Interoperability Profile (IOP) Version 2, development of RCIS Type 1 and 2 IOP Instantiation Document, and government lab interoperability risk reduction for RCIS Type 1 and 2 in support of Milestone B and EMD phase.

The Vehicle Optics Sensor System (VOSS) provides a telescoping, gyro-stabilized, high-resolution, triple sensor (daylight, night-vision, and thermal-imaging) surveillance system to optically detect from standoff distances, explosive hazards (IEDs and landmines) and their trigger sources. VOSS will be mounted on the MMPV Type I for Explosive Ordnance Disposal (EOD) and MMPV Type II for Engineers. FY 2016 Base Funding in the amount of $2.100 million supports VOSS Geo-location capability specification development, Interface Control Document (ICD), integration and prototypes.

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

Route Clearance Vehicle (RCV) & Enabler Improvements: Develop the hardware used to improve POR RCVs and Enablers
- Develop product upgrades to MMPV Type II Interrogation Arm
- Next Generation HMDS A2 to include Deep Buried Detection the Husky on the Husky and semi-autonomous control capability on the Husky and Buffalo
- Explosive Hazard Pre-Detonation (EHP) Equipment upgrades
- RCV weight reduction

Force Protection Improvements/Add On Armor (AoA) to execute system level design cycle for rocket propelled grenade (RPG) and explosive formed projectiles (EFP) AoA kits for Husky and Buffalo. Explosive Hazard Pre-Detonation (EHP) capability to include a debris blower, Wire Neutralization System (WNS) and Mine Roller to neutralize/detonate a broad spectrum of improvised explosive hazards while on the move, to support route clearance mission.

Autonomous Mine Detection System (AMDS) provides increased survivability through mine and explosive hazards stand-off detection, marking and neutralization capability for the dismounted soldier. It provides area access and freedom of movement for the Commander. AMDS consists of payload modules to be mounted on man-portable unmanned ground vehicles. The payloads are for surface laid and buried threats to include mines and explosive hazards. AMDS transitioned from Technical Development to Engineering and Manufacturing Development (EMD) in FY 2014. This capability allows a soldier to remain in a protective posture while detecting and neutralizing a wide variety of hybrid and conventional explosive threats.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: AMDS	17.828	7.549	7.135	-	7.135
Description: AMDS					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604808A / *Landmine Warfare/Barrier - Eng Dev*	**Project (Number/Name)** 415 / *Mine Neutral/Detection*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
FY 2014 Accomplishments: Engineering Manufacturing Development (EMD) Contract awarded and Milestone (MS) B achieved ***FY 2015 Plans:*** Engineering Manufacturing Development (EMD), Preliminary Design Review (PDR), and Risk Reduction Testing (RRT) ***FY 2016 Base Plans:*** Engineering Manufacturing Development (EMD), Critical Design Review (CDR), ad Development Testing (DT)					
Title: HMDS Engineering Support ***Description:*** HMDS Engineering Support ***FY 2014 Accomplishments:*** Engineering Manufacturing Development (EMD) Contract Award, Preliminary Design Review (PDR), Inc. B pre-award activities ***FY 2015 Plans:*** Engineering Manufacturing Development (EMD); Risk Reduction Testing ***FY 2016 Base Plans:*** Engineering Manufacturing Development (EMD);Critical Design Review	13.008	10.077	11.543	-	11.543
Title: HMDS Increment A, Configuration 1, Ground Penetrating Radar (GPR) ***Description:*** HMDS Increment A, Configuration 1, Ground Penetrating Radar (GPR) ***FY 2014 Accomplishments:*** HMDS Increment A1 baseline testing ***FY 2015 Plans:*** GPR (upgrade) trainer testing	2.085	0.500	-	-	-
Title: HMDS Increment A, Configuration 2 ***Description:*** HMDS Increment A, Configuration 2 ***FY 2014 Accomplishments:***	19.995	17.665	7.784	-	7.784

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604808A / *Landmine Warfare/Barrier - Eng Dev*	**Project (Number/Name)** 415 / *Mine Neutral/Detection*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Increment A2 Engineering Manufacturing Development (EMD) In-Process Review (IPR) and contract award ***FY 2015 Plans:*** Increment A2 Risk ReductionTesting ***FY 2016 Base Plans:*** Critical Design Review (CDR) and Developmental Testing (DT)					
Title: HMDS Training Aids, Devices, Simulators and Simulations (TADSS) ***Description:*** PEO STRI to develop trainer. ***FY 2014 Accomplishments:*** HMDS Increment A, Configuration 1 - Trainer ***FY 2016 Base Plans:*** Virtual Clearance Training Suite (VCTS), Explosive Hazard Replicated Target Set (EHRTS), Interactive Multimedia Instruction (IMI)	1.886	-	4.776	-	4.776
Title: RCIS ***Description:*** RCIS ***FY 2014 Accomplishments:*** RCIS MS B Preparation, RFP, Material Development Decision (MDD) preparation, Interoperability, and HMEE platform upgrades. MTRS Inc II MDD, Acquisition Concept brief, testing and MTRS Inc II program documentation preparation and MTRS II RFP preparation. ***FY 2015 Plans:*** RCIS PM support, MS B preparation, Engineering and Manufacturing Dev. contract preparation, RFP release, HMEE platform upgrades, risk reduction testing, source selection, System Integration Laboratory (SIL) design/ build, and Interoperability. MTRS Inc II PM support, Request For Proposal (RFP) development, scope of work development and Milestone C documentation preparation. ***FY 2016 Base Plans:*** RCIS Engineering and Manufacturing Development (EMD) contract award, PM support, Source Selection Evaluation Board (SSEB), upgrade of HMEE platform for EMS, RCIS Preliminary Design Review (PDR), and	7.098	9.246	13.691	-	13.691

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604808A / *Landmine Warfare/Barrier - Eng Dev*	**Project (Number/Name)** 415 / *Mine Neutral/Detection*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Interoperability. MTRS Inc II development, Source Selection Evaluation Board, IOP instantiation and design reviews .					
Title: Multifunction Video Display (MVD). ***Description:*** Multifunction Video Display (MVD). Digital display used to control and view RCV enablers ***FY 2014 Accomplishments:*** Development of MVD, procurement of Product Verification Test (PVT) assets and Test. Begin development of MVD System Integration Laboratory (SIL) at Night Vision & Electronic Sensor Directorate (NVESD) ***FY 2015 Plans:*** Continued MVD Prototype Development and follow-on Test. Continuing support for MVD SIL at NVESD. ***FY 2016 Base Plans:*** Continuing support for MVD SIL at NVESD for development of additional enablers (EHP) onto MVD.	3.297	1.100	0.750	-	0.750
Title: Add on Armor (AoA) ***Description:*** Development AoA efforts for Route Clearance Vehicles (RCV) to include Rocket Propelled Grenade (RPG) and Explosive Formed Projectiles (EFP) for Husky and Buffalo. ***FY 2015 Plans:*** Investigate lighter weight EFP AoA recipes for RCVs with Army Research Lab. Develop and test Husky Chevron RPG Kit. ***FY 2016 Base Plans:*** Continue development of lighter weight EFP AoA recipes with Army Research Lab. Develop and test Buffalo EFP AoA Kit.	-	0.483	0.750	-	0.750
Title: RCV & Enabler Improvements ***Description:*** Develop the hardware used to improve POR RCVs. ***FY 2014 Accomplishments:*** Protoype Development. ***FY 2015 Plans:***	0.450	0.383	0.767	-	0.767

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604808A / *Landmine Warfare/Barrier - Eng Dev*	**Project (Number/Name)** 415 / *Mine Neutral/Detection*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Prototype Development of MMPV Type II Interrogation Arm systems improvements. ***FY 2016 Base Plans:*** Develop system demonstrator of MMPV Type II Interrogation Arm System Improvements and test.					
Title: VOSS Geo-Location Capability ***Description:*** VOSS Capability to determine location of explosive hazards. ***FY 2016 Base Plans:*** Spec Development, Interface Control Document (ICD), integration and prototypes for Geo-location capability.	-	-	2.100	-	2.100
Accomplishments/Planned Programs Subtotals	65.647	47.003	49.296	-	49.296

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• 606: *Countermine/ Barrier Advanced Dev 606*	-	-	-	-	-	-	-	3.000	14.285	-	17.285
• R64001: *Husky Mounted Detection System (HMDS) R64001*	-	18.545	13.565	-	13.565	14.446	54.828	91.117	97.123	Continuing	Continuing
• R68102: *GSTAMIDS R68102*	-	37.649	58.682	-	58.682	17.634	29.670	30.038	19.531	Continuing	Continuing
• R68260: *AMDS R68260*	-	-	-	-	-	8.838	15.551	25.305	29.736	Continuing	Continuing
• DA0924: *OPA1 Mods in Services DA0924*	35.304	83.173	130.993	130.000	260.993	87.855	95.877	117.361	95.110	Continuing	Continuing

Remarks

D. Acquisition Strategy

EHP Debris Blower will be procured as a COTS item from a commercial vendor in FY16. EHP Roller will be procured through Depot System starting in FY16. MVD will be procured through an existing government contract with PdM Common Hardware Systems in FY16. Spiral development of software upgrades to MVD will be procured in FY17. MMPV Type II Interrogation Arm ECPs/upgrades would be procured through a commercial vendor in FY17.

AMDS transitioned to Engineering Manufacturing Development (EMD) in FY 2014.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604808A / *Landmine Warfare/Barrier - Eng Dev*	**Project (Number/Name)** 415 / *Mine Neutral/Detection*

The HMDS acquisition strategy is evolutionary with three capability increments – Increment A, Configuration1 (A1), Increment A, Configuration 2 (A2), and Increment B. Increment A provides detection and marking of antitank landmines, unexploded ordnance, trigger mechanisms, and deep buried metallic Improvised Explosive Devices (IEDs) and metallic encased caches, while Increment B enables an operator to remotely and semi-autonomously control all functions of the Husky and HMDS from inside the Mine Protected Clearance Vehicle. In order to accelerate delivery of the Ground Penetrating Radar (GPR) capability and its corresponding full-scale training device, Increment A will be executed as two distinct capability increments. Increment A1 leverages the Quick Reaction Capability (QRC) GPR technology currently deployed in support of Operation Enduring Freedom (OEF), and the stand-alone full-scale GPR trainer currently used for pre-deployment home station training. Increment A2 integrates a Deep Buried Detection (DBD) capability and full-scale DBD training device with the GPR, utilizing a common installation kit. Increment B integrates a Semi-Autonomous Control (SAC) capability with the HMDS. The HMDS program entered EMD in 4th Quarter FY 2013 and awarded a contract for Configuration A1 in 4th Quarter FY 2013. An EMD contract for Configuration A2 was awarded in 3rd Quarter 2014.

PM Ground Sensors is pursuing a acquisition approach for Vehicle Optics Sensor System (VOSS) which harvests Quick Reaction Capability (QRC) procured systems for refresh and insertion into the Program of Record (POR). In FY 2016 VOSS will conduct a capability improvement for the Geo-location requirement that will enable location determination of Explosive Hazards and suspected Improvised Explosive Devices (IEDs).

The RCIS program will execute an EMD phase for Type 1 systems starting with contract award to one EMD contractor in 3rd Quarter FY16. This award will be based on a source selection from full and open competition. The EMD contract awardee will execute Preliminary Design Review (PDR), Critical Design Review (CDR), design, integration, and build phase of seven Semi-autonomous Capability (SAC) kits, integrated onto six vehicles, with one kit available for engineering and System Integration Lab (SIL) evaluations. These assets will be used for the Government to execute a full Pre-Production Qualification Test (PPQT) and to be evaluated with respect to CPD and performance specification requirements.

MTRS Inc II will provide a single medium sized robot configuration common across all users. The program would create one common material solution by using the Reset, On-hand Talon UGV chassis as the base platform with a modular design to allow different payloads for each end user. Based on the cost savings, schedule improvement and the need to expeditiously field the capability to the warfighter, this approach was chosen. In addition to the commonality of systems across the Army, a bridging strategy led by the RLSC will support any emerging urgent requirements until the MTRS Inc II is fielded. The upgraded and Standardized Talon UGV will be the materiel solution for MTRS Inc II.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604808A / *Landmine Warfare/Barrier - Eng Dev*	Project (Number/Name) 415 / *Mine Neutral/Detection*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management - AMDS	Allot	PM-CCS : Picatinny Arsenal, NJ	1.541	0.630	Mar 2014	0.579	Jan 2015	1.233	Mar 2016	-		1.233	Continuing	Continuing	-
Program Management - HMDS	MIPR	PM CCS : Picatinny Arsenal, NJ	24.880	2.114	May 2015	2.826	Dec 2014	2.941	Mar 2016	-		2.941	Continuing	Continuing	-
Program Management - VOSS	MIPR	PM Ground Sensors : Ft. Belvoir, VA	0.200	-		-		0.161	Mar 2016	-		0.161	-	0.361	-
Program Management - MTRS Inc II	Allot	PM FP : Warren, MI	0.000	-		-		2.200	Mar 2016	-		2.200	Continuing	Continuing	-
		Subtotal	26.621	2.744		3.405		6.535		-		6.535	-	-	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AMDS Engineering and Manufacturing Development (EMD)	C/CPIF	Carnegie Robotics LLC : Pittsburgh, PA	5.533	16.072	Sep 2014	3.106	May 2015	-		-		-	-	24.711	-
AMDS Training Aids, Devices, Simulators and Simulations (TADSS)	C/FFP	TBD - executed thru PEO STRI : TBD	0.000	-		-		1.406	May 2016	-		1.406	Continuing	Continuing	Continuing
HMDS Inc A2 (LRIP) - Integration with DBD and Training Devices	SS/CPFF	NIITEK Dulles : VA	0.000	18.900	Jun 2014	13.528	Aug 2015	5.600	Jan 2016	-		5.600	-	38.028	-
HMDS - TADSS	C/FFP	TBD - executed through PEO STRI : TBD	0.000	-		-		4.661	Nov 2015	-		4.661	-	4.661	-
Multi-Function Video Display	C/CPFF	Night Vision Electronic Sensor Directorate : APG, MD	0.000	2.297		0.750		0.250		-		0.250	3.047	6.344	3.047

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604808A / *Landmine Warfare/Barrier - Eng Dev*	Project (Number/Name) 415 / *Mine Neutral/Detection*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
RCV & Enablers Improvements - MMPV Type II Interrogation Arm	C/CPFF	KRC : Houghton, MI	0.000	0.450		0.283		0.500	Oct 2015	-		0.500	-	1.233	-
RCIS	SS/FFP	PM FP, PdM ALUGS : Warren, MI	4.878	-		1.470	Jul 2015	3.944	May 2016	-		3.944	Continuing	Continuing	Continuing
VOSS	C/CPFF	Various : Ft. Belvoir, VA	1.393	-		-		0.827	Mar 2016	-		0.827	Continuing	Continuing	Continuing
		Subtotal	11.804	37.719		19.137		17.188		-		17.188	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AMDS	MIPR	Various : Various locations	1.990	0.876	Aug 2014	2.984	Jan 2015	1.611	Jan 2016	-		1.611	Continuing	Continuing	Continuing
HMDS - Test Support	C/FFP	USI : Newport News, VA	0.000	0.621	Jul 2014	-		0.601	Dec 2015	-		0.601	-	1.222	-
HMDS	MIPR	NVESD/CERDEC : Fort Belvoir, VA	5.452	2.659	Feb 2014	2.500	Dec 2014	2.220	Jan 2016	-		2.220	Continuing	Continuing	-
HMDS - Config A1	SS/CPFF	NIITEK : Dulles, VA	0.000	0.076	Jan 2015	-		-		-		-	-	0.076	-
HMDS - Tech Support	C/FFP	MANTECH : Fairfax, VA	0.000	0.739	Nov 2014	-		0.531	Nov 2015	-		0.531	-	1.270	-
HMDS - Power Steering Upgrade Kits	SS/FFP	Parker-Hannifan : Lakeville, MN	0.000	0.032	Feb 2014	-		-		-		-	-	0.032	-
HMDS - Information Assurance	SS/CR	MITRE : McLean, VA	0.000	0.276	Jan 2015	-		0.150	May 2016	-		0.150	-	0.426	-
HMDS	MIPR	PMFP, PdM ALUGS : Warren, MI	1.994	1.275	Mar 2014	0.960	Dec 2014	1.160	Jan 2016	-		1.160	-	5.389	-
HMDS - Test Data Plan Analysis	SS/CPFF	IDA : Alexandria, VA	0.000	0.560	Feb 2015	-		0.350	May 2016	-		0.350	-	0.910	-
HMDS	C/FFP	Pro Services : Trenton, NJ	0.000	0.070	Mar 2015	-		-		-		-	-	0.070	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604808A / *Landmine Warfare/Barrier - Eng Dev*	Project (Number/Name) 415 / *Mine Neutral/Detection*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
HMDS - Program Support	C/FFP	Millenium : East Hannover, NJ	0.000	0.972	Feb 2015	-		-		-		-	-	0.972	-
HMDS - VCTS	C/FFP	Akima Infrastructure : Hampton, VA	0.000	0.622	Mar 2015	-		-		-		-	-	0.622	-
HMDS - IMI	C/FFP	Akima Infrastructure : Hampton, VA	0.000	1.264	Mar 2015	-		-		-		-	-	1.264	-
HMDS	MIPR	PEO STRI : Orlando, FL	0.000	0.744	Mar 2014	0.597	Dec 2014	0.628	Jan 2016	-		0.628	-	1.969	-
HMDS	MIPR	CECOM : Aberdeen Proving Grounds, MD	0.000	1.256	Nov 2014	1.260	Dec 2014	1.515	Jan 2016	-		1.515	-	4.031	-
HMDS - Test Support	C/FFP	GSA : Washington DC	0.000	0.008	Oct 2014	-		-		-		-	-	0.008	-
HMDS	MIPR	Various : Various locations	2.290	0.318	Feb 2014	0.611	Dec 2014	-		-		-	-	3.219	-
HMDS	MIPR	Product Realization Directorate (PRD)/ CERDEC : APG, MD	0.000	0.462	Feb 2014	-		0.447	Jan 2016	-		0.447	-	0.909	-
HMDS	MIPR	AMRDEC : Redstone Arsenal, AL	0.000	0.297	Mar 2014	-		0.472	Jan 2016	-		0.472	-	0.769	-
HMDS	MIPR	ARDEC : Picatinny Arsenal, NJ	0.861	0.492	Mar 2014	0.780	Dec 2014	0.524	Jan 2016	-		0.524	-	2.657	-
HMDS	MIPR	MSCoE : Ft. Leonard Wood, MO	0.000	-		0.143	Dec 2014	0.119	Jan 2016	-		0.119	-	0.262	-
HMDS	MIPR	ECBC : Edgewood, MD	0.000	1.178	Jan 2015	-		-		-		-	-	1.178	-
HMDS	MIPR	Tobyhanna Army Depot : Tobyhanna, PA	0.000	0.185	Mar 2014	-		-		-		-	-	0.185	-
HMDS	MIPR	TARDEC : Warren, MI	0.545	-		0.400	Dec 2014	-		-		-	-	0.945	-
RCIS	MIPR	PM FP, PdM ALUGS : Warren, MI	1.830	1.300	Jan 2014	2.246	Mar 2015	2.146	Mar 2016	-		2.146	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604808A / *Landmine Warfare/Barrier - Eng Dev*	Project (Number/Name) 415 / *Mine Neutral/Detection*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
VOSS	MIPR	Various : Various	2.376	-		-		0.344	Apr 2016	-		0.344	Continuing	Continuing	Continuing
RCIS Interoperability	MIPR	PM FP, PdM ALUGS : Warren, MI	1.000	1.000	Feb 2014	1.000	Mar 2015	1.000	Mar 2016	-		1.000	-	4.000	-
MTRS Inc II	MIPR	PdM UGV : Warren, MI	0.000	3.600	Jun 2014	1.330	Mar 2015	3.865	Mar 2014	-		3.865	Continuing	Continuing	-
Add on Armor (AoA) Husky RPG Kit	MIPR	TARDEC, : Warren, MI	0.000	-		0.283		-		-		-	-	0.283	-
Add on Armor Buffalo EFP AOA	MIPR	TARDEC : Warren, MI	0.000	-		-		0.350	Mar 2016	-		0.350	-	0.350	-
Multi-function Video Display	C/CPFF	Night Vision Electronic Sensor Directorate : APG, MD	2.297	-		-		0.500	Oct 2015	-		0.500	-	2.797	-
		Subtotal	20.635	20.882		15.094		18.533		-		18.533	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AMDS	MIPR	ATEC : Aberdeen Proving Ground, MD	0.000	-		0.880	Jun 2015	2.885	Feb 2016	-		2.885	Continuing	Continuing	Continuing
AMDS	SS/CPFF	IDA : Alexandria, VA	0.000	0.250	Feb 2015	-		-		-		-	-	0.250	-
HMDS	MIPR	ATEC : Alexandria, VA	0.362	1.854	Oct 2014	4.890	Jan 2015	2.184	Jan 2016	-		2.184	Continuing	Continuing	Continuing
RCIS	MIPR	ATEC : Alexandria, VA	0.136	1.198	Jul 2014	2.197	May 2015	0.536	Feb 2016	-		0.536	-	4.067	-
MTRS Inc II	MIPR	SPAWAR PAC, Various : San Diego, CA	0.000	-		1.000		-		-		-	-	1.000	-
VOSS	MIPR	ATEC : Alexandria, VA	3.154	-		-		0.768	Jun 2016	-		0.768	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604808A / *Landmine Warfare/Barrier - Eng Dev*	**Project (Number/Name)** 415 / *Mine Neutral/Detection*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Multi-Function Video Display	WR	KRC : Houghton, MI	0.000	1.000		0.100	Mar 2015	-		-		-	-	1.100	-
RCV & Enabler Improvements –MMPV Type II Interrogation Arm.	MIPR	TARDEC : Warren, MI	0.000	-		0.100	Mar 2015	0.267	Mar 2015	-		0.267	-	0.367	-
Add on Armor (AoA) Husky RPG	MIPR	ATEC : Aberdeen, MD	0.000	-		0.100	Mar 2015	-		-		-	-	0.100	-
Add on Armor Buffalo EFP Kits	MIPR	ATEC Aberdeen, MD : MD	0.000	-		-		0.150	Jun 2016	-		0.150	-	0.150	-
Add-on Armor	MIPR	ARL : Adelphi, MD	0.000	-		0.100	Mar 2015	0.250	Oct 2015	-		0.250	-	0.350	-
		Subtotal	3.652	4.302		9.367		7.040		-		7.040	-	-	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	62.712	65.647		47.003		49.296		-		49.296	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604808A / *Landmine Warfare/Barrier - Eng Dev*	**Project (Number/Name)** 415 / *Mine Neutral/Detection*

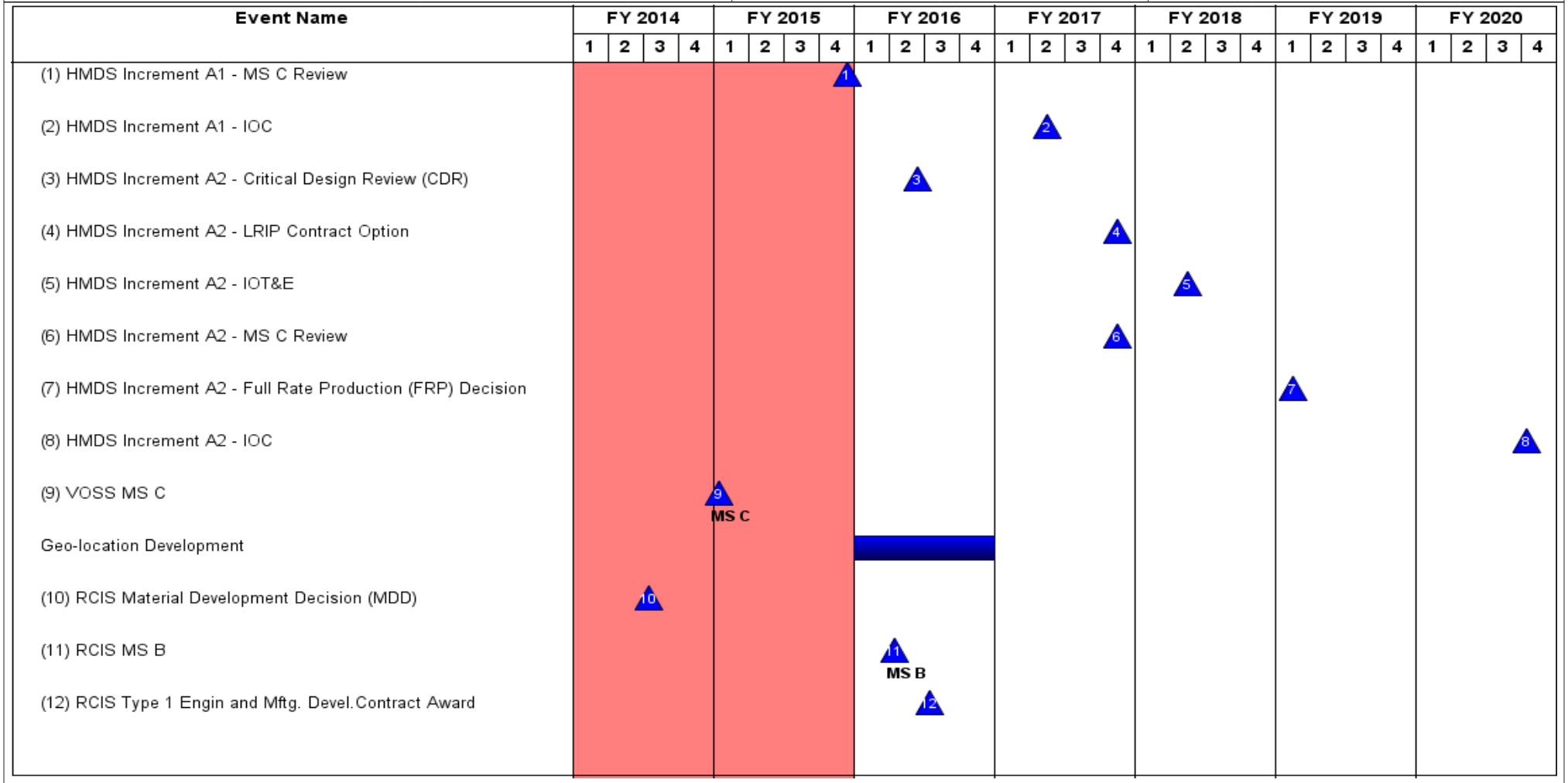


Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604808A / *Landmine Warfare/Barrier - Eng Dev*	**Project (Number/Name)** 415 / *Mine Neutral/Detection*

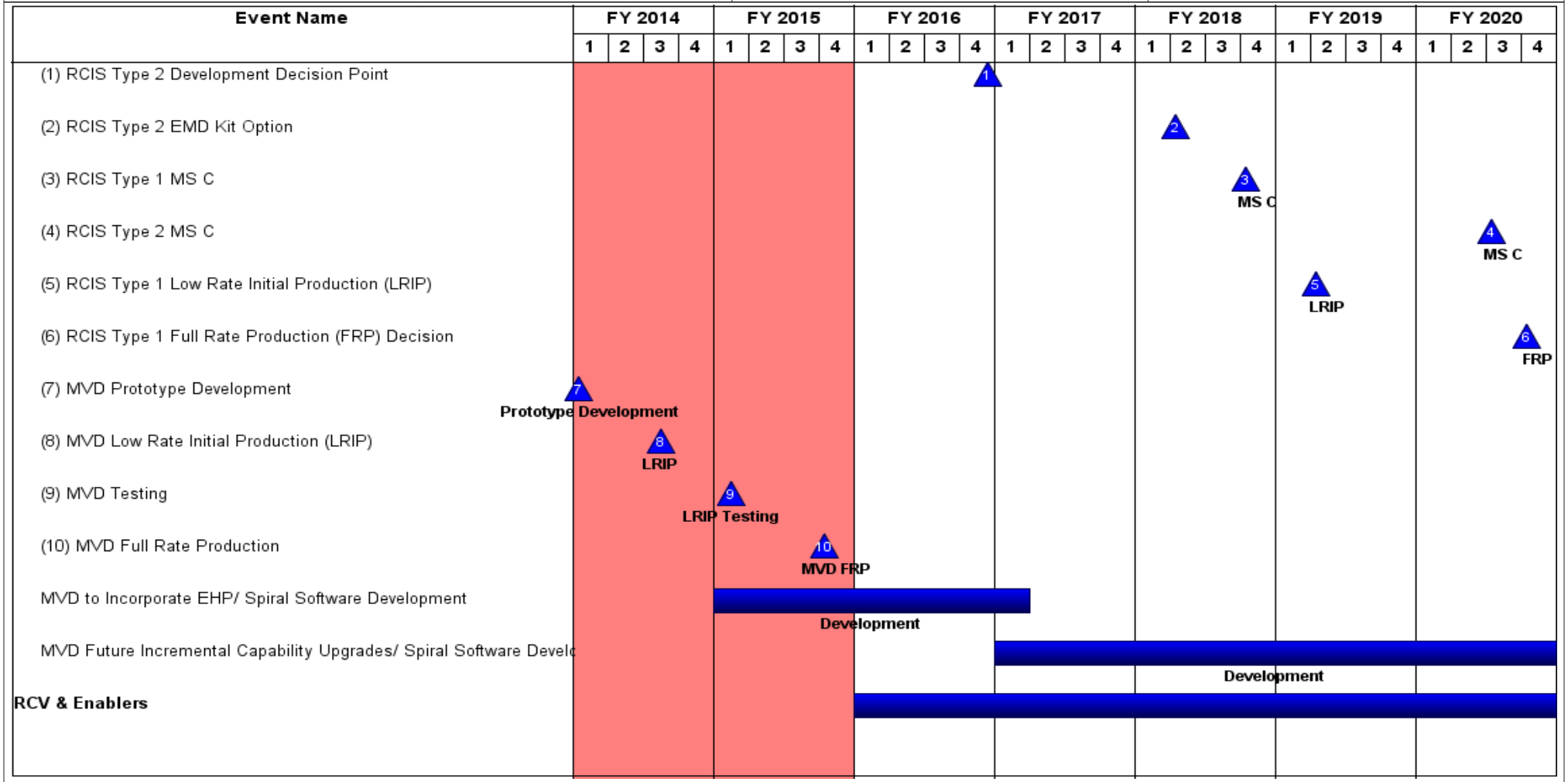


Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604808A / *Landmine Warfare/Barrier - Eng Dev*	**Project (Number/Name)** 415 / *Mine Neutral/Detection*

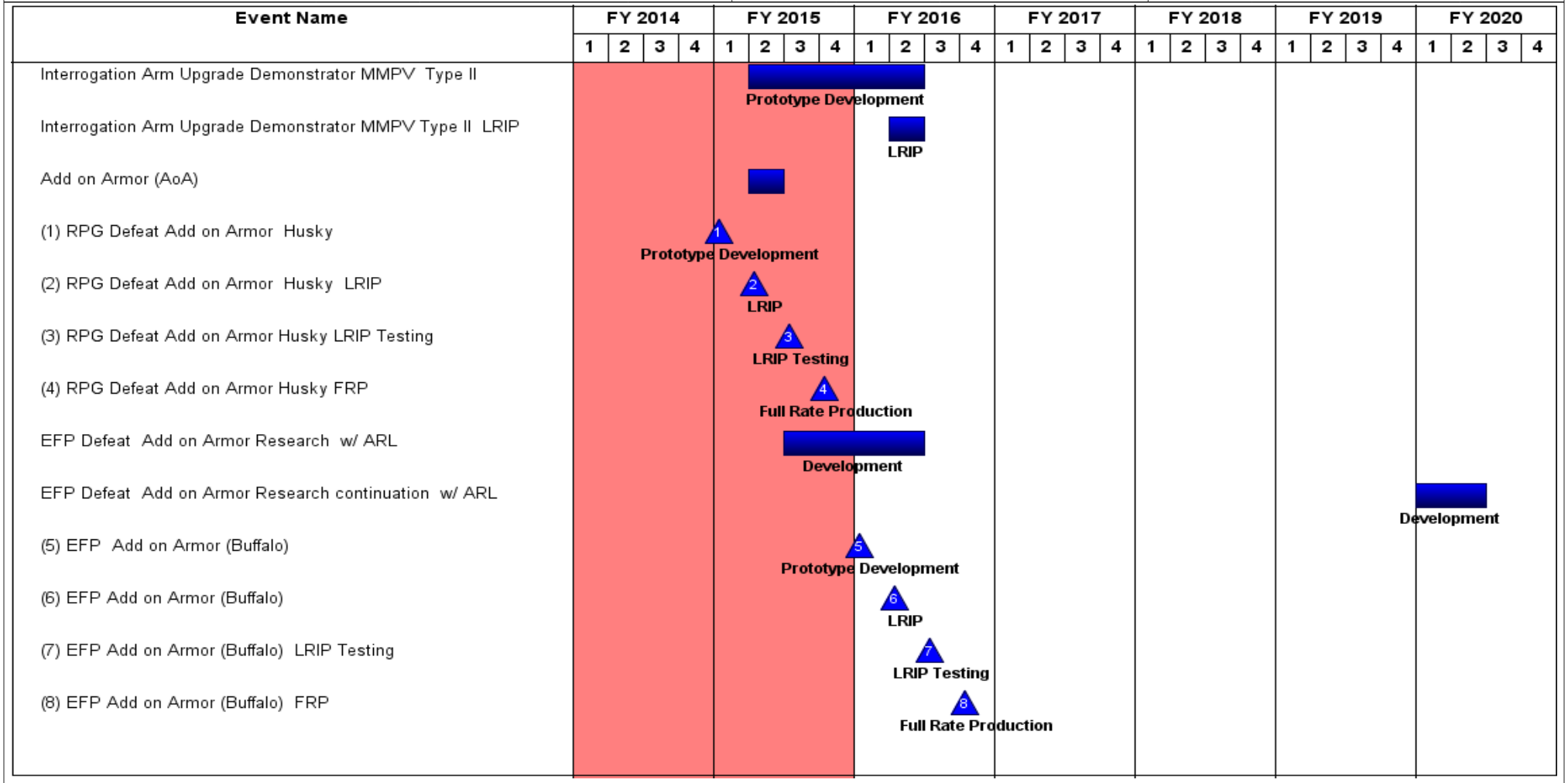


Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604808A / *Landmine Warfare/Barrier - Eng Dev*	**Project (Number/Name)** 415 / *Mine Neutral/Detection*

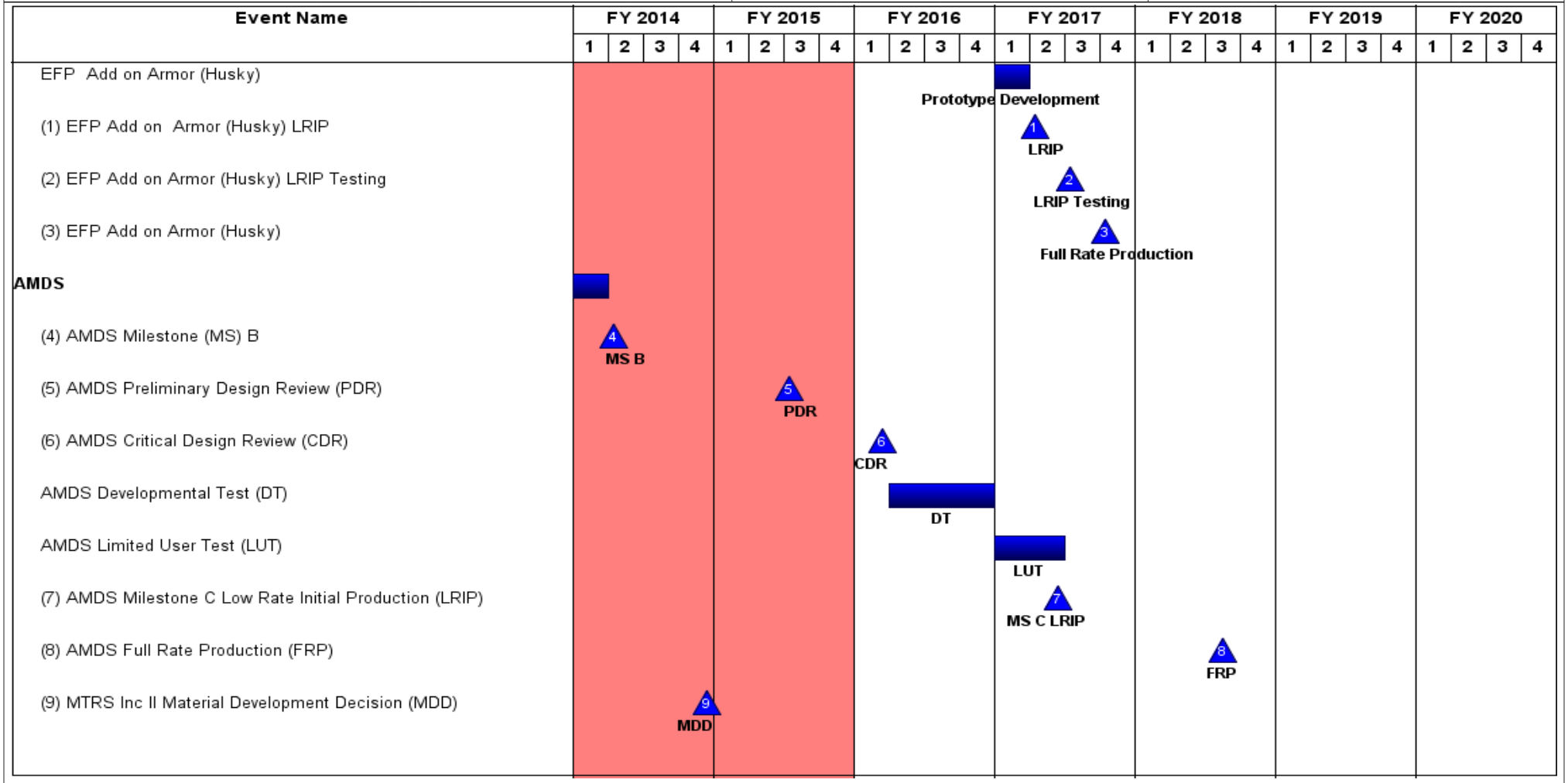


Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604808A / *Landmine Warfare/Barrier - Eng Dev*	**Project (Number/Name)** 415 / *Mine Neutral/Detection*

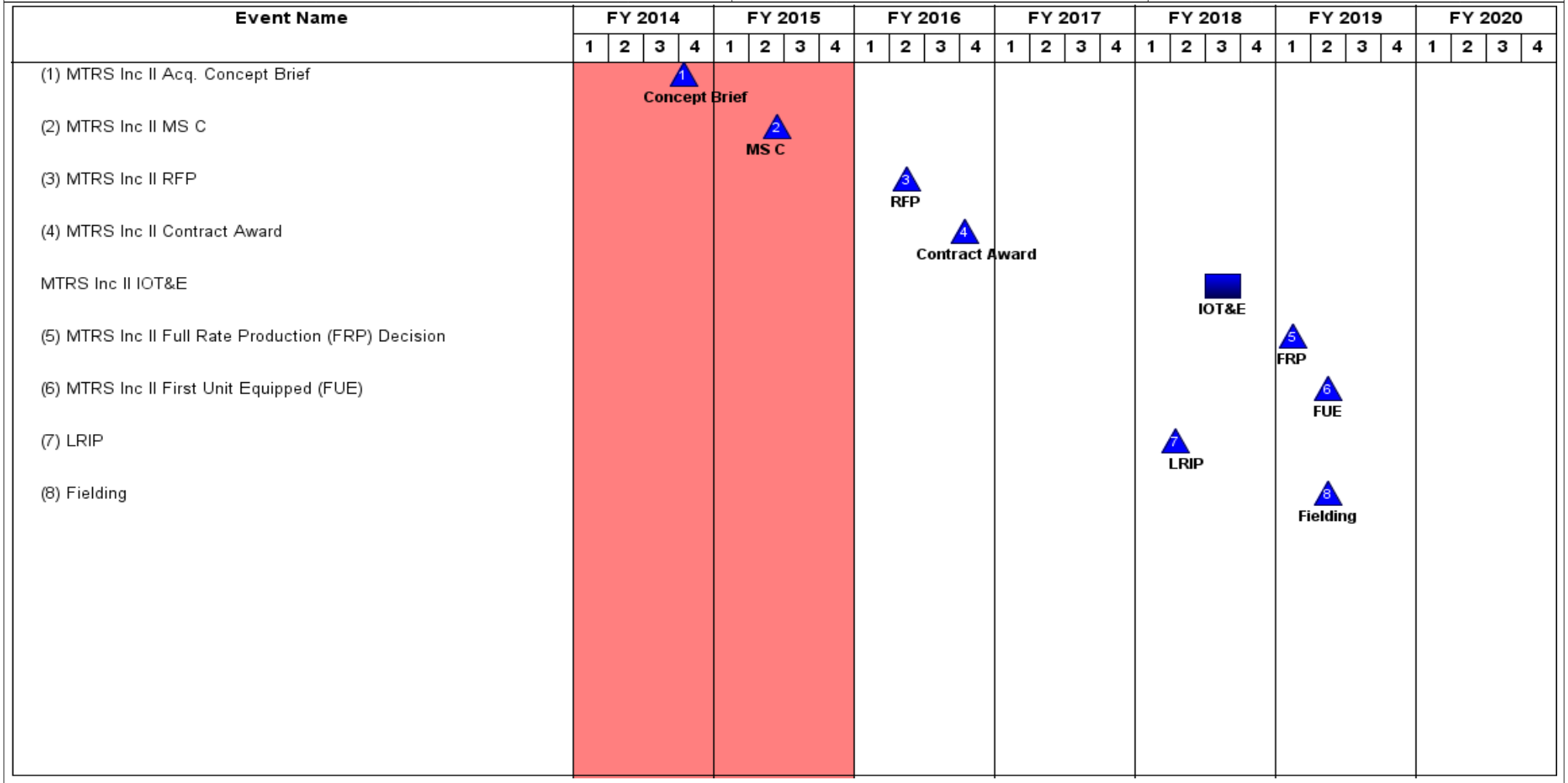


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604808A / *Landmine Warfare/Barrier - Eng Dev*	**Project (Number/Name)** 415 / *Mine Neutral/Detection*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
HMDS Increment A1 - MS C Review	4	2015	4	2015
HMDS Increment A1 - IOC	2	2017	2	2017
HMDS Increment A2 - Critical Design Review (CDR)	2	2016	2	2016
HMDS Increment A2 - LRIP Contract Option	4	2017	4	2017
HMDS Increment A2 - IOT&E	2	2018	2	2018
HMDS Increment A2 - MS C Review	4	2017	4	2017
HMDS Increment A2 - Full Rate Production (FRP) Decision	1	2019	1	2019
HMDS Increment A2 - IOC	4	2020	4	2020
VOSS MS C	1	2015	1	2015
Geo-location Development	1	2016	4	2016
RCIS Material Development Decision (MDD)	3	2014	3	2014
RCIS MS B	2	2016	2	2016
RCIS Type 1 Engin and Mftg. Devel.Contract Award	3	2016	3	2016
RCIS Type 2 Development Decision Point	4	2016	1	2017
RCIS Type 2 EMD Kit Option	2	2018	2	2018
RCIS Type 1 MS C	4	2018	4	2018
RCIS Type 2 MS C	3	2020	3	2020
RCIS Type 1 Low Rate Initial Production (LRIP)	2	2019	2	2019
RCIS Type 1 Full Rate Production (FRP) Decision	4	2020	4	2020
MVD Prototype Development	1	2014	4	2014
MVD Low Rate Initial Production (LRIP)	3	2014	3	2014
MVD Testing	1	2015	4	2015

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604808A / *Landmine Warfare/Barrier - Eng Dev*	**Project (Number/Name)** 415 / *Mine Neutral/Detection*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
MVD Full Rate Production	4	2015	4	2015
MVD to Incorporate EHP/ Spiral Software Development	1	2015	1	2017
MVD Future Incremental Capability Upgrades/ Spiral Software Development	1	2017	4	2020
RCV & Enablers	1	2016	4	2020
Interrogation Arm Upgrade Demonstrator MMPV Type II	2	2015	2	2016
Interrogation Arm Upgrade Demonstrator MMPV Type II LRIP	2	2016	2	2016
Add on Armor (AoA)	2	2015	2	2015
RPG Defeat Add on Armor Husky	1	2015	1	2015
RPG Defeat Add on Armor Husky LRIP	2	2015	2	2015
RPG Defeat Add on Armor Husky LRIP Testing	3	2015	3	2015
RPG Defeat Add on Armor Husky FRP	4	2015	4	2015
EFP Defeat Add on Armor Research w/ ARL	3	2015	2	2016
EFP Defeat Add on Armor Research continuation w/ ARL	1	2020	2	2020
EFP Add on Armor (Buffalo)	1	2016	1	2016
EFP Add on Armor (Buffalo)	2	2016	2	2016
EFP Add on Armor (Buffalo) LRIP Testing	3	2016	3	2016
EFP Add on Armor (Buffalo) FRP	4	2016	4	2016
EFP Add on Armor (Husky)	1	2017	1	2017
EFP Add on Armor (Husky) LRIP	2	2017	2	2017
EFP Add on Armor (Husky) LRIP Testing	3	2017	3	2017
EFP Add on Armor (Husky)	4	2017	4	2017
AMDS	4	2013	1	2014
AMDS Milestone (MS) B	2	2014	2	2014
AMDS Preliminary Design Review (PDR)	3	2015	3	2015
AMDS Critical Design Review (CDR)	1	2016	1	2016

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604808A / *Landmine Warfare/Barrier - Eng Dev*	**Project (Number/Name)** 415 / *Mine Neutral/Detection*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
AMDS Developmental Test (DT)	2	2016	4	2016
AMDS Limited User Test (LUT)	1	2017	2	2017
AMDS Milestone C Low Rate Initial Production (LRIP)	2	2017	2	2017
AMDS Full Rate Production (FRP)	3	2018	3	2018
MTRS Inc II Material Development Decision (MDD)	4	2014	4	2014
MTRS Inc II Acq. Concept Brief	4	2014	4	2014
MTRS Inc II MS C	2	2015	2	2015
MTRS Inc II RFP	2	2016	2	2016
MTRS Inc II Contract Award	4	2016	4	2016
MTRS Inc II IOT&E	3	2018	3	2018
MTRS Inc II Full Rate Production (FRP) Decision	1	2019	1	2019
MTRS Inc II First Unit Equipped (FUE)	2	2019	2	2019
LRIP	2	2018	2	2018
Fielding	2	2019	2	2019

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604808A / *Landmine Warfare/Barrier - Eng Dev*	Project (Number/Name) 434 / *Anti-Personnel Landmine Alternatives (NSD)*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
434: *Anti-Personnel Landmine Alternatives (NSD)*	-	22.248	10.671	4.290	-	4.290	-	-	-	-	-	37.209
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Spider Increment 1A will build upon the existing M7 Spider system. The M7 Spider system is a hand-emplaced, remotely controlled (Man-In-The-Loop) system that provides highly responsive terrain-shaping and protection capabilities. M7 Spider replaces persistent anti-personnel landmines, is compliant with US National Landmine policy, and has been fielded to US forces in support of Operation Enduring Freedom and currently being fielded to Engineers within Brigade Combat Teams in the Active and Army National Guard components. Additional capabilities will be developed to enhance the Spider Remote Control Station and demonstrate the ability to employ legacy Government-Off-The-Shelf (GOTS) lethal and non-lethal anti-personnel (AP) munitions and counter mobility obstacles. Spider Increment 1A will utilize an open system architecture to facilitate future munition integration. Further, Spider Increment 1A will complete the development of the Non-Lethal Launcher (NLL) XM809 and XM810.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Spider Increment 1A Contract ***Description:*** Develop Spider Increment 1A Controller with the ability to employ/control and initiate AP & counter mobility obstacle munitions. Continue with the development of the Spider NLL for use with the Spider Inc 1A system. ***FY 2014 Accomplishments:*** Continue with Spider Increment 1A EMD development efforts. ***FY 2015 Plans:*** Additional MODs to Spider Increment 1A EMD development efforts is Platform PC Trainer and Safety Banner.	7.827	0.967	-	-	-
Title: Engineering Support ***Description:*** Perform engineering support. ***FY 2014 Accomplishments:*** Continue EMD efforts of the Spider Inc 1A system. Provide engineering support, software development support, conduct Preliminary Design Review (PDR) and Post-PDR Assessment, provide MANPRINT and Human Factors	11.108	4.850	0.924	-	0.924

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604808A / *Landmine Warfare/Barrier - Eng Dev*	**Project (Number/Name)** 434 / *Anti-Personnel Landmine Alternatives (NSD)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Engineering (HFE) support to contractor Developmental Testing. Support the completion of the development effort for the NLL. ***FY 2015 Plans:*** Continue development of the Spider Inc 1A system. Provide engineering support, software development support, conduct Critical Design Review (CDR) and Post-CDR Assessment, provide MANPRINT and HFE support to contractor Developmental Testing, and initiate efforts to support Milestone C and government qualification testing. ***FY 2016 Base Plans:*** Continue Government Qualification Testing of the Spider Inc 1A system. Provide MANPRINT and Human Factors Engineering (HFE) support and complete efforts to support Milestone C.					
Title: Test and Evaluation ***Description:*** Provide support to Contractor/Government test activities. ***FY 2014 Accomplishments:*** Support contractor software testing to include system Lab Integration/parking lot testing, Hardware Environmental testing and Technical Interchange Meetings (TIMs). ***FY 2015 Plans:*** Provide support to Contractor/Government test activities. Contractor will conduct software testing to include system Lab Integration/parking lot testing, Fuctional Qualification Test (FQT), and System Verification Test (SVT). Government will conduct government testing; User Jury, Government System Verification Test (G-SVT) if necessary, DIACAP/Cooperative Vulnerability and Penetration Assessment (CVPA) Information Assurance (IA)/Cybersecurity, Electromagnetic Environmental Effects (E3), Environmental, Live Munition Firing Test (LMFT), Interactive Electronic Training Manual (IETM), Validation/Logistics Demo, Force Development Test (FDT), Initial Operational Test (IOT), and Army Interoperability Certification (AIC). ***FY 2016 Base Plans:*** Continue Government Qualification Testing; IETM Verification, Initial Operational Test (IOT).	0.178	2.811	2.400	-	2.400
Title: Program Management and Oversight ***Description:*** Program Management and support of Spider Increment 1A and completion of NLL development. ***FY 2014 Accomplishments:***	2.383	1.500	0.740	-	0.740

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604808A / *Landmine Warfare/Barrier - Eng Dev*	**Project (Number/Name)** 434 / *Anti-Personnel Landmine Alternatives (NSD)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Perform overall program management support for the execution of the Spider Inc 1A development effort. Oversee all contractor activities. Conduct all major Program Reviews (System Requirements Review (SRR), System Functional Review (SFR), Preliminary Design Review (PDR) and Initial Baseline Review (IBR). Complete NLL development efforts. ***FY 2015 Plans:*** Perform overall program management support for the execution of the Spider Inc 1A development effort. Oversee all contractor activities. Conduct all major Program Reviews to include Critical Design Design Review (CDR), oversee Government Qualification Testing. ***FY 2016 Base Plans:*** Perform overall program management support for the execution of the Spider Inc 1A development effort and oversee Government Qualification Testing. Prepare the Milestone C package to include the Capability Production Document (CPD) and other Acquisition Documents.					
Title: FY 2014-2016 Reductions ***Description:*** Small Business Innovative Research/Small Business Technology Transfer Program (SBIR/STTR) and Federally Funded Research & Development Centers (FFRDC) Reductions. ***FY 2014 Accomplishments:*** FY 2014 reductions are $752K in FFRDC, SBIR and STTR. ***FY 2015 Plans:*** Approximately $543K projected adjustments in FY 2015. ***FY 2016 Base Plans:*** Approximately $226K projected adjustments in FY 2016.	0.752	0.543	0.226	-	0.226
Accomplishments/Planned Programs Subtotals	22.248	10.671	4.290	-	4.290

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• Spider - APLA Remote Control Unit: *OPA2 Spider Increment 1 Program B55501*	-	0.969	1.403	-	1.403	-	-	-	-	-	2.372

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604808A / *Landmine Warfare/Barrier - Eng Dev*	**Project (Number/Name)** 434 / *Anti-Personnel Landmine Alternatives (NSD)*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• Spider Family Of Networked Munition: *OPA2 Spider Increment 1A Program B54020*	-	-	9.199	-	9.199	10.236	10.297	9.098	8.425	-	47.255

Remarks

D. Acquisition Strategy

The Engineering Manufacturing Development (EMD) contract was a competitively awarded Cost Plus Incentive Fee EMD contract with a one year Firm-Fixed Price (FFP) Low Rate Initial Production (LRIP) option. A Government Level 3 Technical Data Package (TDP) will be delivered as part of the EMD contract. The modified TDP at the end of LRIP will facilitate full and open competition of a FFP Full Rate Production contract.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604808A / *Landmine Warfare/Barrier - Eng Dev*	Project (Number/Name) 434 / *Anti-Personnel Landmine Alternatives (NSD)*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Spider - Program Mgmt	Various	PM-CCS, : Picatinny Arsenal, NJ	0.769	2.383		1.500		0.740		-		0.740	Continuing	Continuing	-
SBIR/STTR, FFRDC and Section 3001/3004 ATB Adjustments	Various	PM CCS, : Picatinny Arsenal, NJ	2.352	0.752		0.543		0.226		-		0.226	-	3.873	-
		Subtotal	3.121	3.135		2.043		0.966		-		0.966	-	-	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Spider Non-Lethal Launcher (FY12)	SS/CPIF	Alliant Techsystems Operations, LLC : Plymouth, MN	0.667	-		-		-		-		-	-	0.667	-
Spider Inc 1A (FY13-15)	C/CPIF	Northrop Grumman Systems Corporation : Carson, CA	12.002	7.827	Mar 2014	0.967	Feb 2015	-		-		-	Continuing	Continuing	-
Rifleman Radio Systems	Reqn	General Dynamics, C4 Systems : Scottsdale, AZ	0.057	-		-		-		-		-	-	0.057	-
		Subtotal	12.726	7.827		0.967		-		-		-	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Spider - ARDEC Eng support	MIPR	ARDEC, : Picatinny Arsenal, NJ	3.563	6.840		3.626		0.704		-		0.704	Continuing	Continuing	-
Spider - ARDEC Non-Lethal Launcher Eng Spt	MIPR	ARDEC, : Picatinny Arsenal, NJ	0.650	0.911	Mar 2014	-		-		-		-	-	1.561	-
Mitre provide C4 Support	MIPR	Mitre, : McLean, VA	1.500	1.340		0.280		-		-		-	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604808A / *Landmine Warfare/Barrier - Eng Dev*	Project (Number/Name) 434 / *Anti-Personnel Landmine Alternatives (NSD)*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Spider - Millennium Engineering Support	C/FFP	Millennium : Arlington, VA	0.622	1.329	Feb 2014	-		-		-		-	Continuing	Continuing	-
Spider - CECOM Engineering Support MOD	C/CPFF	URS Federal Support Service : Lakehurst, NJ	0.000	0.390	Oct 2014	-		-		-		-	-	0.390	-
Spider - CERDEC Engineering Support	C/CPFF	CACI Technologies, INC : Chantilly, VA	0.000	0.100	Dec 2013	0.098	Jan 2015	0.120		-		0.120	-	0.318	-
Spider - CERDEC Eng support	MIPR	CERDEC - SPACE AND TERRESTRIAL COMMS DIR : APG, MD	0.000	0.098		0.110		-		-		-	Continuing	Continuing	-
Spider Increment 1A PEO STRI Training Support	MIPR	PEO STRI : Orlando, FL	0.050	-		0.100		0.100		-		0.100	-	0.250	-
ARL HRED MANPRINT/ HFE Support	MIPR	ARL HRED : Adelphi, MD	0.109	0.100		0.175		-		-		-	-	0.384	-
Night Vision Electronic Sensors Directorate	C/CPFF	Fibertek : Herndon, VA	0.000	-		0.163	Jan 2015	-		-		-	-	0.163	-
Spider 1A Maint & Engr SPT DOTC Contract	C/CPFF	Advanced Technology International (ATI) : North Charleston, SC	0.000	-		0.130	Jan 2015	-		-		-	-	0.130	-
Spider 1A Maint & Engr SPT IDIQ Contract	C/IDIQ	Advanced Technology International (ATI) : North Charleston, SC	0.000	-		0.168	Aug 2015	-		-		-	-	0.168	-
		Subtotal	6.494	11.108		4.850		0.924		-		0.924	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604808A / *Landmine Warfare/Barrier - Eng Dev*	**Project (Number/Name)** 434 / *Anti-Personnel Landmine Alternatives (NSD)*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Support Contractor/ Government Test Activities	MIPR	OTC, AMSAA, AEC, ATEC, NIE, TSMO, ARDEC : Various	0.056	0.178		2.811		2.400		-		2.400	Continuing	Continuing	-
		Subtotal	0.056	0.178		2.811		2.400		-		2.400	-	-	-

Remarks

Not Applicable

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	22.397	22.248		10.671		4.290		-		4.290	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604808A / *Landmine Warfare/Barrier - Eng Dev*	**Project (Number/Name)** 434 / *Anti-Personnel Landmine Alternatives (NSD)*

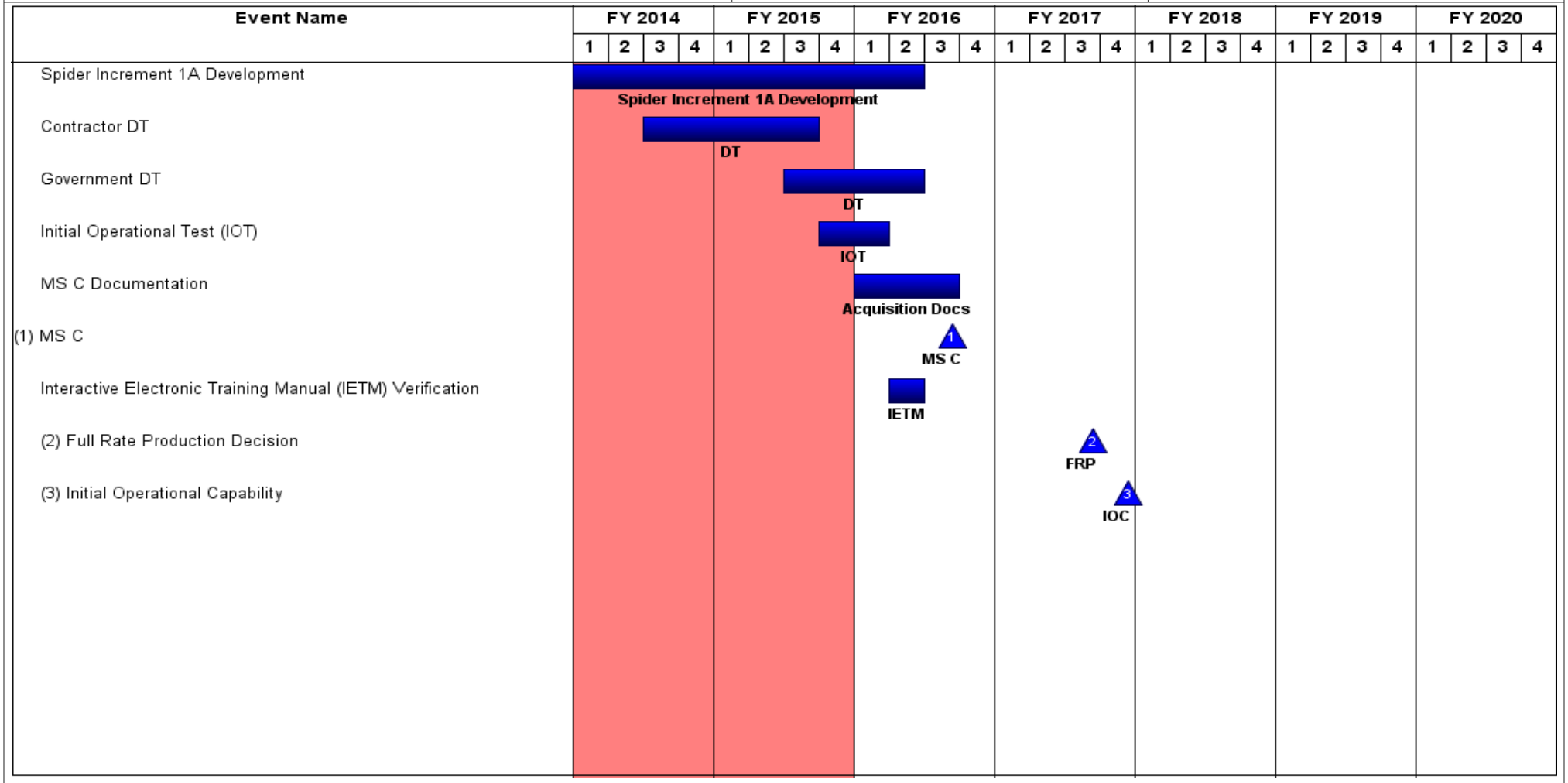


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604808A / *Landmine Warfare/Barrier - Eng Dev*	**Project (Number/Name)** 434 / *Anti-Personnel Landmine Alternatives (NSD)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Spider Increment 1A Development	4	2013	2	2016
Contractor DT	3	2014	3	2015
Government DT	3	2015	2	2016
Initial Operational Test (IOT)	4	2015	1	2016
MS C Documentation	1	2016	3	2016
MS C	3	2016	3	2016
Interactive Electronic Training Manual (IETM) Verification	2	2016	2	2016
Full Rate Production Decision	3	2017	3	2017
Initial Operational Capability	4	2017	4	2017

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604814A *I Artillery Munitions - EMD*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	-	6.352	-	-	-	-	-	-	-	-	-	6.352
708: *XM982 Projectile*	-	6.352	-	-	-	-	-	-	-	-	-	6.352

Note

FY 2014 was reduced by $1.576 million as a result of Better Buying Power cost savings from test efficiencies.

A. Mission Description and Budget Item Justification

Excalibur is a Precision Guided Extended Range 155mm Artillery projectile providing Brigade Combat Teams an organic precision fires capability. Additionally it provides improved fire support capability due to its increased range of 40.5 kilometers and demonstrated accuracy of < 3 meters radial miss distances, which enables a first round effect on target reducing the number of rounds required while reducing collateral damage. Excalibur is compatible with the M777A2 Lightweight 155mm Howitzer (LW155), M109A6 Paladin Howitzer, M109A7 Paladin PIM Howitzer and Sweden's Archer Howitzer. Excalibur provides a 35% range increase over current Rocket Assisted Projectiles, with a < 10 meter accuracy circular error probable at all ranges. Excalibur is also highly resistant to Global Positioning System (GPS) jamming. Excalibur is an international program, teamed with the Kingdom of Sweden (KoS), who contributed resources towards the development and have procured rounds in accordance with an established Project Agreement for use in their Archer Howitzer.

Increment Ib completed a successful Initial Operational Test and Evaluation in February 2014 as well as a Full Rate Production Decision Review in June 2014.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	8.205	-	-	-	-
Current President's Budget	6.352	-	-	-	-
Total Adjustments	-1.853	-	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-1.576	-			
• SBIR/STTR Transfer	-0.277	-			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604814A / *Artillery Munitions - EMD*	Project (Number/Name) 708 / *XM982 Projectile*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
708: *XM982 Projectile*	-	6.352	-	-	-	-	-	-	-	-	-	6.352
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Excalibur is a Precision Guided Extended Range 155mm Artillery projectile providing Brigade Combat Teams an organic precision fires capability. Additionally it provides improved fire support capability due to its increased range of 40.5 kilometers and demonstrated accuracy of < 3 meters radial miss distances, which enables a first round effect on target reducing the number of rounds required while reducing collateral damage. Excalibur is compatible with the M777A2 Lightweight 155mm Howitzer (LW155), M109A6 Paladin Howitzer, M109A7 Paladin PIM Howitzer and Sweden's Archer Howitzer. Excalibur provides a 35% range increase over current Rocket Assisted Projectiles, with a < 10 meter accuracy circular error probable at all ranges. Excalibur is also highly resistant to Global Positioning System (GPS) jamming. Excalibur is an international program, teamed with the Kingdom of Sweden (KoS), who contributed resources towards the development and have procured rounds in accordance with an established Project Agreement for use in their Archer Howitzer.

Increment Ib completed a successful Initial Operational Test and Evaluation in February 2014 as well as a Full Rate Production Decision Review in June 2014.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Increment Ib development support. ***Description:*** Increment Ib developmental support. ***FY 2014 Accomplishments:*** Implementation of reliability growth effort and completion of the IOT&E.	2.509	-	-
Title: Integrated Developmental Testing/Operational Testing (DT/OT), Safety/Reliability testing, and operational assessment for Increment Ib. ***Description:*** Conduct Integrated Developmental Testing/Operational Testing (DT/OT) , Safety/Reliability testing, and operational assessment. ***FY 2014 Accomplishments:*** Completion of initial operational test and evaluation, supporting the full rate production for Increment Ib.	3.843	-	-
Accomplishments/Planned Programs Subtotals	6.352	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604814A / *Artillery Munitions - EMD*	**Project (Number/Name)** 708 / *XM982 Projectile*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• Procurement Ammo: *Procurement Ammunition Army: Proj 155mm Extended Range: XM982-U Excalibur: E80103*	77.326	35.672	45.518	-	45.518	-	-	-	-	-	158.516

Remarks

D. Acquisition Strategy

Excalibur is a family of Precision Guided Extended Range Munitions. In 1997, a competitive Engineering and Manufacturing Development (EMD) contract was awarded for the initial increment, with options for Low Rate Initial Production (LRIP) quantities. In coordination with the Army Acquisition Executive, the Army implemented an incremental development approach that provided for an early fielding capability in FY 2007 in response to an Urgent Needs Statement in support of Operation Iraqi Freedom (as of September 2010 re-named to Operation New Dawn) and Operation Enduring Freedom. Increment Ib was solicited as a full and open competition and awarded to two contractors in September 2008. Following the Increment Ib strategy, the Army conducted a demonstration phase followed by a shoot off between the two competing contractors and down selected to a single contractor for qualification and production. The shoot off was completed in July 2010 followed by the downselect decision on 25 August 2010 to support Phase II development and qualification. Increment Ib completed successful Milestone C Decision Review on December 12, 2012, Initial Operational Test and Evaluation in February 2014 followed by a Full Rate Production Decision Review in June 2014. The Excalibur Increment projectile was Type Classified and Full Material Released in June 2014.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604814A / *Artillery Munitions - EMD*	Project (Number/Name) 708 / *XM982 Projectile*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Misc Support Contracts	Various	Various : Various	3.645	-		-		-		-		-	-	3.645	3.645
Platform Integration/Fire Control - AFATDS	SS/CPIF	Raytheon AFATDS : Fort Wayne, IN	5.907	-		-		-		-		-	-	5.907	5.907
Govt Support for Paladin, LW155 Integration SW Development	MIPR	ARDEC, Software Engineering : Picatinny, NJ	7.588	-		-		-		-		-	-	7.588	7.588
Increment Ib Development Phase 2	C/CPIF	Raytheon Missile System : Tucson, AZ	77.428	-		-		-		-		-	-	77.428	77.428
Increment 1b Development Phase 1	C/FFP	Alliant Techsystems : Pymouth, MN	30.773	-		-		-		-		-	-	30.773	30.773
Increment 1b Development Phase 1	C/FFP	Raytheon Missile System : Tucson, AZ	30.413	-		-		-		-		-	-	30.413	30.413
Platform Integration & EPIAFS Software Development	MIPR	Navy, Surface Warfare Center : MD	0.230	-		-		-		-		-	-	0.230	0.230
Follow on Precision Artillery risk reduction	C/CPFF	ARDEC : Picatinny, NJ	5.049	-		-		-		-		-	-	5.049	5.049
Platform Integration-Systems Contractor	MIPR	ARES : Annapolis, MD	0.840	-		-		-		-		-	-	0.840	0.840
TCM Merger Assessment	SS/FP	Bofors Defence, Karlskoga : Sweden	14.430	-		-		-		-		-	-	14.430	14.430
Fee on Excalibur Development Contract	C/CPIF	Raytheon Missile System : Tucson, AZ	35.377	-		-		-		-		-	-	35.377	35.377
Platform Integration LW155 M777A2	C/CPIF	BAE : Burlington, VT	11.989	-		-		-		-		-	-	11.989	11.989
ARDEC fuze technology maturation (DOTC)	SS/FP	ARDEC : Picatinny, NJ	3.872	-		-		-		-		-	-	3.872	3.872
SS-SFM Test Projectiles	C/FFP	Various : Varoius	10.815	-		-		-		-		-	-	10.815	10.815
Advanced Cargo Projectile Technology	MIPR	DMEA, McClellan : CA	2.390	-		-		-		-		-	-	2.390	2.390
Platform Integration Firing Tables Development	MIPR	ARDEC, Firing Tables Branch Picatinny, NJ and : Aberdeen, MD	2.399	-		-		-		-		-	-	2.399	2.399

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604814A / *Artillery Munitions - EMD*	Project (Number/Name) 708 / *XM982 Projectile*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Excalibur Increment Ia Development	C/CPIF	Raytheon Missile System : Tucson, AZ	428.187	-		-		-		-		-	-	428.187	428.187
		Subtotal	671.332	-		-		-		-		-	-	671.332	671.332

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management	PO	PM Excalibur : Picatinny, NJ	28.071	0.500	Oct 2013	-		-		-		-	-	28.571	28.571
Government Support-Excalibur XM982	MIPR	ARDEC : Picatinny, NJ	68.661	1.989	Jan 2014	-		-		-		-	-	70.650	70.650
Goverment Support- Ft Sill	MIPR	Ft. Sill : OK	3.534	0.020	Nov 2013	-		-		-		-	-	3.554	3.554
Milestone Support	C/FP	Camber : Alexandria, VA	1.792	-		-		-		-		-	-	1.792	1.792
Miscellaneous Support	Various	Various : Various	4.175	-		-		-		-		-	-	4.175	4.175
Engineering Services Contract for Increment 1a-2	SS/CPFF	Raytheon Missile Systems : Tucson, AZ	0.085	-		-		-		-		-	-	0.085	0.085
Paladin Platform Integration	MIPR	PM Paladin : Picatinny, NJ	0.930	-		-		-		-		-	-	0.930	0.930
Government Support - SS-SFM	MIPR	ARDEC : Picatinny, NJ	1.625	-		-		-		-		-	-	1.625	1.625
Technical Spt Contract for Platform Integration	C/FP	Camber : Dallas, TX	0.821	-		-		-		-		-	-	0.821	0.821
Fire Control development support	MIPR	Fort Monmouth, NJ and : Fort Sill, OK	1.008	-		-		-		-		-	-	1.008	1.008
Platform Integration Software Support	MIPR	Navy Surface Warfare Center : MD	0.390	-		-		-		-		-	-	0.390	0.390
Government TCM Support	MIPR	ARDEC : Picatinny, NJ	0.910	-		-		-		-		-	-	0.910	0.910

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604814A / *Artillery Munitions - EMD*	Project (Number/Name) 708 / *XM982 Projectile*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Support-Advanced Cargo Projectile Technology	MIPR	ARDEC : Picatinny, NJ	0.353	-		-		-		-		-	-	0.353	0.353
Government Support Platform Integration	MIPR	ARDEC : Picatinny, NJ	6.241	-		-		-		-		-	-	6.241	6.241
PM CAS SS-SFM	PO	PM CAS : Picatinny, NJ	0.700	-		-		-		-		-	-	0.700	0.700
Increment Ia Engineering Services	MIPR	DMEA : McClellan, CA	5.078	-		-		-		-		-	-	5.078	5.078
Increment Ia Engineering Services	C/CPFF	DRS : Eatontown, NJ	12.850	-		-		-		-		-	-	12.850	12.850
Modeling and Structural Development	MIPR	Army Research Labs : Adelphi, MD	9.034	-		-		-		-		-	-	9.034	9.034
Government Engineering Support for Precision Artillery Risk Reduction	MIPR	ARDEC : Picatinny, NJ	2.750	-		-		-		-		-	-	2.750	2.750
		Subtotal	149.008	2.509		-		-		-		-	-	151.517	151.517

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TECOM Test Range	MIPR	Yuma Proving Grounds : Yuma, AZ	25.768	2.437	Nov 2013	-		-		-		-	-	28.205	28.205
Test Instrumentation and Analysis	MIPR	Army Research Labs : Adelphi, MD	3.935	0.196	Dec 2013	-		-		-		-	-	4.131	4.131
Telemetry Support	SS/FFP	Physical Science Laboratories (PSL) : Las Cruces, NM	3.146	-		-		-		-		-	-	3.146	3.146
Telemetry Support	MIPR	ARDEC : Picatinny, NJ	17.711	0.150	Nov 2013	-		-		-		-	-	17.861	17.861

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604814A / *Artillery Munitions - EMD*	Project (Number/Name) 708 / *XM982 Projectile*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Telemetry Cryptographic Support & Anti-Jam Support	MIPR	Ft. Huachuca : AZ	0.919	-		-		-		-		-	-	0.919	0.919
Target Replacement, Definition, Maintenance and Repair and Threat Assessment	MIPR	Target Management Office : Huntsville, AL	1.558	0.078	Nov 2013	-		-		-		-	-	1.636	1.636
Operational Test Support & AEC	MIPR	ATEC : Alexandria, VA	9.457	0.040	Dec 2013	-		-		-		-	-	9.497	9.497
ARDEC Testing	MIPR	ARDEC : Picatinny, NJ	2.814	0.221	Jan 2014	-		-		-		-	-	3.035	3.035
TECOM Test Range	MIPR	White Sands Missile Range : NM	13.595	-		-		-		-		-	-	13.595	13.595
Operational Test Support	MIPR	Ft. Sill : OK	3.244	0.721	Nov 2013	-		-		-		-	-	3.965	3.965
Test Gun Equipment	MIPR	Watervliet Arsenal : NY	3.972	-		-		-		-		-	-	3.972	3.972
Test Hardware	SS/CPFF	SAVIT : Parsippany, NJ	0.450	-		-		-		-		-	-	0.450	0.450
Live Fire Test and Evaluation	MIPR	ARL : Aberdeen, MD	0.697	-		-		-		-		-	-	0.697	0.697
Tri-Service Software Assessment	MIPR	OSD : Washington, DC	0.061	-		-		-		-		-	-	0.061	0.061
SS-SFM Testing	MIPR	Yuma Proving Grounds : Yuma, AZ	2.300	-		-		-		-		-	-	2.300	2.300
		Subtotal	89.627	3.843		-		-		-		-	-	93.470	93.470

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	909.967	6.352		-		-		-		-	-	916.319	916.319

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604814A / *Artillery Munitions - EMD*	**Project (Number/Name)** 708 / *XM982 Projectile*

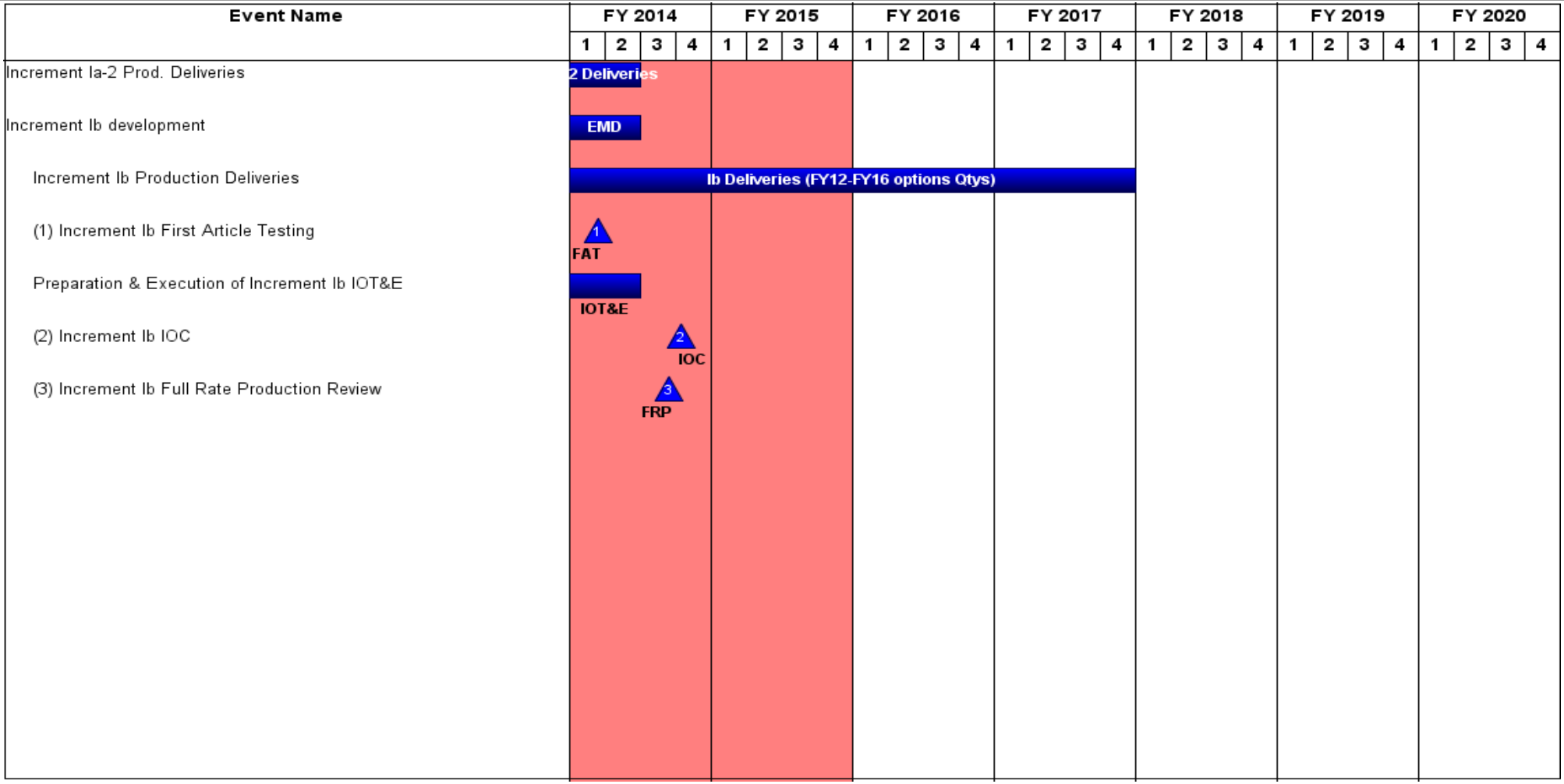


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604814A / *Artillery Munitions - EMD*	**Project (Number/Name)** 708 / *XM982 Projectile*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Increment Ia-2 Prod. Deliveries	4	2011	2	2014
Increment Ib development	4	2008	2	2014
Increment Ib Production Deliveries	1	2014	4	2017
Increment Ib First Article Testing	1	2014	1	2014
Preparation & Execution of Increment Ib IOT&E	4	2013	2	2014
Increment Ib IOC	4	2014	4	2014
Increment Ib Full Rate Production Review	3	2014	3	2014

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604818A *I Army Tactical Command & Control Hardware & Software*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	-	22.900	29.675	163.643	-	163.643	188.956	199.922	181.618	85.239	Continuing	Continuing
323: *Common Hardware Systems*	-	5.617	4.504	4.779	-	4.779	5.024	5.226	5.569	6.855	Continuing	Continuing
334: *Common Software*	-	1.404	8.319	18.440	-	18.440	25.293	28.389	38.967	9.494	Continuing	Continuing
C29: *Centralized Technical Support Facility (CTSF)*	-	4.615	7.874	3.203	-	3.203	-	-	-	-	-	15.692
C34: *Army Tac C2 Sys Eng*	-	11.264	8.978	9.046	-	9.046	9.194	9.286	9.331	9.431	Continuing	Continuing
EJ4: *COMMAND POST COMPUTING ENVIRONMENT (CPCE)*	-	-	-	70.483	-	70.483	83.373	102.233	72.468	4.963	79.058	412.578
EJ5: *MOUNTED COMPUTING ENVIRONMENT (MCE)*	-	-	-	12.370	-	12.370	15.669	18.798	16.994	7.839	-	71.670
EJ6: *TACTICAL ENHANCEMENT*	-	-	-	13.278	-	13.278	12.024	-	-	-	-	25.302
EJ7: *TACTICAL DIGITAL MEDIA*	-	-	-	1.300	-	1.300	2.500	-	-	-	-	3.800
EK9: *TACTICAL NETWORK OPERATIONS AND MANAGEMENT*	-	-	-	30.744	-	30.744	35.879	35.990	38.289	46.657	-	187.559

Note

The $122.047 million increase in FY 2016 represents funding for the following new projects:
EJ4 Command Post Computing Environment - This is not a new start. Funds are being realigned from PE/Project 0203740A/484.
EJ5 Mounted Computing Environment - This is not a new start. Funds are being realigned from PE/Project 0604805A/593.
EJ6 Tactical Enhancement
EJ7 Tactical Digital Media
EK9 Tactical Network Operations and Management

A. Mission Description and Budget Item Justification

The Common Hardware Systems (CHS) program acquires and sustains highly flexible, state-of-the-art, cost effective, common, and simplified non-developmental C5ISR solutions that improve interoperability and connectivity on the battlefield while garnering efficient competition to integrate the latest commercial technology onto the Army

tactical network. CHS provides technical support, common standardized testing and system design / configuration management across Army tactical programs to ensure interoperability and integration of hardware throughout the development of capabilities, to facilitate and simplify the selection of common hardware solutions across the operational battlefield and to create efficiencies through streamlined common hardware configurations across the Common Operating Environments (COE)s.

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

This program element also includes the Central Technical Support Facility (CTSF) which is the Army's single strategic facility responsible for executing Army Interoperability Certification (AIC) system of system verification/validation checkout, testing, and configuration management for the Army's LandWarNet Baseline.

The Technical Management Division (TMD) effectively manages the System-of-Systems engineering, Enterprise and Integration efforts for the continuing evolution of the network within the Program Executive Office Command, Control, Communication and Tactical (PEO C3T) portfolio of technology across the capability enhancement packages to deliver efficient and effective cross-domain technical solutions.

The Mounted Computing Environment (MCE) is one of the six computing environments formalized by the AAE under the Common Operating Environment (COE) via the AAE Directive to Program Executive Offices dated 20 December 2011. MCE standardizes end-user environments and enables streamlined deployment of new warfighting applications. The Joint Battle Command - Platform (JBC-P) is the foundational element and core software platform of the MCE. Future development of the MCE will leverage JBC-P hardware and software to consolidate and integrate multiple warfighting systems in the Platform (Mounted) environment and will speed delivery of new Mission Command applications to the warfighter while improving the effectiveness and value of current systems. In FY 2016, these funds are being realigned from PE/Project 0203740A/484.

The Command Post Computing Environment (CPCE), one of the computing environments under the Common Operating Environment (COE), provides a common foundation (Common Infrastructure / Common Services) for Warfighter Capabilities. The CPCE establishes a Common Core Software Baseline and Hardware Configuration upon which future Warfighter capabilities can be built. The CPCE targets Command and Control (C2) capability development at tactical echelons that span from the company to all Army Service Component Commands (ASCC). The CPCE will be the most critical computing environment developed to support the command posts and combat operations. In FY 2016, these funds are being realigned from PE/Project 0604805A/593.

Tactical Digital Media (TDM) is comprised of photo, video and audio recording and editing equipment that will be assembled and issued as variant kits tailored to unit mission requirements. TDM kits address modernization gaps associated with all operational Combat Camera (COMCAM), Public Affairs (PA), and Military Information Support Operations (MISO) units. TDM provides essential imagery, multimedia products, and live interview capabilities that directly contribute to successful execution of a Commander's strategic engagement and communications strategy across the full range of military operations.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army	Date: February 2015
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604818A *I Army Tactical Command & Control Hardware & Software*

Tactical Network Operations (NetOps) and Management (TNOM) is the program which will develop and integrate the Tactical NetOps software capabilities in support of NetOps Convergence, PEO C3T STARNET objectives and emerging Cyber Center Of Excellence (CCOE) requirements. The end state program is designed to synchronize LandWarNet NetOps efforts in an integrated and interoperable framework, spanning all echelons of command and supporting the full range of military operations for Army, Joint, and Coalition Forces in order to ensure converged NetOps. The initial mission is convergence of all Tactical Defensive Cyber Operations (DCO) and DoD Information Network (DoDIN) functions into a single integrated set of Tactical NetOps and Management software. This integrated solution provides NetOps capability from the Soldier to the Theater network entry point and supports the Implementation of the Integrated Tactical NetOps (ITNO) Capability Production Document (CPD).

Tactical Enhancement supports testing requirements for capabilities procured and fielded under the Signal Modernization Program. Signal Modernization will modernize legacy terrestrial communications links and increase capacity of the Expeditionary Signal Battalions. It will also provide transport convergence for Warfighter Information Network- Tactical (WIN-T) Increment 1 units, bringing Top Secret Intel, Medical, and Sustainment capabilities from their legacy stovepipe transport systems on to the WIN-T network.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	22.945	29.683	41.596	-	41.596
Current President's Budget	22.900	29.675	163.643	-	163.643
Total Adjustments	-0.045	-0.008	122.047	-	122.047
• Congressional General Reductions	-	-0.008			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-0.045	-	122.047	-	122.047

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604818A / *Army Tactical Command & Control Hardware & Software*	Project (Number/Name) 323 / *Common Hardware Systems*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
323: *Common Hardware Systems*	-	5.617	4.504	4.779	-	4.779	5.024	5.226	5.569	6.855	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Common Hardware Systems (CHS) program acquires and sustains highly flexible, customized, cost effective, common, and simplified non-developmental C5ISR solutions that improve interoperability and connectivity on the battlefield while garnering efficient competition to integrate the latest commercial technology onto the Army tactical network. CHS provides technical support, environmental testing and system design / configuration management across Army tactical programs to ensure interoperability and integration of hardware throughout the development of capabilities. CHS hardware evaluations facilitate and simplify the selection of common hardware solutions across the operational battlefield and create efficiencies through streamlined common hardware configurations across the Common Operating Environments (COE)s. CHS also provides worldwide 72-hour turnaround repair, maintenance, logistics, and technical support services through strategically located support centers for tactical military units and manages customizable warranty for program specific requirements.

FY 2016 funds support CHS to continue to manage the acquisition and delivery of CHS equipment and technology insertion in support of customer requirements, and continues to support hardware and systems engineering, and evaluations. CHS will continue CHS-5 contract pre-award activities.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Acquisition Management, System/ Configuration Management, and technical evaluation and testing of CHS equipment and services in support of program requirements ***Description:*** Funding is provided for the following effort ***FY 2014 Accomplishments:*** Continued the management of the acquisition/delivery, System/ Configuration Management, and technical evaluation and testing of CHS equipment in support of customer requirements ***FY 2015 Plans:*** Will continue the management of the acquisition/delivery, System/ Configuration Management, and technical evaluation and testing of CHS equipment in support of customer requirements ***FY 2016 Plans:*** Will continue the management of the acquisition/delivery, System/ Configuration Management, and technical evaluation and testing of CHS equipment in support of customer requirements	5.117	3.904	3.929
Title: CHS Technology Insertion in support of program capability requirements	0.500	0.600	0.600

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** 323 / *Common Hardware Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Description: Funding is provided for the following effort ***FY 2014 Accomplishments:*** Continued CHS Technology Insertion in support of program capability requirements ***FY 2015 Plans:*** Continue CHS Technology Insertion in support of program capability requirements ***FY 2016 Plans:*** Continue CHS Technology Insertion in support of program capability requirements			
Title: Non Recurring Engineering (NRE) Costs for New CHS-5 Products ***Description:*** Funding is provided for the following effort ***FY 2016 Plans:*** Non Recurring Engineering (NRE) Costs for New CHS-5 Products	-	-	0.250
Accomplishments/Planned Programs Subtotals	5.617	4.504	4.779

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

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

CHS also conducts common environmental and developmental testing of hardware items thereby reducing the testing requirements for individual Project Managers. An Indefinite Delivery/Indefinite Quantity firm fixed priced, full and open competition contract was awarded to General Dynamics in May 2003, for ruggedization and production. In August 2011, CHS awarded, on a best value basis, the follow-on CHS-4 contract via full and open competition. CHS-5 is to be awarded in FY16 to provide flexibility for Tactical Programs of Record (PoR)s to meet hardware and associated services requirements through full and open competition and to provide an agile solution to support COE, network integration activities, capability set development, and transport needs.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604818A / *Army Tactical Command & Control Hardware & Software*	Project (Number/Name) 323 / *Common Hardware Systems*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Support Costs	C/FP	Various : Various	75.168	2.478		2.130	Dec 2014	1.975	Dec 2015	-		1.975	Continuing	Continuing	Continuing
Product Development	C/FP	Various : Various	84.151	2.639		1.774	Dec 2014	1.954	Dec 2015	-		1.954	Continuing	Continuing	Continuing
Technology Insertion	C/FP	Various : Various	15.277	0.500		0.600	Dec 2014	0.600	Dec 2015	-		0.600	Continuing	Continuing	Continuing
CHS-5 Non-Recurring Engineering	C/FP	Various : Various	0.000	-		-		0.250	Mar 2016	-		0.250	-	0.250	-
		Subtotal	174.596	5.617		4.504		4.779		-		4.779	-	-	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	174.596	5.617		4.504		4.779		-		4.779	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** 323 / *Common Hardware Systems*

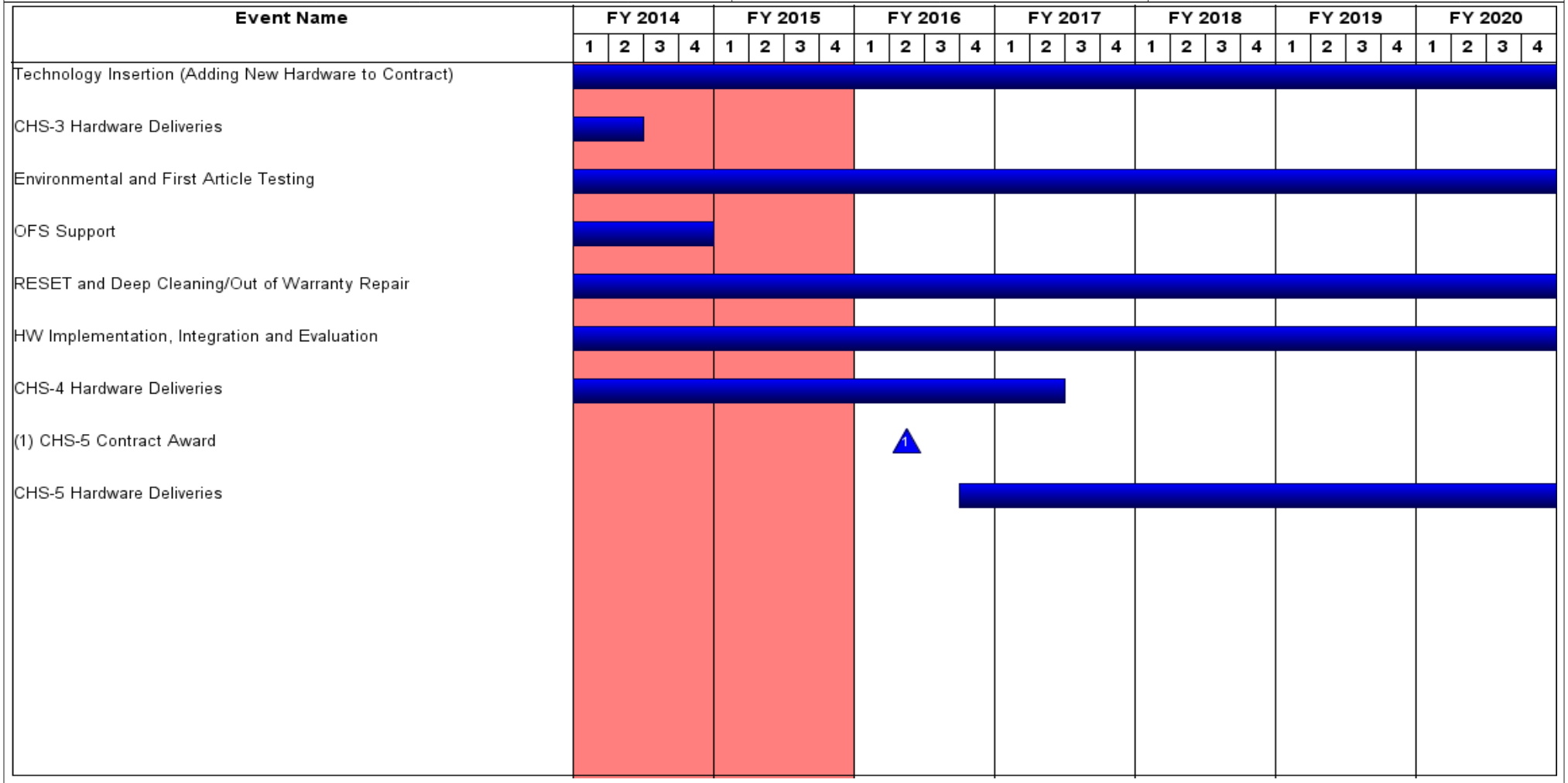


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** 323 / *Common Hardware Systems*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Technology Insertion (Adding New Hardware to Contract)	1	2007	4	2020
CHS-3 Hardware Deliveries	2	2004	2	2014
Environmental and First Article Testing	1	2006	4	2020
OFS Support	1	2006	4	2014
RESET and Deep Cleaning/Out of Warranty Repair	1	2006	4	2020
HW Implementation, Integration and Evaluation	1	2006	4	2020
CHS-4 Hardware Deliveries	1	2012	2	2017
CHS-5 Contract Award	2	2016	2	2016
CHS-5 Hardware Deliveries	4	2016	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604818A / *Army Tactical Command & Control Hardware & Software*	Project (Number/Name) 334 / *Common Software*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
334: *Common Software*	-	1.404	8.319	18.440	-	18.440	25.293	28.389	38.967	9.494	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

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

FY16 funding supports on-going development of common software solutions and the technical evaluation of previously developed software capabilities for integration into the computing environments of the Army Common Operating Environment (COE) architecture to include Cross Cutting Capabilities (CCC) that are also appropriate in Mounted and Mobile Computing environments. Efforts will include assessment of software maturity and readiness, development/modification of software as necessary to integrate with common computing environments, and validation. Common Software products include Data Dissemination Services (DDS) and C2 Infrastructure Virtual Machine as foundation for machine-to-machine (M2M) messaging CCC, Unit Task Organization, Universal Chat Bridge and Command and Control Registry hosted on Battle Command Common Services (BCCS) infrastructure.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Mission Command (MC) systems provide single common software enterprise infrastructure development in support of Army and Joint Services requirements. ***Description:*** Funding is provided for the following effort. ***FY 2015 Plans:*** Funding is provided for Common Software development efforts for infrastructure development, messaging standards integration, addressing development, remote configuration and management and widget services. ***FY 2016 Plans:*** Funding is provided for Common Software development efforts for infrastructure development, messaging standards integration, addressing development, remote configuration and management and widget services.	-	2.191	4.315
Title: Joint and Coalition interoperability efforts.	-	1.146	2.450

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** 334 / *Common Software*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Description: Provide software for interoperability of Joint and Coalition efforts. ***FY 2015 Plans:*** Provide software for interoperability of Joint and Coalition efforts including development, JITC Certification and Assessment, and exercise support. ***FY 2016 Plans:*** Will continue to provide software for interoperability of Joint and Coalition efforts including development, JITC Certification and Assessment, and excercise support.			
Title: Integration of previously developed and currently required mission command software services and common software solutions into the Army COE and Command Post Computing Environment. ***Description:*** Funding is provided for the following effort. ***FY 2014 Accomplishments:*** Integration of previously developed and currently required mission command software services and common software solutions into the Army COE and Command Post Computing Environment. ***FY 2015 Plans:*** Technical evaluation of previously developed software capabilities for integration with the computing environments of the Army Common Operating Environment (COE) architecture to include appropriate Mounted and Mobile Computing environments. Efforts will include assessment of software applicability to the core infrastructure, development/modification of software necessary to integrate, integration with common computing environments, and validation. ***FY 2016 Plans:*** Technical evaluation of previously developed software capabilities for integration with the computing environments of the Army Common Operating Environment (COE) architecture to include appropriate Mounted and Mobile Computing environments. Efforts will include assessment of software applicability to the core infrastructure, development/modification of software necessary to integrate, integration with common computing environments, and validation.	1.084	3.155	3.063
Title: Software Development - Battle Command Common Services (BCCS) ***Description:*** Battle Command Common Services (BCCS) provides an integrated Server hardware and locally hosted Enterprise Service Infrastructure for use in tactical Army command posts. C2 infrastructure and data services hosted on BCCS providing Joint and Multinational interoperability. ***FY 2016 Plans:***	-	-	5.262

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** 334 / *Common Software*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
BCCS software application and infrastructure development.			
Title: Test and Evaluation ***Description:*** Test and Evaluation efforts include the planning and conduct of Test, Evaluation, and Integration events in support of CPCE development. This includes participation in Network Integration Exercises (NIEs), User Juries, Assessments, Risk Reduction Events (RREs), vulnerability testing, and Army Interoperability Certification (AIC) testing. Testing can consist of stand-alone capability testing in a lab/sandbox environment or full interoperability testing with multiple systems in an operational environments. ***FY 2015 Plans:*** Test and Evaluation required for Common Software. Software testing documentation and training and AIC. ***FY 2016 Plans:*** Test and Evaluation required for Common Software and BCCS. Software testing documentation and training and AIC.	-	0.288	1.562
Title: Program Management ***Description:*** Program management includes overall management of program execution, major events, reporting, funds execution, contract management, and logistical support. Includes participation in program planning meetings and IPTs. ***FY 2014 Accomplishments:*** Program Management - Includes Core, Matrix, and Contractor support. ***FY 2015 Plans:*** Program Management - Includes Core, Matrix, and Contractor support. ***FY 2016 Plans:*** Program Management - Includes Core, Matrix, and Contractor support.	0.320	1.539	1.788
Accomplishments/Planned Programs Subtotals	1.404	8.319	18.440

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Common Software also receives funding from the CPCE budget line (0604818A EJ4)

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** 334 / *Common Software*

D. Acquisition Strategy

The overall acquisition goal of the CS project is to provide common products that are used horizontally across programs, preventing duplication of effort by Army and Joint programs and facilitating life cycle cost efficiencies. All software development efforts will be competed among Capability Maturity Model Integration (CMMI) certified developers.

In accordance with the approved Net-enabled Mission Command Initial Capabilities Document (NeMC ICD), software capability will be developed in 2-year increments as capability sets designed to facilitate messaging, mediation and addressing for Army, Joint and Coalition Partners in synchronization with the maturity of the Common Operating Environment (COE) and Command Post Computing Environment (CP CE) architecture baselines. The product development funded under this R-Form is an integral part of the Mission Command systems, and a core communication component of the virtualized infrastructure and will be accomplished primarily under a Project Manager, Mission Command (PM MC) system of systems contract approach which consists of multiple prime contracts awarded from a single solicitation that will require each specific development task be competed among primes whenever possible. This strategy is designed to optimize opportunities for improved interoperability among the systems, to capture the benefits of competition, and to ensure the rapid integration of new capabilities into warfighter systems. This strategy is also designed to reduce the physical footprint, the logistics support requirements, and to increase operational efficiency by integration of additional system interoperability services which reduce duplication of effort and cost; and allows for development of communication standards across the DoD community.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604818A / *Army Tactical Command & Control Hardware & Software*	Project (Number/Name) 334 / *Common Software*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Office Management	Various	PM Mission Command : Aberdeen, MD	9.288	0.320	Nov 2013	1.539	Nov 2014	1.788	Nov 2015	-		1.788	Continuing	Continuing	-
		Subtotal	9.288	0.320		1.539		1.788		-		1.788	-	-	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Common Software Product Engineering/Software Development	C/CPFF	Various Contractors : Various Locations	0.000	-		-		4.315	Dec 2015	-		4.315	Continuing	Continuing	-
Mission Command/Army System Engineering & Integration	C/CPFF	Future Skies : Wall Township, NJ	5.547	1.084	Jan 2014	2.191	Mar 2015	-		-		-	-	8.822	6.679
Engineering & Integration for Joint and Coalition Interoperability	C/CPFF	Various Contractors : Various Locations	0.000	-		1.146	Mar 2015	2.450	Dec 2015	-		2.450	Continuing	Continuing	-
Evaluation, modification, validation & integration of developed SW	C/CPFF	Various Contractors : Various Locations	0.000	-		3.155	Mar 2015	3.063	Dec 2015	-		3.063	-	6.218	4.159
Battle Command Common Services Infrastructure and Application Development	C/CPFF	Various Contractors : APG, MD	0.000	-		-		5.262	Dec 2015	-		5.262	Continuing	Continuing	Continuing
		Subtotal	5.547	1.084		6.492		15.090		-		15.090	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test/ Operational Test	MIPR	Various : Various Locations	7.145	-		0.288	Mar 2015	1.562	Feb 2016	-		1.562	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604818A / *Army Tactical Command & Control Hardware & Software*	Project (Number/Name) 334 / *Common Software*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	7.145	-		0.288		1.562		-		1.562	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	21.980	1.404		8.319		18.440		-		18.440	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** 334 / *Common Software*

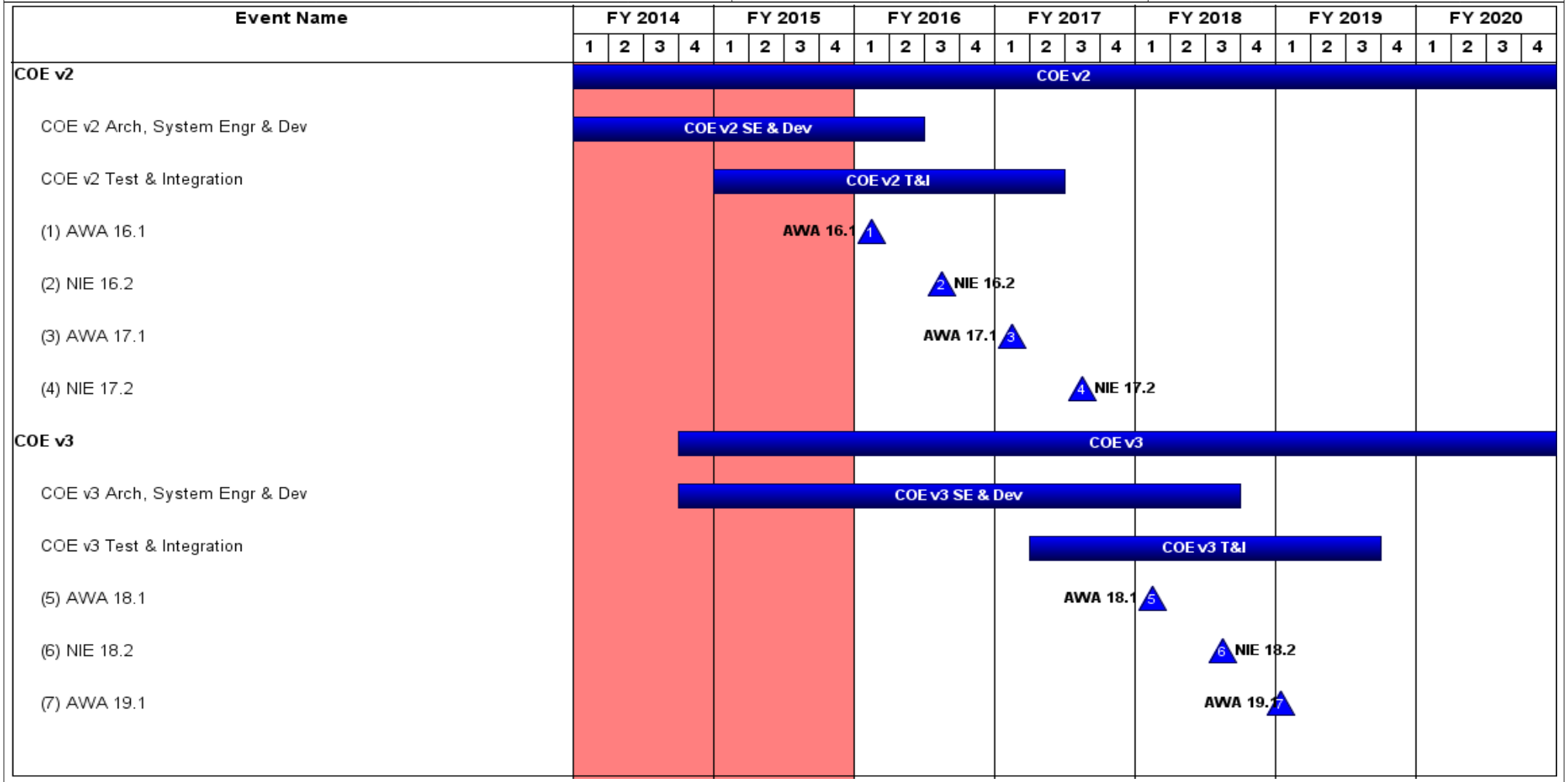


Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** 334 / *Common Software*

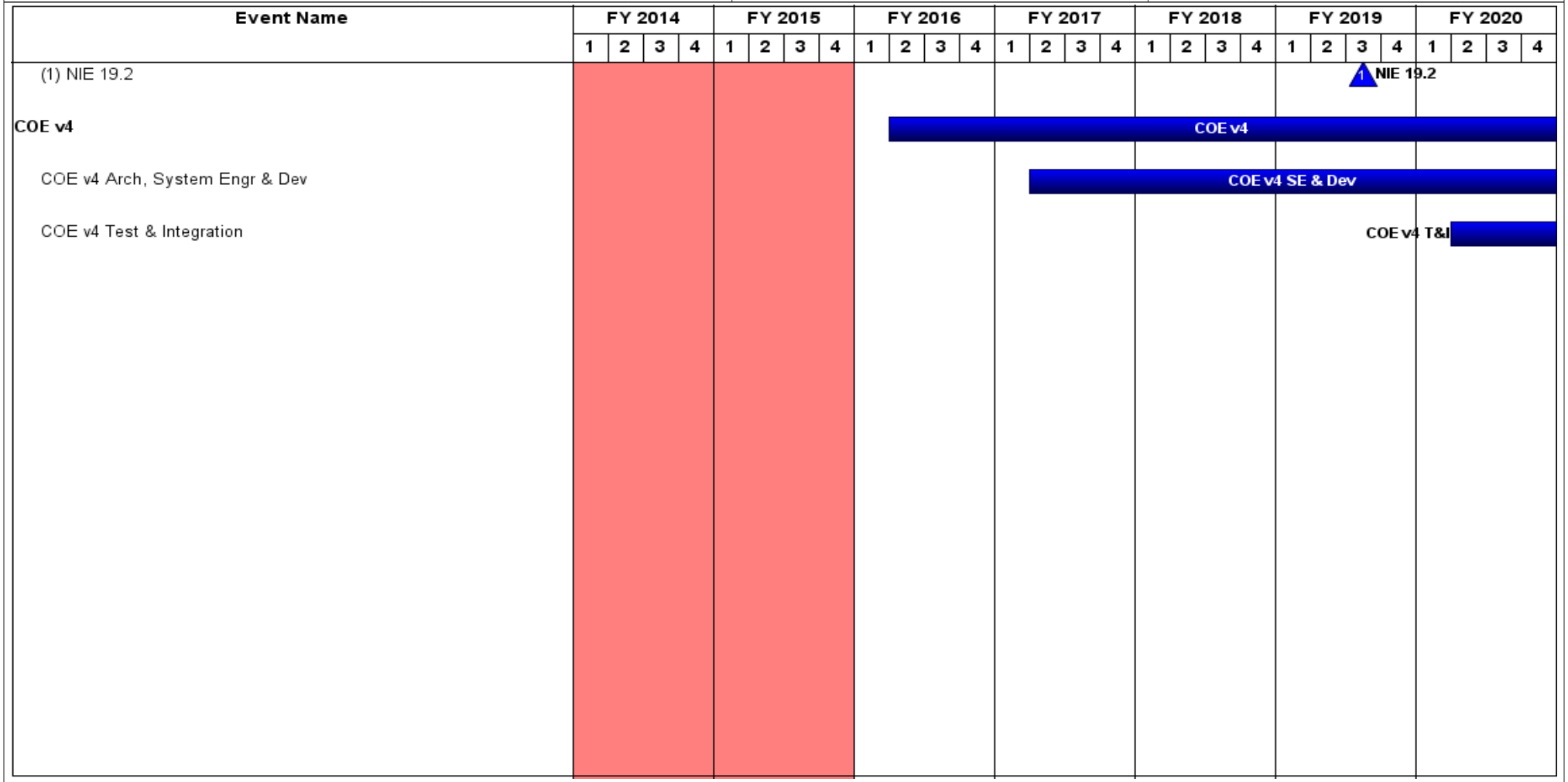


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** 334 / *Common Software*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
COE v2	2	2012	3	2022
COE v2 Arch, System Engr & Dev	2	2012	2	2016
COE v2 Test & Integration	1	2015	2	2017
AWA 16.1	1	2016	1	2016
NIE 16.2	3	2016	3	2016
AWA 17.1	1	2017	1	2017
NIE 17.2	3	2017	3	2017
COE v3	4	2014	3	2022
COE v3 Arch, System Engr & Dev	4	2014	3	2018
COE v3 Test & Integration	2	2017	3	2019
AWA 18.1	1	2018	1	2018
NIE 18.2	3	2018	3	2018
AWA 19.1	1	2019	1	2019
NIE 19.2	3	2019	3	2019
COE v4	2	2016	3	2022
COE v4 Arch, System Engr & Dev	2	2017	3	2021
COE v4 Test & Integration	2	2020	4	2021

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604818A / *Army Tactical Command & Control Hardware & Software*	Project (Number/Name) C29 / *Centralized Technical Support Facility (CTSF)*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
C29: *Centralized Technical Support Facility (CTSF)*	-	4.615	7.874	3.203	-	3.203	-	-	-	-	-	15.692
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Project C29 - Centralized Technical Support Facility: The Central Technical Support Facility (CTSF) is the Army's premier test and certification facility for System of Systems interoperability. It is the Army's strategic facility responsible for conducting engineering support associated with test integration of Army Mission Command architectures into the Army Interoperability Certification (AIC) system of systems environment, performing AIC testing and conducting configuration management for all operational and tactical level applications (individual systems, System of Systems, and Families of Systems) prior to fielding. The CTSF provides validated test data to the Department of the Army and Joint agencies to accredit interoperability certifications. The distributed test environment of the CTSF is accomplished through the Federated Net-centric Sites (FaNS) construct. This FaNS construct addresses distributed integration development and testing using the core infrastructure of the CTSF to harness AMC, Army, and Joint expertise/resources. Through these federated resources, the CTSF executes interoperability development and certification testing of the Warfighter mission areas, to include Network Evaluation spinouts, as they digitize and become part of the Army's LandWarNet.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Army Interoperability Certification (AIC) Testing	2.638	6.196	2.111

Description: Conduct Army Interoperability Certification testing/planning/data collection/ data analysis/reporting, interoperability baseline testing, simulation/ stimulation verification/validation and distributed testing. Manage the set-up, configuration, integration, and operations and maintenance of the LandWarNet systems within the test floor environment, as the CIO/G-6's Test Agent for Program Managers of LandWarNet systems that need to deliver software updates for fielding to the Warfighter. Report the results of Army Interoperability Certification Tests to the CIO/G-6, PM, and TRADOC communities to support updates to the G-3/5/7 managed baseline.

FY 2014 Accomplishments:
Executed integration support/testing/evaluation for SWB2, CS11-12, and COE v1.0 through test planning, test case development, information assurance software/compliance scans, and test tool verification. Began work on COE v 1.0 and beyond Army Transition Strategy focusing on technical integration within the Computing Environment (CE) and Control Point (CP) construct, defining control point specifications between CPs, and testing methodology within CEs and between CEs as part of the Army Transition to COE strategy.

FY 2015 Plans:
Continue SWB2, CS11-12, COE 1.0 and Beyond test planning, test case development, test floor architecture set-up to include information assurance software/compliance, test tools, and conduct COE 1.0 and Beyond testing/evaluation and certification;

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** C29 / *Centralized Technical Support Facility (CTSF)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
begin development of distributed Control Point test process and test architectures with Computing Environment Leads, Program Executive Offices and Program Managers. AIC testing and data collection will be on a bi-annual basis beginning FY15. ***FY 2016 Plans:*** Continue SWB2, CS11-12, COE 1.0 and Beyond test planning, test case development, test floor architecture set-up to include information assurance software/compliance, test tools, and conduct COE 1.0 and Beyond testing/evaluation and certification, incrementally implementing and utilizing distributed Control Point test processes and test architectures. Prepare to conduct initial AIC testing and certification of COE 2.0, projected during FY16; begin bi-monthly widget testing with COE 2.0 AIC.			
Title: Engineering Services ***Description:*** Provide network engineering support to establish and maintain tactical architectures on the CTSF test floors and to deploying/fielded units at training centers around the world (NIE, JRTC, NTC, JMRC). System engineering support provides hardware virtualization, advanced Host Based Security System (HBSS) support, system validation and integration support to numerous PMs on the integration and risk reduction labs, and assists Army programs with interoperability assessments and AIC rehearsal. ***FY 2014 Accomplishments:*** Continued AIC Integration and Testing support. Conducted Network Integration checkout before each AIC to ensure systems and Network were ready for test. Supported PMs for COE V1.0 integration. Supported backward compatibility testing between SWB2, CS11-12 and COE V1.0. Identified and incorporated software tools to monitor performance and assisted in issue resolution. Decreased scope and size of engineering staff to implement the HQDA directed guidance to provide systems engineering support services only directed at test/certification research, tools and instrumentation to speed the testing of LandWarNet/Mission Command systems. Provided PMs with a Virtualization Suite and assisted in virtualizing software (SW). Supported deploying/ fielded units at training centers around the world (NIE, JRTC, NTC, JMRC). ***FY 2015 Plans:*** Support AIC Integration and Testing. Continue support to PMs for COE integration. Support to backward compatibility testing between SWB2, CS11-12/COE V1.0/COE V2.0. Identify and incorporate software tools to monitor performance and assist in issue resolution. Integrate and implement HBSS technology. Assist integration and test architectures to include Program of Record (POR) and non-POR radio communications devices to provide PMs and Materiel Developers testing in realistic environments. Provide CTSF network and systems engineering for validation of end-to-end sensor and platform communications and interoperability. Provide software patch validation; network support for integration and test floors; network support to fielded units upon request; and systems engineering and analysis support to System of Systems Integration activities. Provide PMs with a Virtualization Suite and assist in virtualizing SW. Assist Assistant Secretary of the Army(Acquisition, Logistics, Technology)	0.742	0.481	0.145

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** C29 / *Centralized Technical Support Facility (CTSF)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
(ASA(ALT)) in developing and refining Control Point Testing for COE and distributed testing between the Computer Environments (CEs). Assist ASA(ALT) in defining the COE architectures and services. ***FY 2016 Plans:*** Support AIC Integration and Testing. Continue support to PMs for COE integration. Support to backward compatibility testing between SWB2, CS11-12/COE V1.0/COE V2.0/COE V3.0. Identify and incorporate software tools to monitor performance and assist in issue resolution. Integrate and implement HBSS technology. Assist integration and test architectures to include Program of Record (POR) and non-POR radio communications devices to provide PMs and Materiel Developers testing in realistic environments. Provide CTSF network and systems engineering for validation of end-to-end sensor and platform communications and interoperability. Provide software patch validation; network support for integration and test floors; network support to fielded units upon request; and systems engineering and analysis support to system of systems integration activities. Provide PMs with a Virtualization Suite and assist in virtualizing software. Plan and conduct engineering evaluations for AIC testing and data collection in the Network Integration Evaluation (NIE)/Capability Integration Evaluation (CIE) to leverage the operational environment and NIE/CIE resources. Continue development and refinement of Control Point and distributed testing.			
Title: Configuration Management ***Description:*** Establish and maintain the configuration baseline of the Army LandWarNet Mission Command Baseline (ALWNMCB) for Lifecycle Software Management (LCSM). CM facilitates orderly management of product configuration information and product change management (ChM) to enable capability revisions, improve reliability and maintainability, extend life, reduce cost, and provide support to Materiel Developers (MATDEV), Program Manager (PM) and System Owner (SO) for a visual and informational retrievable authoritative database to assist with determination of risk reduction and liability, and/or to correct defects. Conduct Physical Configuration Audits (PCAs) at the start-of-exercise (StartEx) and end-of-exercise (EndEx) of testing; probe a representative hard drive of each type for each Warfighter Area and a representative sample of the windows systems before and after testing. Provide memorandum of record that authenticates the integrity of the software based on a comparison of before and after probes. ***FY 2014 Accomplishments:*** Verified CS11-12 for Bi-Annuals and COE v1.0 software configuration prior to bi-annual test events, controlled and managed configuration and architecture during test to ensure validity with certification event, and maintain baselines as Title 40 manager for HQ/DA CIO/G6 and G3/5/7; disseminated software to deployed/deploying units. Sustained Configuration Management Tracking Tool Version 3 (CMTSIII) to incorporate CMTSIII Director Report and Incident Reporting of CTSF Certification of Systems Under Test. Established support to AGILE Process with access to CMTSIII performing audits in support of activities performed at the NIE events. ***FY 2015 Plans:***	0.173	0.176	0.139

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** C29 / *Centralized Technical Support Facility (CTSF)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Validate and verify software configuration prior to test, control configuration during test, and manage and maintain the Army Interoperable Certified Fielded Baseline (AICFB) on behalf of HQ/DA CIO/G6 and the Army LandWarNet/Mission Command Baselines (ALWNMCB) for HQ/DA G3/5/7; disseminate software and patches to deployed/deploying units. Sustain Configuration Management Tracking Tool Version 3 (CMTSIII) to incorporate CTSF Baseline tracking for Army Interoperability Certification of Systems Under Test. Upgrade CTSF Personnel certification to the next level. Sustain support to AGILE Process with access to CMTSIII performing audits in support of activities performed at the NIE. ***FY 2016 Plans:*** Bring online the Universal Audit Tool (UAT) to assist with the automation of audit management. Incorporate the CM Virtual Repository into the main streamline of CM normal functions and workload process. Add T&E MGMT Tools Suite, Engineering Services, Information Assurance and Resource Management modules to CMTSIII. CMTSIII updates to Shipping, Media, Hard Drive and MFE Modules completed. Continue working with Federation of Net-Centric Sites, NATO Communications and Information Agency, and DoD Configuration Managers on processes; manage expectations between processes and sites.			
Title: Management Operations/Program Office ***Description:*** Provide management operations consisting of planning, programming and executing funds, personnel, and contracts supporting AIC testing processes; and identifying reimbursable tests and collecting/allocating appropriate funds. ***FY 2014 Accomplishments:*** Programmed and executed funds/manpower/contracting requirements; tracked testing schedule, prepared/coordinated/tracked reimbursements for tests (COE V1.0 I2E and AIC baseline testing; CS 11-12 Bi-Annual testing; Software Block 2 Bi-Annual testing; Joint systems tests; and future systems test events). Provided field support coordination for unit training and exercises. Maintained facility and test infrastructure. ***FY 2015 Plans:*** Program and execute funds/manpower/contracting requirements; track testing schedule, prepare/coordinate/track reimbursements for tests (e.g. COE V1.0 and Beyond tests, CS 11-12 Bi-Annual testing, Joint, Coalition, and future systems test events). Provide field support coordination for unit training and exercises. Maintain facility and test infrastructure. ***FY 2016 Plans:*** Program and execute funds/manpower/contracting requirements; track testing schedule, prepare/coordinate/track reimbursements for tests (e.g. COE V1.0 and Beyond tests, CS 11-12 Bi-Annual testing, Joint, Coalition, and future systems test events). Provide field support coordination for unit training and exercises. Maintain facility and test infrastructure.	1.062	1.021	0.808
Accomplishments/Planned Programs Subtotals	4.615	7.874	3.203

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** C29 / *Centralized Technical Support Facility (CTSF)*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Execute system of systems interoperability testing and certification through the use of Government and Systems Engineering and Technical Analysis (SETA) contract personnel experienced in product development and interoperability testing. Testing and certification occurs in a cyclical fashion, with an expectation of an annual Software Block/Capability Set test followed with cyclical test events (Bi-Annual Tests) to ensure integrity of software baselines to the Warfighter. Engineering Services provides strategic integration of software into a system of systems/family of systems environment to support interoperability testing. Establish and maintain Configuration Management and version control of the Army's Interoperable Battle Command LandWarNet Baseline. Distributed testing capability uses local assets and leverages other federated test facilities to create synergy and realize efficiencies, to include system of system test efforts, where possible at 2/1 AD/WSMR (NIE).

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604818A / *Army Tactical Command & Control Hardware & Software*	Project (Number/Name) C29 / *Centralized Technical Support Facility (CTSF)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MITRE Corp	FFRDC	Engineering Services : Fort Hood, TX	16.304	0.569	Oct 2013	0.305	Oct 2014	-		-		-	-	17.178	-
In-House	Allot	Engineering Services : Fort Hood, TX	2.199	0.173	Oct 2013	0.176		-		-		-	-	2.548	-
		Subtotal	18.503	0.742		0.481		-		-		-	-	19.726	-

Remarks

CECOM R2 3G contract effort terminated at end FY13. No further effort planned; no follow-on contract awards. MITRE support will terminate at end FY14; funds will apply to "Test and Eval" CECOM R2 3G effort. Effective mid-FY14, In-House effort/function transferred from "Product Development" to "Test and Eval"

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CECOM Matrix	MIPR	Program and Budget Analysis Support : Fort Hood, TX/ Aberdeen Proving Grounds, MD	3.484	0.070	Oct 2013	0.180	Oct 2014	0.202	Oct 2015	-		0.202	-	3.936	-
In-House Support	Allot	Management Operations, Logistics Support : Fort Hood, TX	7.666	0.902	Oct 2013	0.814	Oct 2014	0.546	Oct 2015	-		0.546	-	9.928	-
Supplies	C/UCA	Management Operations, Logistics Support : Fort Hood, TX	1.132	0.090	Oct 2013	0.027		0.060		-		0.060	-	1.309	-
		Subtotal	12.282	1.062		1.021		0.808		-		0.808	-	15.173	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** C29 / *Centralized Technical Support Facility (CTSF)*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CECOM R2 3G	C/CPFF	Test, Configuration Management : Fort Hood, TX	5.829	0.715	Sep 2013	2.703	Sep 2014	0.150	Sep 2016	-		0.150	-	9.397	-
CECOM S3	C/CPFF	Facilities, Maintenance, Security : Fort Hood, TX	5.439	0.234	Sep 2013	1.200	Mar 2015	0.150	Mar 2016	-		0.150	-	7.023	-
Instrumentation	C/UCA	Test Equipment Infrastructure : Fort Hood, TX	1.583	0.004	Oct 2013	0.301	Oct 2014	0.104	Oct 2015	-		0.104	-	1.992	-
EPG Matrix	MIPR	Test : Fort Hood, TX	3.675	1.178	Oct 2013	1.175	Oct 2014	1.116	Oct 2015	-		1.116	-	7.144	-
ISSA	MIPR	Test : Fort Hood, TX	4.444	0.010	Oct 2013	0.311		0.180		-		0.180	-	4.945	-
In-House Support	Allot	Test : Fort Hood,TX	1.397	0.670	Oct 2013	0.682	Oct 2014	0.695	Oct 2015	-		0.695	-	3.444	-
		Subtotal	22.367	2.811		6.372		2.395		-		2.395	-	33.945	-

Remarks

CECOM R2 contract will provide Test and Configuration Management functions. CECOM S3 contract will provide Site Support/Facilities, Maintenance, and Security functions. R2 & S3 contracts partially funded in FY16. CTSF activities not covered by RDT&E Direct funding will be reimbursed from customers in fee for service. Reimbursable funding model remains to be finalized.

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	53.152	4.615		7.874		3.203		-		3.203	-	68.844	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** C29 / *Centralized Technical Support Facility (CTSF)*

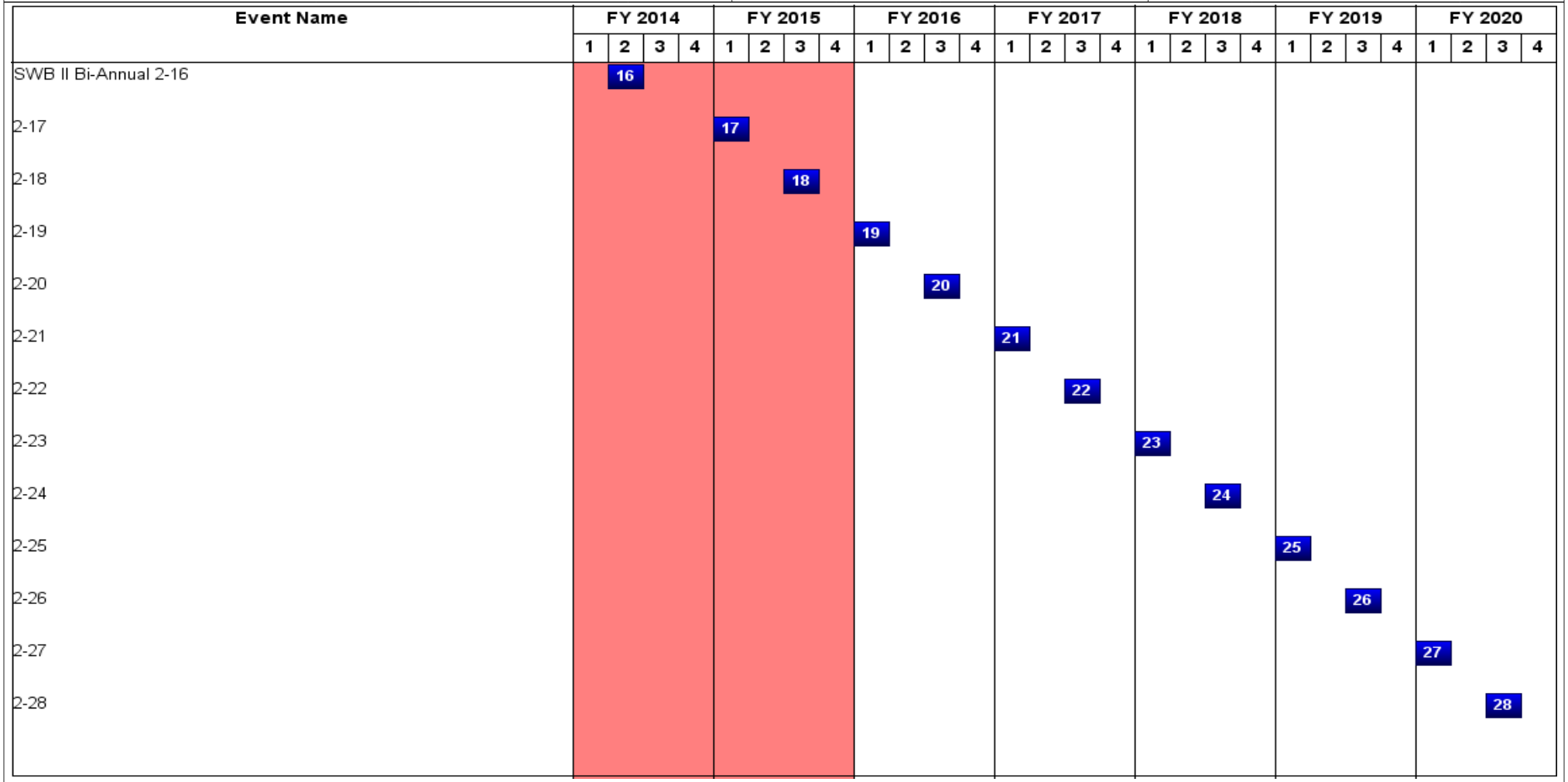


Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** C29 / *Centralized Technical Support Facility (CTSF)*

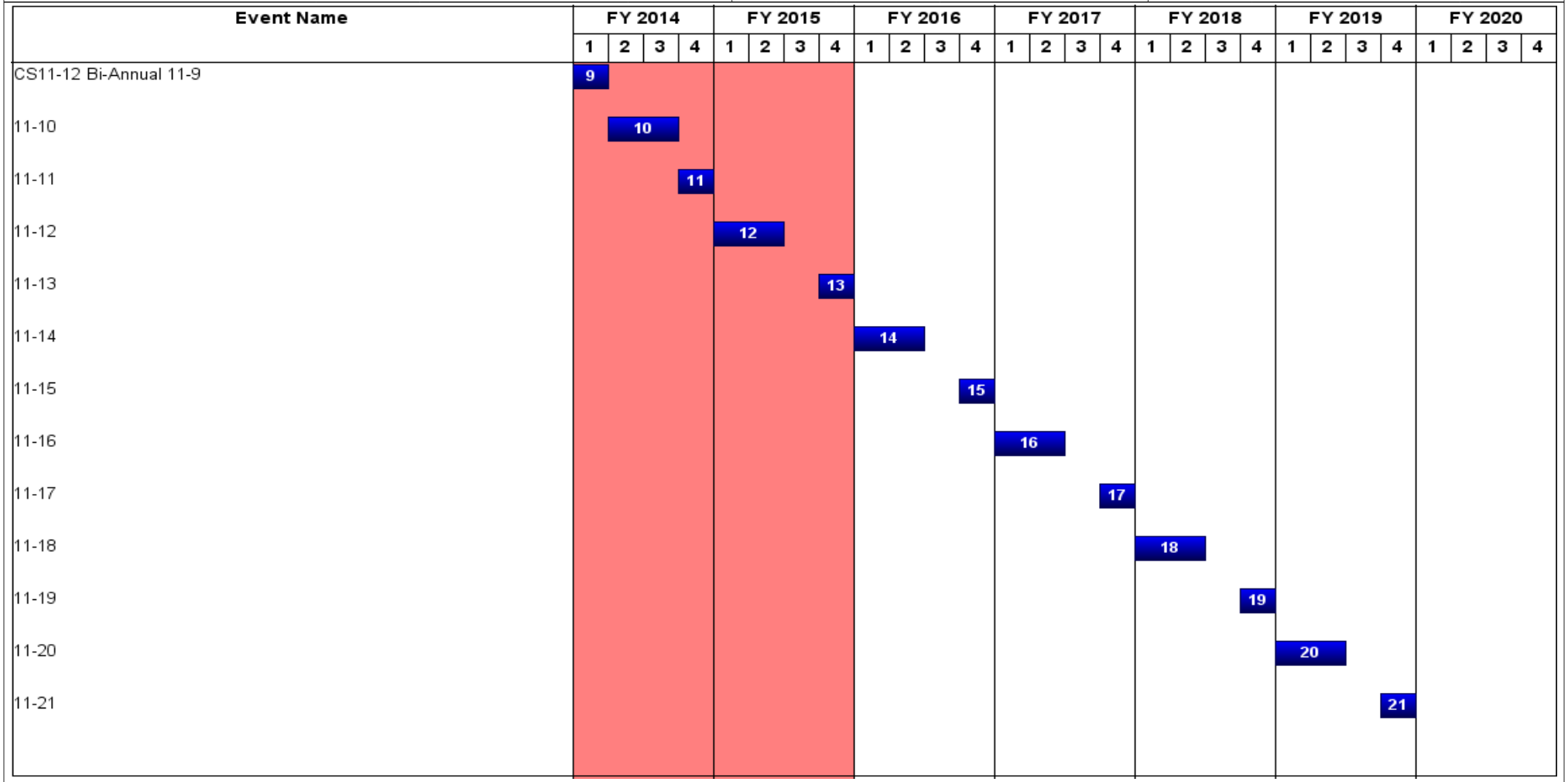


Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** C29 / *Centralized Technical Support Facility (CTSF)*

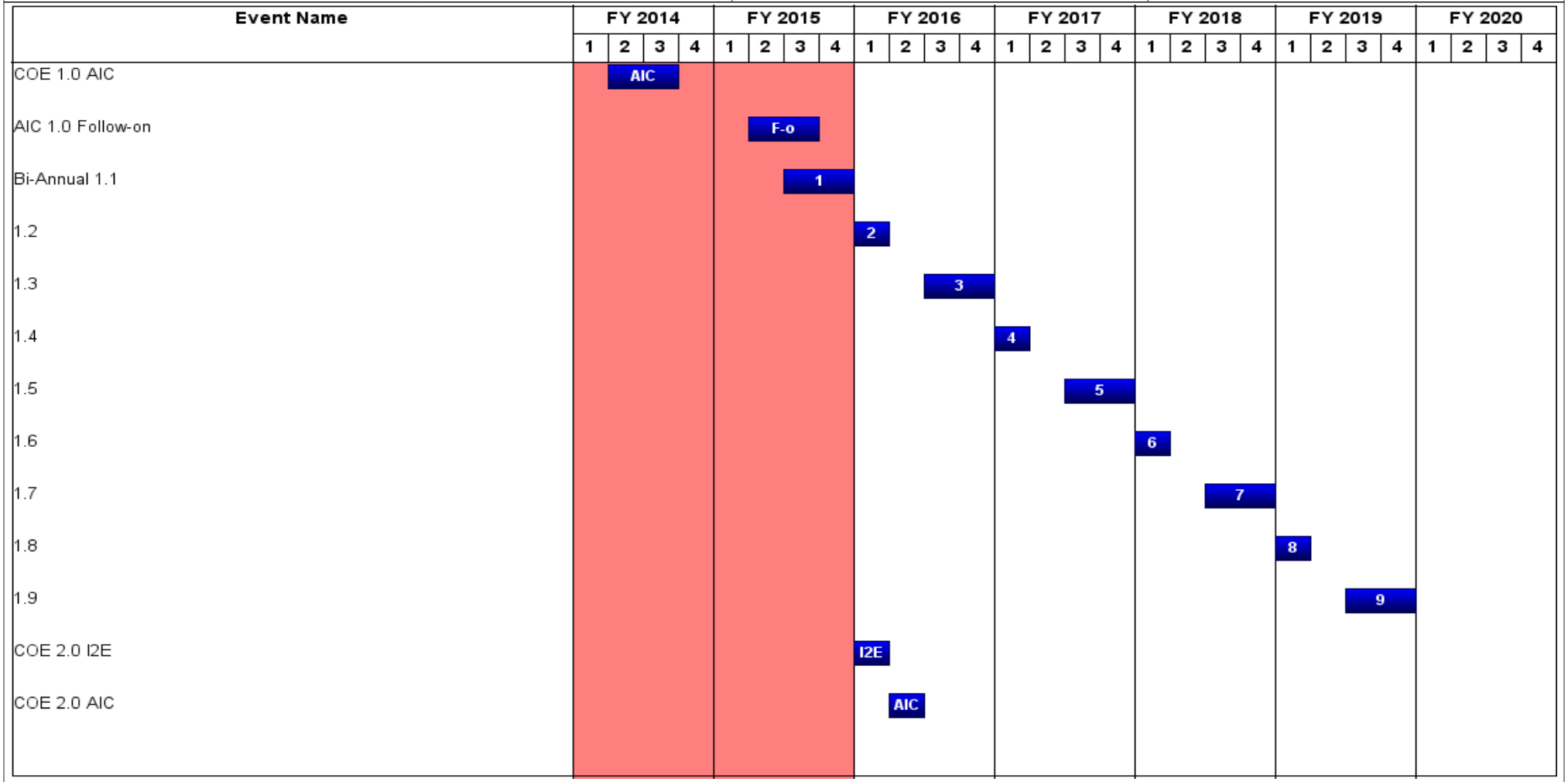


Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** C29 / *Centralized Technical Support Facility (CTSF)*

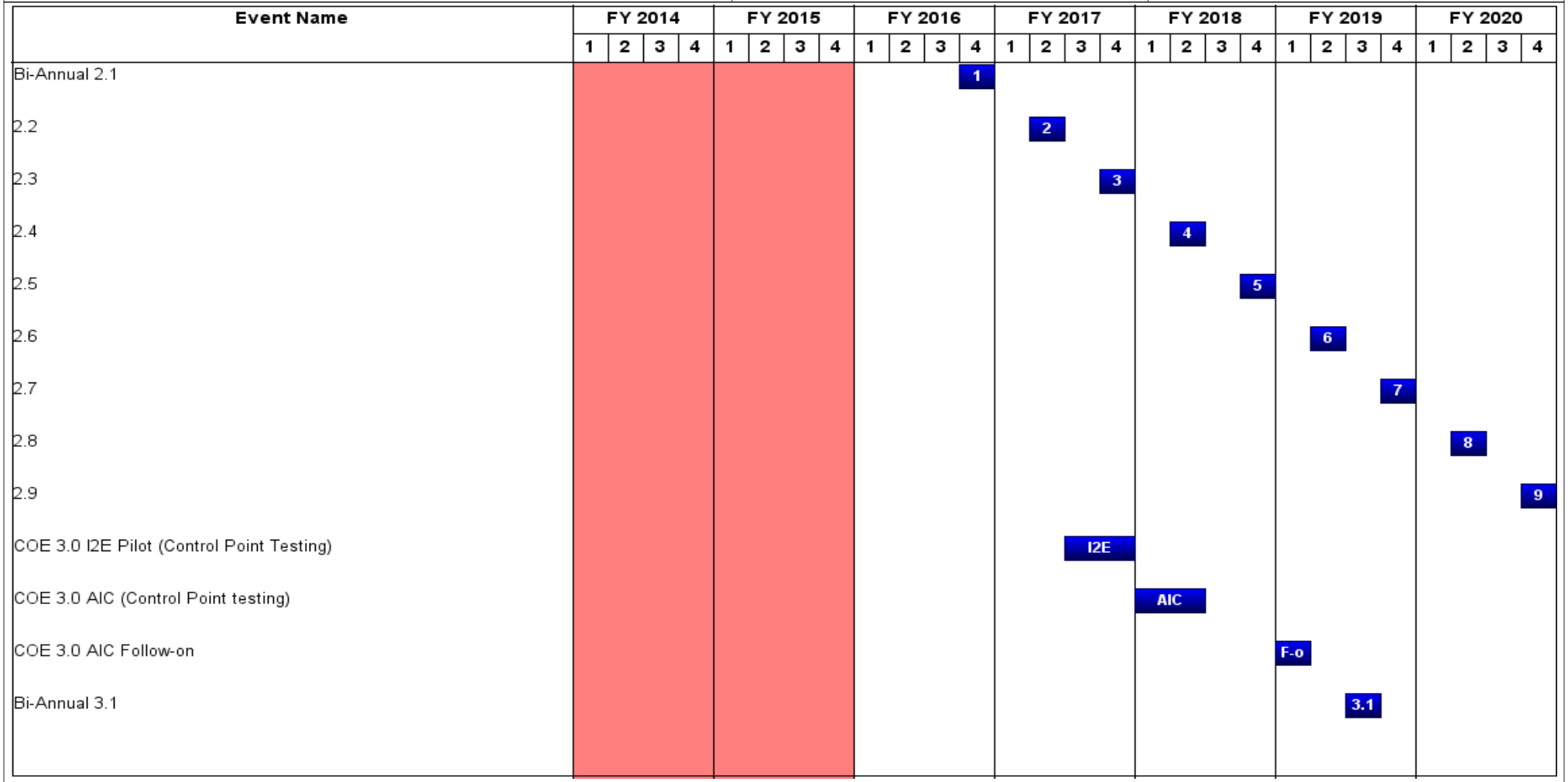
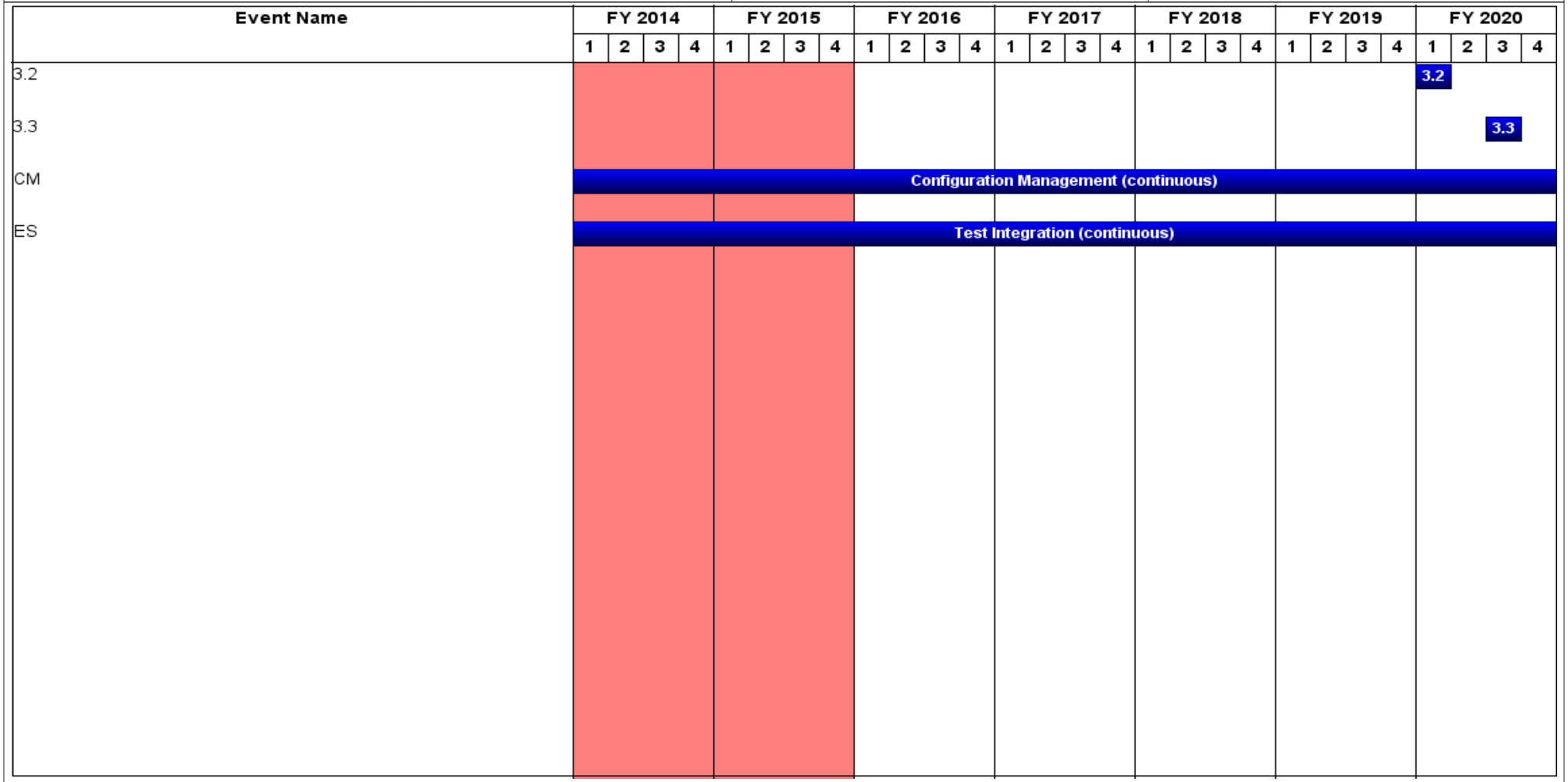


Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** C29 / *Centralized Technical Support Facility (CTSF)*



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Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** C29 / *Centralized Technical Support Facility (CTSF)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
SWB II Bi-Annual 2-16	2	2014	2	2014
2-17	1	2015	1	2015
2-18	3	2015	3	2015
2-19	1	2016	1	2016
2-20	3	2016	3	2016
2-21	1	2017	1	2017
2-22	3	2017	3	2017
2-23	1	2018	1	2018
2-24	3	2018	3	2018
2-25	1	2019	1	2019
2-26	3	2019	3	2019
2-27	1	2020	1	2020
2-28	3	2020	3	2020
CS11-12 Bi-Annual 11-9	1	2014	1	2014
11-10	2	2014	3	2014
11-11	4	2014	4	2014
11-12	1	2015	2	2015
11-13	4	2015	4	2015
11-14	1	2016	2	2016
11-15	4	2016	4	2016
11-16	1	2017	2	2017
11-17	4	2017	4	2017

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** C29 / *Centralized Technical Support Facility (CTSF)*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
11-18	1	2018	2	2018
11-19	4	2018	4	2018
11-20	1	2019	2	2019
11-21	4	2019	4	2019
COE 1.0 AIC	2	2014	3	2014
AIC 1.0 Follow-on	2	2015	3	2015
Bi-Annual 1.1	3	2015	4	2015
1.2	1	2016	1	2016
1.3	3	2016	4	2016
1.4	1	2017	1	2017
1.5	3	2017	4	2017
1.6	1	2018	1	2018
1.7	3	2018	4	2018
1.8	1	2019	1	2019
1.9	3	2019	4	2019
COE 2.0 I2E	1	2016	1	2016
COE 2.0 AIC	2	2016	2	2016
Bi-Annual 2.1	4	2016	4	2016
2.2	2	2017	2	2017
2.3	4	2017	4	2017
2.4	2	2018	2	2018
2.5	4	2018	4	2018
2.6	2	2019	2	2019
2.7	4	2019	4	2019
2.8	2	2020	2	2020

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** C29 / *Centralized Technical Support Facility (CTSF)*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
2.9	4	2020	4	2020
COE 3.0 I2E Pilot (Control Point Testing)	3	2017	4	2017
COE 3.0 AIC (Control Point testing)	1	2018	2	2018
COE 3.0 AIC Follow-on	1	2019	1	2019
Bi-Annual 3.1	3	2019	3	2019
3.2	1	2020	1	2020
3.3	3	2020	3	2020
CM	2	2007	4	2020
ES	2	2007	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604818A / *Army Tactical Command & Control Hardware & Software*	Project (Number/Name) C34 / *Army Tac C2 Sys Eng*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
C34: *Army Tac C2 Sys Eng*	-	11.264	8.978	9.046	-	9.046	9.194	9.286	9.331	9.431	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

Project C34, Army Tactical Command and Control Systems Engineering: This project funds the PEO Command, Control, Communications-Tactical (PEO C3T) Technical Management Division (TMD) systems engineering and integration, experimentation, acquisition management, testing, fielding and sustainment support to ensure interoperability and affordability among the PEO C3T suite for Army Capability Sets (CS). The TMD focuses on System-of-Systems (SoS) Engineering and Integration for the C3T network with increased emphasis on immediate Warfighter needs as well as leveraging emerging technologies, through the G3 LandWarNet Capability Set Development and Integration. Fiscal Year 2016 will focus on the continued development, implementation and integration of the Command, Control, Communications, Computers, Combat Systems, Intelligence, Surveillance, and Reconnaissance (C5ISR) network architectures. This will include development of a technology enhancement roadmap for SoS capability evolution across the PEO C3T portfolio; network integration support and design products for CS validation at Network Integration Evaluations (NIE); integration of tactical Networked capabilities for all CS, initiative fieldings, and integration events; integration of tactical information assurance solutions and security measures for consistent cyber protection; and execution of SoS developmental testing across the PEO portfolio in support of capability set fieldings.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Continue Army Tactical Battle Command and Network Synchronization and Integration Support	0.172	0.138	0.139
Description: .			
FY 2014 Accomplishments: Continue the support of current force and the development of future force C5ISR across the tactical network to ensure all Assistant Secretary of the Army (Acquisition, Logistics & Technology) (ASA(ALT)) programs are synchronized and redundancies and overlapping capabilities are reduced across the network and in synchronization with Common Operating Environment.			
FY 2015 Plans: Continue the support of current force and the development of future force C5ISR across the tactical network to ensure all Assistant Secretary of the Army (Acquisition, Logistics & Technology) (ASA(ALT)) programs are synchronized and redundancies and overlapping capabilities are reduced across the network and in synchronization with Common Operating Environment.			
FY 2016 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** C34 / *Army Tac C2 Sys Eng*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Continue the support of current force and the development of future force C5ISR across the tactical network to ensure all Assistant Secretary of the Army (Acquisition, Logistics & Technology) (ASA(ALT)) programs are synchronized and redundancies and overlapping capabilities are reduced across the network and in synchronization with Common Operating Environment.			
Title: Continue Developmental Testing & Integration Testing between Programs of Record (PORs) and platforms / Command Posts (CPs) to execute System-of-Systems (SoS) and Interoperability ***Description:*** . ***FY 2014 Accomplishments:*** Continue to conduct integration testing and systems engineering for C3T non-program of record and program of record systems, products, technical insertions, and systems under evaluation to ensure integration of capabilities across the network. Provide training and continued development of current engineers. ***FY 2015 Plans:*** Continue to conduct integration testing and systems engineering for C3T non-program of record and program of record systems, products, technical insertions, and systems under evaluation to ensure integration of capabilities across the network. Provide training and continued development of current engineers. ***FY 2016 Plans:*** Continue to conduct integration testing and systems engineering for C3T non-program of record and program of record systems, products, technical insertions, and systems under evaluation to ensure integration of capabilities across the network. Provide training and continued development of current engineers.	1.686	1.344	1.354
Title: Continue Tactical Network Engineering ***Description:*** . ***FY 2014 Accomplishments:*** Develop effective engineering strategies to integrate tactical applications for use across the C3T enterprise network. Continue to perform network planning and integration activities across all cross-domain system-of-systems future capabilities and technologies ***FY 2015 Plans:*** Develop effective engineering strategies to integrate tactical applications for use across the C3T enterprise network. Continue to perform network planning and integration activities across all cross-domain system-of-systems future capabilities and technologies. ***FY 2016 Plans:***	0.967	0.770	0.776

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** C34 / *Army Tac C2 Sys Eng*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Develop effective engineering strategies to integrate tactical applications for use across the C3T enterprise network. Continue to perform network planning and integration activities across all cross-domain system-of-systems future capabilities and technologies.			
Title: Conduct and Support System Interoperability Engineering and Development of System-of-Systems (SoS) Architectural Products ***Description:*** . ***FY 2014 Accomplishments:*** Within the PEO C3T portfolio, continue to assess Emerging Technologies, identify critical integrated test points, conduct developmental testing at integration points, develop architectural data process/tool kits, and facilitate the transition of Network capabilities to the warfighter. ***FY 2015 Plans:*** Within the PEO C3T portfolio, continue to assess Emerging Technologies, identify critical integrated test points, conduct developmental testing at integration points, develop architectural data process/tool kits, and facilitate the transition of Network capabilities to the warfighter. ***FY 2016 Plans:*** Within the PEO C3T portfolio, continue to assess Emerging Technologies, identify critical integrated test points, conduct developmental testing at integration points, develop architectural data process/tool kits, and facilitate the transition of Network capabilities to the warfighter.	2.171	1.730	1.744
Title: Continue Development and Implementation of Tactical Information Assurance (IA) ***Description:*** . ***FY 2014 Accomplishments:*** Continue to support CIO/G6 and CYBERCOM guidance for execution of Information Assurance policies and procedures at the tactical level. Continue to plan and design security measures and IA requirements across the tactical network for future capabilities. ***FY 2015 Plans:*** Implement CIO/G6 and CYBERCOM guidance for execution of Information Assurance policies and procedures at the tactical level. Continue to document the current tactical IA network architecture with the goal of developing recommendations to eliminate	0.328	0.261	0.263

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** C34 / *Army Tac C2 Sys Eng*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
inconsistencies/duplications, increasing the security posture, decreasing complexity of operations, and decreasing costs. Continue to plan and design security measures and IA requirements across the tactical network for future capabilities. ***FY 2016 Plans:*** Implement CIO/G6 and CYBERCOM guidance for execution of Information Assurance policies and procedures at the tactical level. Continue to document the current tactical IA network architecture with the goal of developing recommendations to eliminate inconsistencies/duplications, increasing the security posture, decreasing complexity of operations, and decreasing costs. Continue to plan and design security measures and IA requirements across the tactical network for future capabilities.			
Title: Continue System of Systems Development ***Description:*** . ***FY 2014 Accomplishments:*** Continue to effectively manage overall System-of-Systems Engineering, Enterprise, and Integration efforts for the PEO C3T portfolio of technology and capability enhancement programs. ***FY 2015 Plans:*** Continue to effectively manage overall System-of-Systems Engineering, Enterprise, and Integration efforts for the PEO C3T portfolio of technology and capability enhancement programs. ***FY 2016 Plans:*** Continue to effectively manage overall System-of-Systems Engineering, Enterprise, and Integration efforts for the PEO C3T portfolio of technology and capability enhancement programs.	3.864	3.080	3.103
Title: System of Systems (SoS) Engineering and Integration Evolution of the Network ***Description:*** . ***FY 2014 Accomplishments:*** Continue to develop streamlined processes to support ASA(ALT) SoSE&I and implement VE and Lean Six Sigma initiatives across all PEO C3T capabilities to include the Joint Coalition partners. Also continue to implement cross PEO System of Systems Engineering and Integration processes to ensure successful development Engineering and Testing. ***FY 2015 Plans:***	2.076	1.655	1.667

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** C34 / *Army Tac C2 Sys Eng*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Continue to develop streamlined processes to support ASA(ALT) SoSE&I and implement Value Engineering (VE) and Lean Six Sigma initiatives across all PEO C3T capabilities to include the Joint Coalition partners. Also continue to implement cross PEO System of Systems Engineering and Integration processes to ensure successful development Engineering and Testing. ***FY 2016 Plans:*** Continue to develop streamlined processes to support ASA(ALT) SoSE&I and implement Value Engineering (VE) and Lean Six Sigma initiatives across all PEO C3T capabilities to include the Joint Coalition partners. Also continue to implement cross PEO System of Systems Engineering and Integration processes to ensure successful development Engineering and Testing.			
Accomplishments/Planned Programs Subtotals	11.264	8.978	9.046

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Not applicable for this item.

D. Acquisition Strategy

This project provides the technical and programmatic disciplines required for systems engineering and integration, experimentation, acquisition management, testing, interoperability, support to fielding and sustainment. It will focus on System-of-Systems (SoS) Systems Engineering and Integration for the tactical network with increased emphasis on immediate Warfighter needs as well as leveraging emerging technologies, through the G3 LandWarNet Capability Set Development and Integration. The Technical Management Division (TMD) will ensure that the Program Executive Office Command, Control, Communications-Tactical (PEO C3T) capability portfolio is effectively SoS engineered and integrated to meet the tactical Warfighter's evolving mission needs.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604818A / *Army Tactical Command & Control Hardware & Software*	Project (Number/Name) C34 / *Army Tac C2 Sys Eng*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Emerging Technologies	SS/FP	CACI : Aberdeen Proving Ground, MD	21.092	-		-		-		-		-	Continuing	Continuing	Continuing
Emerging Technologies	SS/FP	Southwest Research Installation : Aberdeen Proving Ground, MD	0.175	-		-		-		-		-	-	0.175	-
System Of System Engineering and Integration, Current and Strategic Initiatives	C/T&M	CSC Aberdeen Proving Ground /Fort Hood, TX : APG	57.690	-		-		-		-		-	Continuing	Continuing	Continuing
System of System Engineering & Integration, Current & Strategic Initiative, Architecture Integration	C/T&M	TBD : tbd	0.000	3.412		2.662		2.598		-		2.598	Continuing	Continuing	Continuing
Architecture Integration	C/T&M	CSC : various	9.005	-		-		-		-		-	Continuing	Continuing	Continuing
Systems Engineering Support	SS/FP	LOCKHEED MARTIN : Eatontown, NJ	7.799	-		-		-		-		-	Continuing	Continuing	Continuing
Systems Engineering Support	C/CPFF	Northrop Grumman : Arlington, VA	5.282	-		-		-		-		-	-	5.282	-
Systems Engineering Support	C/CPFF	TBD : tbd	0.000	1.786		1.393		-		-		-	Continuing	Continuing	Continuing
System of System Architectures, Engineering, and Integration	SS/FP	MITRE : Aberdeen Proving Ground, MD/ Eatontown, NJ	80.727	3.396		2.650		4.340		-		4.340	Continuing	Continuing	Continuing
Tactical Network Initialization	SS/FP	Future Skys Inc. : Neptune, NJ	0.600	-		-		-		-		-	Continuing	Continuing	Continuing
System of System Engineering and Integration	C/T&M	CSC : Huntsville, AL	0.000	-		-		0.172		-		0.172	-	0.172	-
System of System Engineering and Integration	C/T&M	Viatech : NJ	0.000	-		-		0.372		-		0.372	-	0.372	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604818A / *Army Tactical Command & Control Hardware & Software*	Project (Number/Name) C34 / *Army Tac C2 Sys Eng*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	182.370	8.594		6.705		7.482		-		7.482	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
IN-HOUSE SUPPORT	Various	PEO C3T : APG, MD	27.400	1.287		1.801		1.125		-		1.125	Continuing	Continuing	Continuing
MATRIX	Various	Various : Aberdeen Proving Ground, MD	10.863	1.027		0.472		0.439		-		0.439	Continuing	Continuing	Continuing
OTHER GOVERNMENT SUPPORT	Various	Various : Various	7.021	0.356		-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	45.284	2.670		2.273		1.564		-		1.564	-	-	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	227.654	11.264		8.978		9.046		-		9.046	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** C34 / *Army Tac C2 Sys Eng*

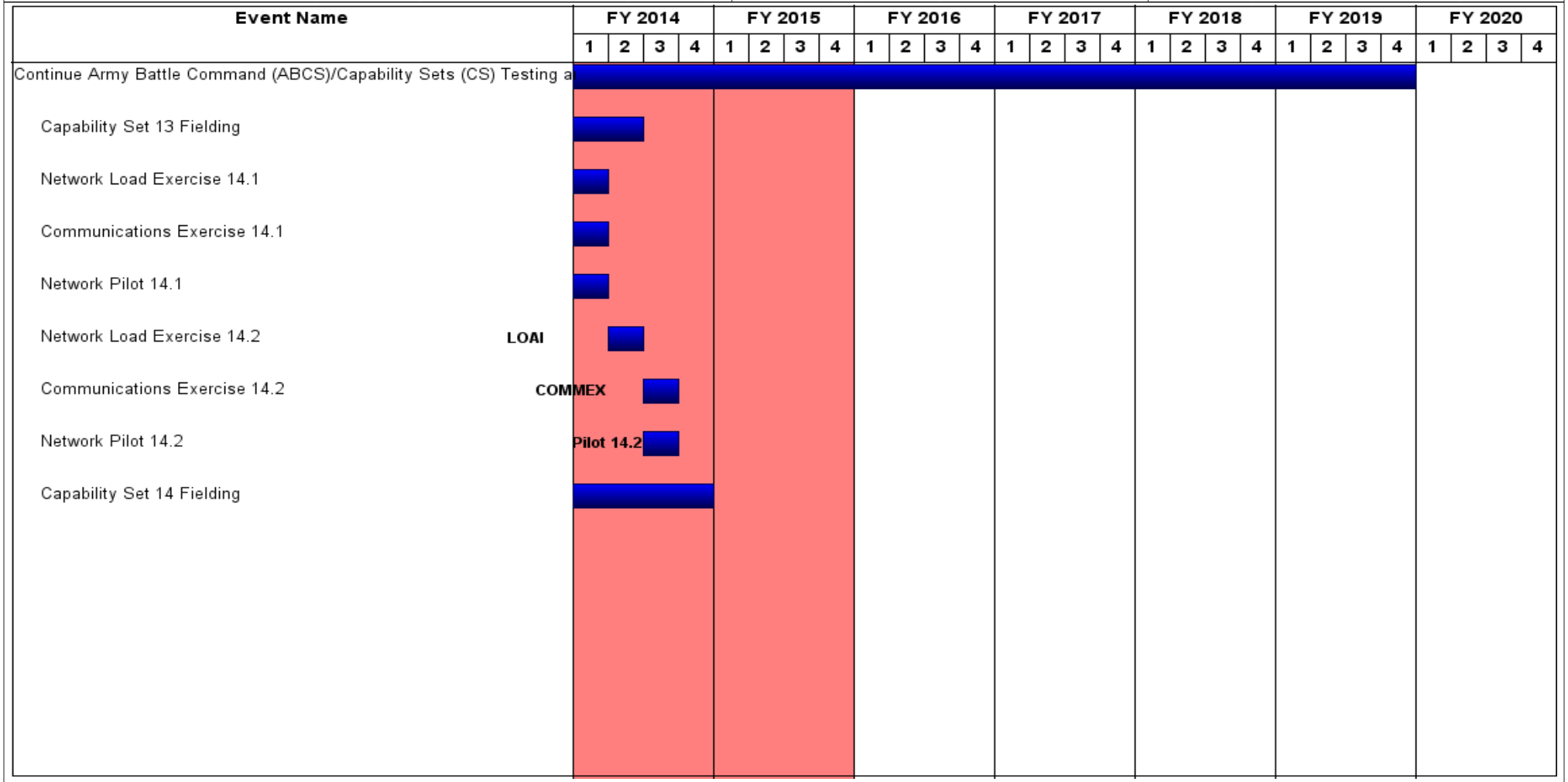

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** C34 / *Army Tac C2 Sys Eng*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Continue Army Battle Command (ABCS)/Capability Sets (CS) Testing and Eval	1	2008	4	2019
Capability Set 13 Fielding	2	2013	2	2014
Network Load Exercise 14.1	1	2014	1	2014
Communications Exercise 14.1	1	2014	1	2014
Network Pilot 14.1	1	2014	1	2014
Network Load Exercise 14.2	2	2014	2	2014
Communications Exercise 14.2	3	2014	3	2014
Network Pilot 14.2	3	2014	3	2014
Capability Set 14 Fielding	1	2014	4	2014

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604818A / *Army Tactical Command & Control Hardware & Software*	Project (Number/Name) EJ4 / *COMMAND POST COMPUTING ENVIRONMENT (CPCE)*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
EJ4: *COMMAND POST COMPUTING ENVIRONMENT (CPCE)*	-	-	-	70.483	-	70.483	83.373	102.233	72.468	4.963	79.058	412.578
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

This project is not a new start program. Command Post Computing Environment (CPCE), Proj/PE 604818.EJ4, line starting in FY16 reflects realignment of COE infrastructure development and application migration onto the new common core foundation which began under the Tactical Mission Command (TMC) established program of record (PE/Proj 203740.484).

A. Mission Description and Budget Item Justification

The Command Post Computing Environment (CPCE), one of the six computing environments under the Common Operating Environment (COE) initiative, provides a Common Infrastructure and Common Services for Warfighter capabilities. The resulting operating environment will allow twenty-six (26) products/systems to leverage the CPCE's Common Core Software Baseline and Hardware Configuration, simplifying future development efforts and enhancing interoperability and data sharing. The CPCE enables Command and Control (C2) capability development at tactical echelons that span from the company to all Army Service Component Commands (ASCC) and thus, is the most employed and critical computing environment developed to support the command posts and combat operations.

Operationally, Army formations encounter a variety of complex environments where boundaries between tactical and strategic levels of war have merged. This requires a computing environment capability that will simplify operations, enhance the Common Operational Picture (COP), provide integrated applications and data, enhance communications in disconnected, intermittent, and limited bandwidth (DIL) environments, and automate software updates. Additional CPCE goals include: Multi-Echelon reach (ASCC thru Battalion), Cross Cutting Capabilities (CCCs), C2 on the Move (C2OTM), Strategic and Tactical Operational and intelligence data sharing, Unified Data on a Common Map, and Sharing Data to Other Computing Environments (Mobile Handheld, Mounted, Sensors, etc.).

Acquisition Goals of the CPCE include: Acquisition Agility, Open Architectures, Reduced Life Cycle Costs, and a Cyber-Hardened Foundation for applications and services.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: SW Dev - Infrastructure (Collaboration)	-	-	17.040
Description: Collaboration is the ability to share and communicate information for the purpose of achieving common and shared understanding of the military situation for all participants across all warfighting functions and operational nodes. Includes efforts on chat, voice, file sharing, map boarding, shared workspace, video & disconnected intermittent latent environment support			
FY 2016 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EJ4 / *COMMAND POST COMPUTING ENVIRONMENT (CPCE)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Collaboration			
Title: SW Dev - Infrastructure (Display/Share Relevant Tactical Information) ***Description:*** Common graphical user interface, shared data and tools such as decision making, planning. Common widgets and style guides to include common map and common query of data. ***FY 2016 Plans:*** Display/Share Relevant Tactical Information	-	-	1.830
Title: SW Dev - Infrastructure (C2 on the Move) ***Description:*** Provides key leaders and staffs the ability to maintain situational understanding and access to information when transitioning between operational nodes (dismounted, mounted, and within a command post) ***FY 2016 Plans:*** Command and Control on the Move	-	-	0.470
Title: SW Dev - Infrastructure (Application Marketplace) ***Description:*** Provide users the ability to discover and access variety of CP CE web applications available without having all applications predefined or preinstalled on end user device. Provide users with applications that utilize common software functions (ie security) ***FY 2016 Plans:*** Application Marketplace	-	-	1.570
Title: SW Dev - Infrastructure (Sustainment Essential Capabilities) ***Description:*** Provides implementation of Army Sustainment MC capabilities as specific tools for supply, logistics, maintenance, medical, personnel, in-transit visibility, and operational status functions. These tools further provide users the ability to integrate logistical plans and execution information/data with other battle staff members to coordinate and synchronize operations and to collaborate on essential information on the COP with the Commander in support of decision-making. All are compliant with the CPCE architecture, including use of common/core infrastructure (NETOPS, QoS, Security, etc) and support NIPR, SIPR, and JIIM security domains. ***FY 2016 Plans:*** Sustainment Essential Capabilities	-	-	2.420
Title: SW Dev - Infrastructure (Training Support)	-	-	0.630

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EJ4 / *COMMAND POST COMPUTING ENVIRONMENT (CPCE)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Description: Create a training environment for the soldiers; provide the soldier the same look and feel as applications/widgets that are used to perform their mission. ***FY 2016 Plans:*** Training Support			
Title: SW Dev - Infrastructure (JIIM Interoperability) ***Description:*** Provide the capability and interoperability services for improved exchange of information, collaboration, and full interaction with Joint, Interagency, Intergovernmental, and Multinational stakeholders comprising Unified Action Partners. PM Mission Command provides the Army implementation and fielding of Joint C2 architecture (the evolution of the GCCS family of systems) ***FY 2016 Plans:*** JIIM Interoperability	-	-	11.250
Title: SW Dev - Infrastructure (Execute Running Estimates) ***Description:*** Provides implementation of MC Planning Services and tools that support all Commanders and their staffs executing the MDMP for all mission types. Includes onthe ability to generate and save plans as data so plans can be intelligently compared to current operations as plans are executed. When the current situation differs from the plan, alerts and recommendations for plan changes are provided to the Commander. Includes integration of simulation tools to support automated wargaming. ***FY 2016 Plans:*** Execute Running Estimates	-	-	0.830
Title: SW Dev - Infrastructure (Unified Data Synch) ***Description:*** Provide users the capability to search for and access information that spans multiple warfighting functions when available from a consolidated set of data stores that make information available at the point of need. Data created in garrison made available en route to and while executing military operations. ***FY 2016 Plans:*** Unified Data Synch	-	-	3.300
Title: SW Dev - Infrastructure (Create/Communicate/Rehearse Orders) ***Description:*** Provides implementation of tools to support consolidation of products and information produced during the planning process and then supports automatic generation of orders with ability to disseminate those orders across the command.	-	-	0.940

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EJ4 / *COMMAND POST COMPUTING ENVIRONMENT (CPCE)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
FY 2016 Plans: Create/Communicate/Rehearse Orders			
Title: SW Dev - Infrastructure (Execute Tactical NetOps) ***Description:*** Provides implementation of tools to support consolidation of products and information produced during the planning process and then supports automatic generation of orders with ability to disseminate those orders across the command. ***FY 2016 Plans:*** Execute Tactical NetOps	-	-	1.150
Title: SW Dev - Infrastructure (Quality of Service) ***Description:*** Quality of Service is the marking of network packets so that WIN-T (i.e. the network) can route them according their priority. ***FY 2016 Plans:*** Quality of Service	-	-	5.500
Title: Software Development - Applications ***Description:*** Software Development efforts in support of the implementation of the Command Post Computing Environment (CPCE) include the migration of current Program of Record capability, coordination of software version baselines, design and development of next generation Mission Command capabilities that simplify the User Experience and enhance Situational Understanding, and design/coding of Software Development Kits (SDKs). ***FY 2016 Plans:*** Funding supports system engineering and software development efforts to build applications for CP CE version 3. The Primary applications development efforts include, but are not limited to: 1) C2 On-The-Move: Provides key leaders and staffs the ability to maintain situational understanding and access to information when transitioning between operational nodes (dismounted, mounted, and within a command post); 2) Application Marketplace: Provides users the ability to discover and access variety of CP CE web applications available without having all applications predefined or preinstalled on end user device. Provide users with applications that utilize common software functions (i.e. security); 3) JIIM Interoperability: Provides the capability and interoperability services for improved exchange of information, collaboration, and full interaction with Joint, Interagency, Intergovernmental, and Multinational stakeholders comprising Unified Action Partners.	-	-	2.711

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EJ4 / *COMMAND POST COMPUTING ENVIRONMENT (CPCE)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
The CPCE applications efforts will enable migration of the logistics and maneuver critical capabilities to CP CE, create a single map for Commander, and simplify the user interface. This effort will lead to a CP CE Application Critical Design Review (CDR).			
Title: Test and Evaluation ***Description:*** Test and Evaluation efforts include the planning and conduct of Test, Evaluation, and Integration events in support of CPCE development. Testing can consists of stand-alone capability testing in a lab/sandbox environment or full interoperability testing with multiple systems in an operational environment. ***FY 2016 Plans:*** Test software capability of the core CP CE infrastructure, as well as establish tools and processes for 3rd party application testing and accreditation. Test and Evaluation efforts include the planning and conduct of Test, Evaluation, and Integration events in support of CP CE development. This includes participation in Network Integration Exercises (NIEs), User Juries, Assessments, Risk Reduction Events (RREs), Vulnerability testing, and Army Interoperability Certification (AIC) testing.	-	-	12.663
Title: Program Management ***Description:*** Program management includes overall management of program execution, major events, reporting, funds execution, contract management, and logistical support. Includes participation in program planning meetings and IPTs. ***FY 2016 Plans:*** During this timeframe, will provide overall management and oversight of the implementation of CPCE. Technical Area support of this effort includes System Development (Hardware, Software, and Network), System Analysis of Program of Record (PoR) systems and Future Systems, Technical Readiness Assessments, and Stakeholder Technical Interchange Meetings/Events. Business Area support of this effort will require the coordination of multiple contracts, vendors, contract vehicles, and funding. This support includes the creation and implementation of Functional Support Agreements between PM Mission Command and various Government support agencies such as the CECOM Research Development and Engineering Command (CERDEC), and other PEOs (e.g. PEO IEW&S). Program Management efforts in the FY16 timeframe will also include business area support to ensure funding and contracts are planned and available for all SW development, system engineering, and T&E efforts.	-	-	8.179
Accomplishments/Planned Programs Subtotals	-	-	70.483

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EJ4 / *COMMAND POST COMPUTING ENVIRONMENT (CPCE)*

D. Acquisition Strategy

The Department of the Army, Assistant Secretary of the Army for Acquisition, Logistics, and Technology (ASA/ALT) directed the creation of the Command Post Computing Environment (CPCE) as part of the overal Common Operating Environment (COE) Directive for Program Executive Offices (PEOs) in December 2011.

To accomplish the goals of the CPCE, PEO IEW&S and PEO C3T (as co-Leads for CPCE) will architect, design, and develop the hardware, software, network solutions and capabilities required to achieve compliance with the COE. Primary Systems Architecture Engineering will be conducted by in-house Government engineering staff with support from CERDEC matrix elements and MITRE Corp (an FFRDC). Primary Software Development efforts will be conducted by contractor firms (to be determined as the planned Mission Command System Engineering contract has not yet been awarded), with support from the CECOM Software Engineering Center (SEC) and the Aviation and Missles RDEC (AMRDEC) Software Engineering Directorate (SED).

Test and Evaluation support will be provided by Government technical staff, with support from contractor firms for preparation and conduct of specific risk reduction events and test events. Developmental testing will be conducted by the software development teams with Government oversight and coordination.

Hardware to support system architecture and software development will be Commercial-Off-the-Shelf (COTS) equipment and will be procured using existing contract vehicles such as Common Hardware Systems (CHS) and Army Computer Hardware Enterprise Software and Solutions (CHESS). Software licenses will be procured via CHESS through authorized resellers.

CPCE is not a Program of Record (PoR).

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604818A / *Army Tactical Command & Control Hardware & Software*	Project (Number/Name) EJ4 / *COMMAND POST COMPUTING ENVIRONMENT (CPCE)*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PM Support (Gov't-Core)	Sub Allot	PM Mission Command : APG, MD	0.000	-		-		1.970	Oct 2015	-		1.970	-	1.970	-
PM Support (Gov't-Matrix)	IA	Various Matrix Orgs incl CECOM SEC, LRC, G8, G2, PRD, et al) : APG, MD	0.000	-		-		1.970	Oct 2015	-		1.970	-	1.970	-
PM Support (SETA Contractor)	C/CPFF	Multiple incl CSC and others : APG, MD	0.000	-		-		4.239	Dec 2015	-		4.239	-	4.239	-
		Subtotal	0.000	-		-		8.179		-		8.179	-	8.179	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development - Infrastructure	C/Various	SW Dev Contractors and Multiple Matrix Orgs : APG, MD	0.000	-		-		46.930	Dec 2015	-		46.930	-	46.930	-
Software Development - Applications	C/Various	SW Dev Contractors and Multiple Matrix Orgs : APG, MD	0.000	-		-		2.711	Dec 2015	-		2.711	-	2.711	-
		Subtotal	0.000	-		-		49.641		-		49.641	-	49.641	-

Remarks

Software Development efforts will be managed by through a combination of PM Mission Command technical staff, Matrix Organizations (CERDEC, AMRDEC) and software development contractor firms (contracts and task orders to be determined and competed as necessary).

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604818A / *Army Tactical Command & Control Hardware & Software*	Project (Number/Name) EJ4 / *COMMAND POST COMPUTING ENVIRONMENT (CPCE)*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Develop and Conduct Tests and Assessments	MIPR	Multiple Test Agencies : Multiple Locations (Primary APG)	0.000	-		-		12.663	Dec 2015	-		12.663	-	12.663	-
		Subtotal	0.000	-		-		12.663		-		12.663	-	12.663	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	-		-		70.483		-		70.483	-	70.483	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EJ4 / *COMMAND POST COMPUTING ENVIRONMENT (CPCE)*

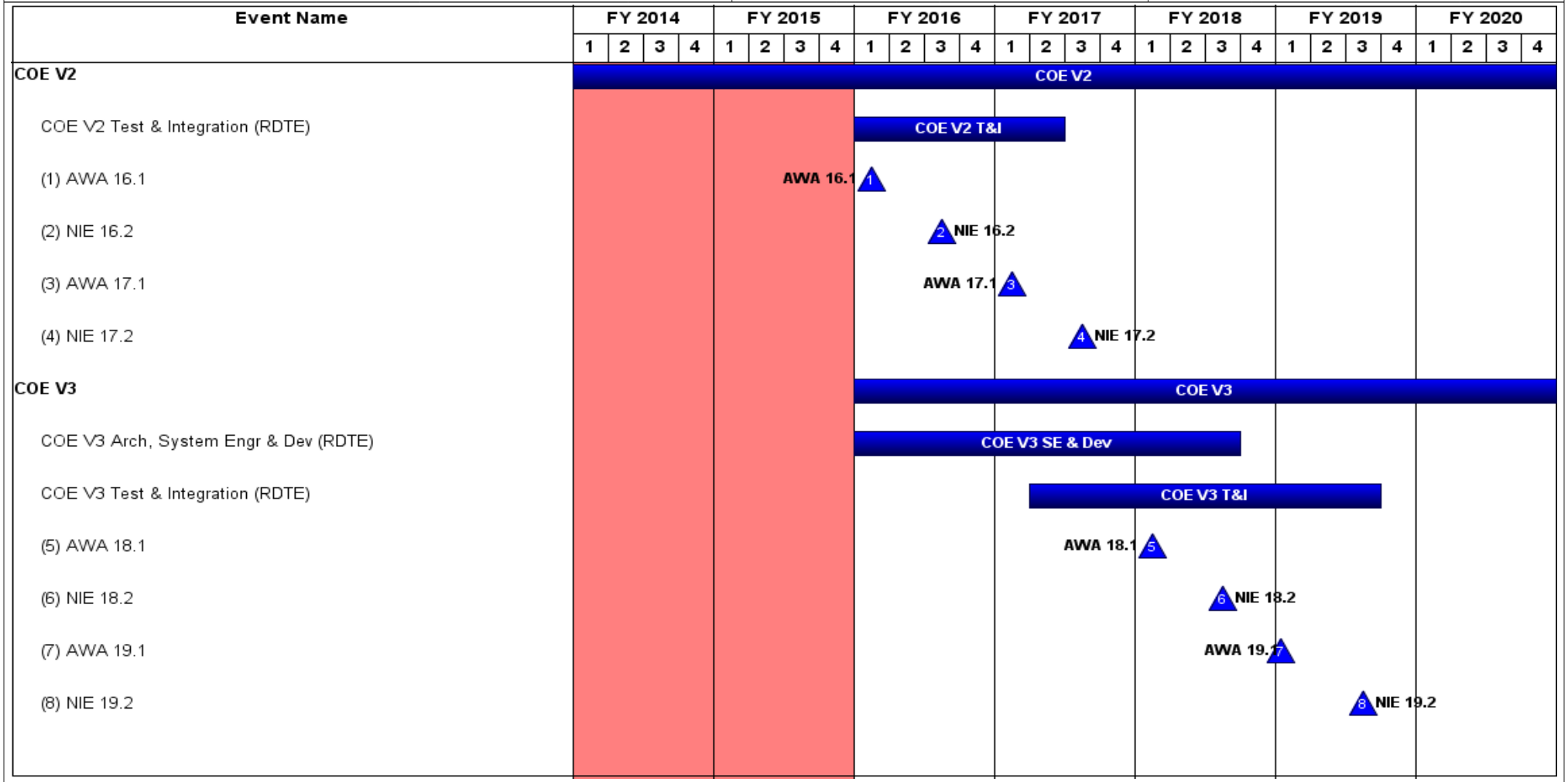

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EJ4 / *COMMAND POST COMPUTING ENVIRONMENT (CPCE)*

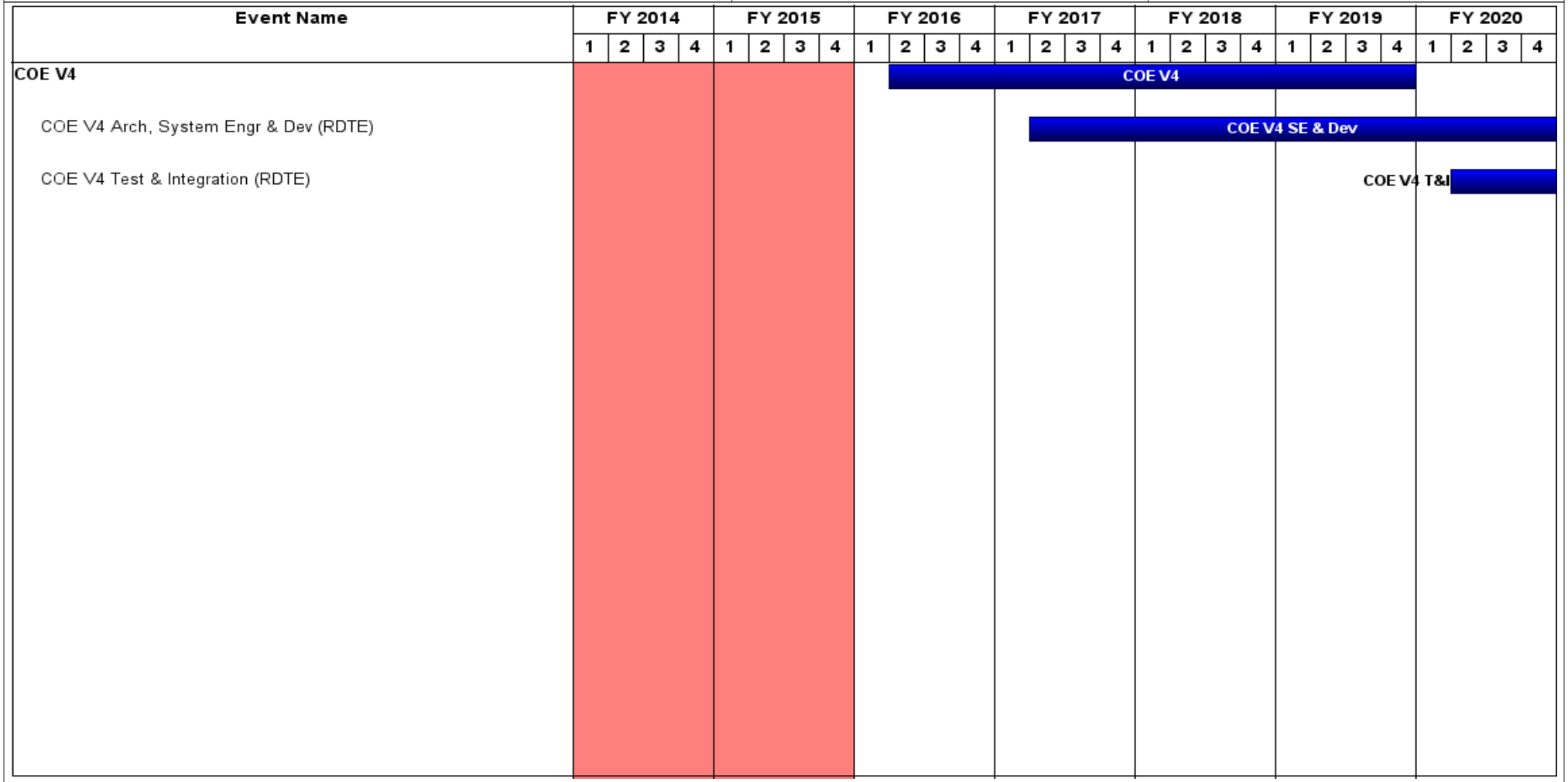

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EJ4 / *COMMAND POST COMPUTING ENVIRONMENT (CPCE)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
COE V2	2	2012	3	2022
COE V2 Test & Integration (RDTE)	1	2016	2	2017
AWA 16.1	1	2016	1	2016
NIE 16.2	3	2016	3	2016
AWA 17.1	1	2017	1	2017
NIE 17.2	3	2017	3	2017
COE V3	1	2016	3	2022
COE V3 Arch, System Engr & Dev (RDTE)	1	2016	3	2018
COE V3 Test & Integration (RDTE)	2	2017	3	2019
AWA 18.1	1	2018	1	2018
NIE 18.2	3	2018	3	2018
AWA 19.1	1	2019	1	2019
NIE 19.2	3	2019	3	2019
COE V4	2	2016	4	2019
COE V4 Arch, System Engr & Dev (RDTE)	2	2017	3	2021
COE V4 Test & Integration (RDTE)	2	2020	4	2021

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604818A / *Army Tactical Command & Control Hardware & Software*	Project (Number/Name) EJ5 / *MOUNTED COMPUTING ENVIRONMENT (MCE)*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
EJ5: *MOUNTED COMPUTING ENVIRONMENT (MCE)*	-	-	-	12.370	-	12.370	15.669	18.798	16.994	7.839	-	71.670
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

This project is not a new start program. Mounted Computing Environment (MCE), Proj/PE 604818.EJ5 funds are being realigned from Proj/PE 0604805A/593 – Joint Battle Command - Platform (JBC-P), as directed by the Army Acquisition Executive (AAE). This funding line segregates the costs of MCE from JBC-P.

A. Mission Description and Budget Item Justification

The MCE is one of the six computing environments (CEs) formalized by the AAE under the Common Operating Environment (COE). The effort was established by the AAE Directive to Program Executive Offices dated 20 December 2011. MCE standardizes end-user environments and enables streamlined deployment of new warfighting applications. The Joint Battle Command - Platform (JBC-P) is the foundational element and core software platform of the MCE.

Future development of the MCE will continue to leverage JBC-P hardware and software to consolidate and integrate multiple warfighting systems in the Platform (Mounted) environment. This integrated MCE, with its open standards, enhanced interoperability, and simplified end-user interface will speed delivery of new Mission Command applications to the warfighter while improving the effectiveness and value of current systems. Requirements for the MCE are established in the AAE Directive Memo, the JBC-P Capability Development Document (CDD), and in the Mounted Computing Environment Information System Initial Capabilities Document (MCE IS ICD) (DRAFT). FY 2016 funding provides the means to continue to manage and develop MCE, which has a larger horizontal scope than the foundational element (JBC-P), as it specifically works toward achieving CE and COE goals.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Software Development	-	-	3.711
Description: Develop capabilities, product applications, platform interoperability, and system services for the Mounted Computing Environment (MCE), part of the Common Operating Environment (COE). Effort includes the development of unique software and integration capabilities. Develop multi-level security domains for network, users, and information. ***FY 2016 Plans:*** Follow on efforts, begun under the foundational element (JBC-P), to mature the MCE infrastructure based on emerging standards including continued development of automated tools to support compliance with COE standards, development of MCE/COE services (e.g., Single Sign On), and bridging services to other CEs. Develop and integrate approved Cross Cutting Capabilities (CCC) (i.e.: Common Geospatial, Service Discovery over Networks, and Security Services).			
Title: Software/Systems Engineering	-	-	4.701

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EJ5 / *MOUNTED COMPUTING ENVIRONMENT (MCE)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Description: Perform Software/Systems Engineering in support of the development of MCE capabilities, applications, and services, to include, but not limited to, conducting engineering studies, software architecture development, system analyses, technical readiness assessments, technical interchange meetings/events, and development of related reports and other deliverables. ***FY 2016 Plans:*** Development of software architecture constructs to sustain and integrate existing capability and enable new capability development. System engineering expertise and efforts for the core software platform (infrastructure), JBC-P, specifically in support of COE baselines, focusing on hardware/software integration, engineering, and development of common services across platforms. Includes planning and engineering of future MCE capabilities using COTS (Android), i.e.: Common Authentication; performance characterization on different HW/SW configurations using the Mounted Family of Computer Systems (MFoCS); and coordination of interoperability between external CEs.			
Title: Test, Evaluation and Integration ***Description:*** Plan and conduct Integration Events (i.e.: Tests and Assessments) in support of new MCE capabilities, to include participation in Army Warfighter Assessments (AWA) and Network Integration Exercises (NIEs), User Juries, Risk Reduction Events, Vulnerability testing, and Army Interoperability Certification (AIC) testing. ***FY 2016 Plans:*** Test software capability of the core MCE infrastructure, as well as establish tools and processes for 3rd party application testing and accreditation. Test and Evaluation efforts include the planning and conduct of Test, Evaluation, and Integration events in support of MCE development. This includes participation in NIEs, User Juries, Assessments, Risk Reduction Events (RREs), Vulnerability testing, and AIC testing.	-	-	2.474
Title: Program Management ***Description:*** MCE program management comprises overall management of program execution, major events, reporting, funds execution, contract management, and logistical support. Includes participation in program planning meetings and IPTs. ***FY 2016 Plans:*** Provide technical, logistics and business oversight for MCE software development, system engineering and test activities. Provide governance for externally developed applications including administering the process of application development and testing, and acquisition with external government and non-government entities. Program management functions include funds	-	-	1.484

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EJ5 / *MOUNTED COMPUTING ENVIRONMENT (MCE)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
execution, contract management, and logistical support to MCE RDT&E activities, as well as participation in the overarching COE management infrastructure.			
Accomplishments/Planned Programs Subtotals	-	-	12.370

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

There is no other Mounted Computing Environment (MCE) related funding. However, there are efforts ongoing in other PM Mission Command Programs of Record (e.g.: Joint Battle Command - Platform (JBC-P), the foundational element of MCE that directly support the implementation of the MCE.

D. Acquisition Strategy

MCE is not a Program of Record (PoR), it is executed by PM Mission Command (PM MC) PdM JBC-P, which coordinates requirements and efforts with all stakeholders for associated capabilities that will be part of this MCE.

The Department of the Army, Assistant Secretary of the Army for Acquisition, Logistics, and Technology (ASA/ALT) directed the creation of the MCE as part of the overall Common Operating Environment (COE) Directive for Program Executive Offices (PEOs) in December 2011.

To accomplish the goals of the MCE, PEO C3T PM Mission Command will architect, design, and develop the hardware, software, and network solutions and capabilities required to achieve compliance with the COE. Primary systems architecture engineering will be conducted by in-house Government engineering staff with support from CERDEC matrix elements and MITRE Corp, a Fully Funded Reasearch and Development Centers. Primary software development efforts will be conducted by the CECOM Software Engineering Center (SEC) and the Aviation and Missles RDEC (AMRDEC) Software Engineering Directorate (SED).

Test and Evaluation support will be provided by in-house PM MC TMD staff, with support from contractor firms for preparation and conduct of specific risk reduction events and test events. Developmental testing will be conducted by the software development teams with Government oversight and coordination.

Hardware to support system architecture and software development will be standardized equipment and will be procured using existing contract vehicles such as the Mounted Family of Computer Systems (MFoCS).

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604818A / *Army Tactical Command & Control Hardware & Software*	Project (Number/Name) EJ5 / *MOUNTED COMPUTING ENVIRONMENT (MCE)*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PM Support (Mixed support: Gov't-Core and Matrix; SETA Contractor)	Various	PM Mission Command : Aberdeen Proving Ground, MD	0.000	-		-		1.484		-		1.484	-	1.484	-
		Subtotal	0.000	-		-		1.484		-		1.484	-	1.484	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development	Various	PM Mission Cmd, Multiple Matrix Orgs and SW Dev Contractors : Aberdeen Proving Ground, MD	0.000	-		-		3.711	Oct 2015	-		3.711	-	3.711	-
Software/Systems Engineering	Various	PM Mission Cmd, Multiple Matrix Orgs and SW Dev Contractors : Aberdeen Proving Ground, MD	0.000	-		-		4.701		-		4.701	-	4.701	-
		Subtotal	0.000	-		-		8.412		-		8.412	-	8.412	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test, Evaluation and Integration	MIPR	Multiple Test Agencies; Multiple Locations : Aberdeen Proving Ground, MD	0.000	-		-		2.474		-		2.474	-	2.474	-
		Subtotal	0.000	-		-		2.474		-		2.474	-	2.474	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604818A / *Army Tactical Command & Control Hardware & Software*	Project (Number/Name) EJ5 / *MOUNTED COMPUTING ENVIRONMENT (MCE)*	

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	-		-		12.370		-		12.370	-	12.370	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EJ5 / *MOUNTED COMPUTING ENVIRONMENT (MCE)*

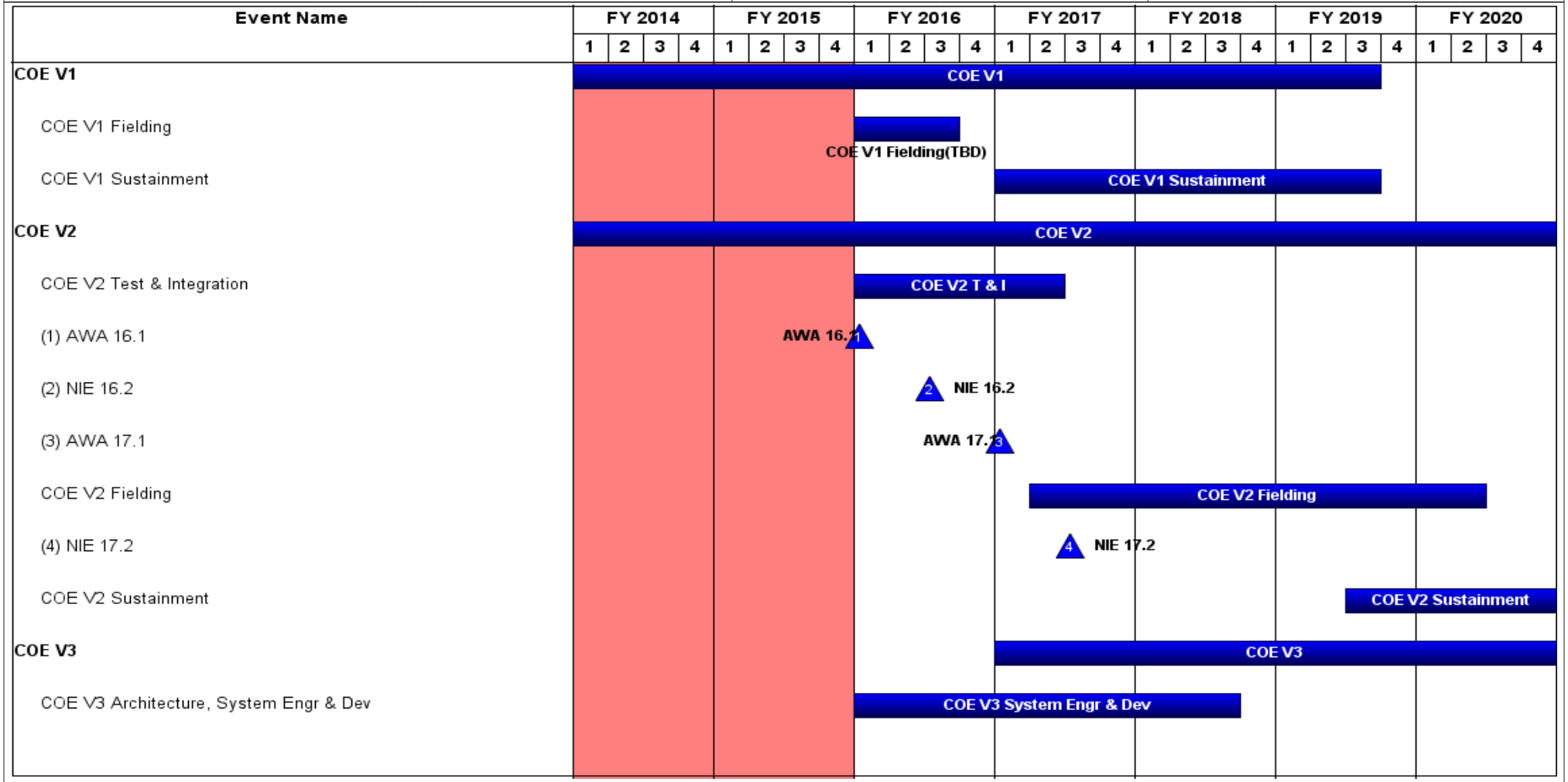

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EJ5 / *MOUNTED COMPUTING ENVIRONMENT (MCE)*

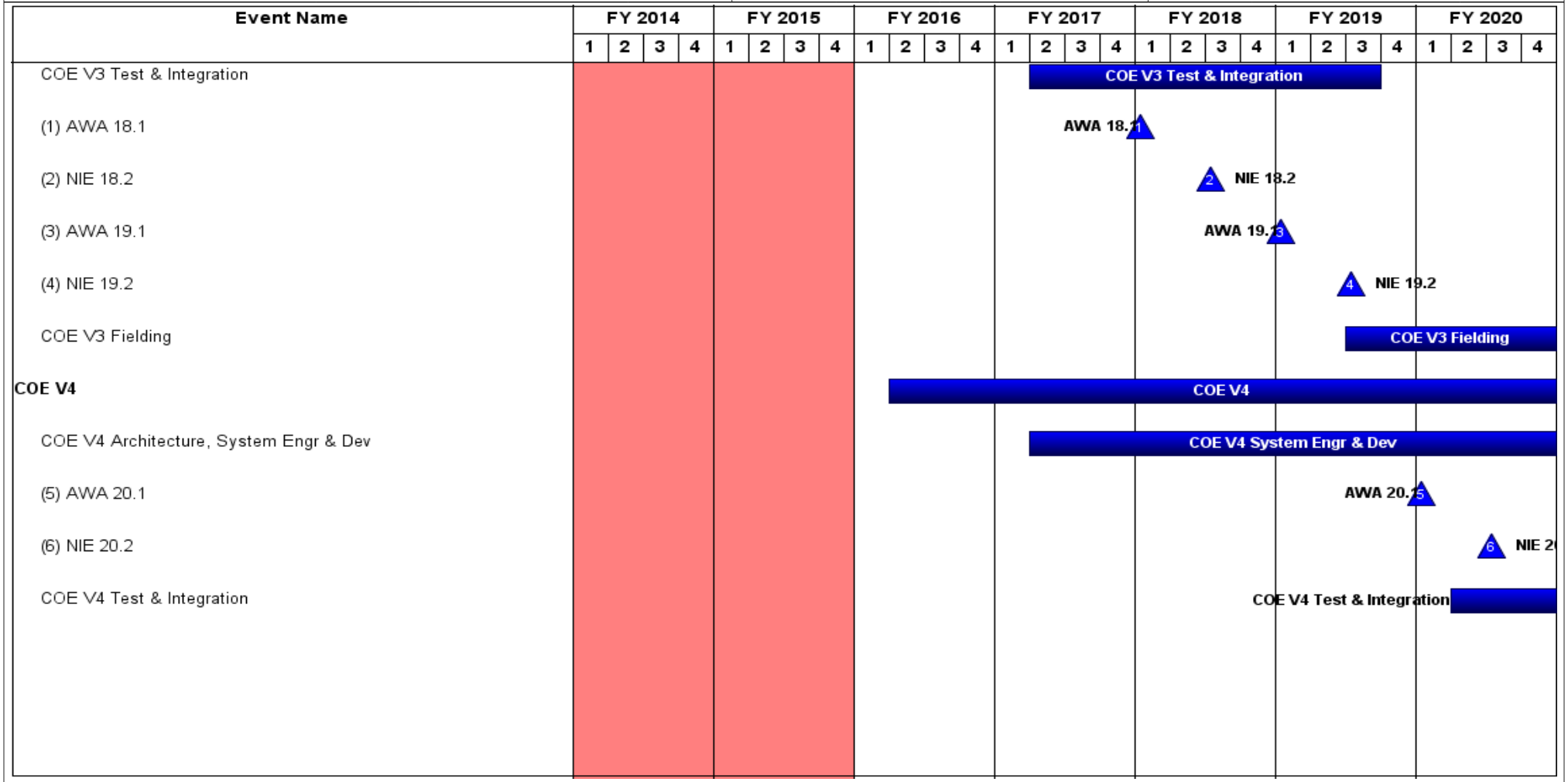

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EJ5 / *MOUNTED COMPUTING ENVIRONMENT (MCE)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
COE V1	1	2014	3	2019
COE V1 Fielding	1	2016	3	2016
COE V1 Sustainment	1	2017	3	2019
COE V2	1	2014	4	2022
COE V2 Test & Integration	1	2016	2	2017
AWA 16.1	1	2016	1	2016
NIE 16.2	3	2016	3	2016
AWA 17.1	1	2017	1	2017
COE V2 Fielding	2	2017	2	2020
NIE 17.2	3	2017	3	2017
COE V2 Sustainment	3	2019	4	2021
COE V3	1	2017	4	2021
COE V3 Architecture, System Engr & Dev	1	2016	3	2018
COE V3 Test & Integration	2	2017	3	2019
AWA 18.1	1	2018	1	2018
NIE 18.2	3	2018	3	2018
AWA 19.1	1	2019	1	2019
NIE 19.2	3	2019	3	2019
COE V3 Fielding	3	2019	2	2022
COE V4	2	2016	4	2026
COE V4 Architecture, System Engr & Dev	2	2017	2	2022
AWA 20.1	1	2020	3	2021

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EJ5 / *MOUNTED COMPUTING ENVIRONMENT (MCE)*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
NIE 20.2	3	2020	4	2020
COE V4 Test & Integration	2	2020	2	2022

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604818A / *Army Tactical Command & Control Hardware & Software*	Project (Number/Name) EJ6 / *TACTICAL ENHANCEMENT*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
EJ6: *TACTICAL ENHANCEMENT*	-	-	-	13.278	-	13.278	12.024	-	-	-	-	25.302
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

This project element is a new start.

A. Mission Description and Budget Item Justification

Tactical Enhancement supports testing requirements for capabilities procured and fielded under the Signal Modernization funding line B00010. Signal Modernization will modernize legacy terrestrial communications links and increase capacity of the Expeditionary Signal Battalions. It will also provide transport convergence for Warfighter Information Network- Tactical (WIN-T) Increment 1 units, bringing their legacy stovepipe transport systems into the WIN-T network, including Top Secret Intel, Medical, and Sustainment communications systems.

Funding will be used for testing, specifically Interoperability certification, and Network testing for Brigade Combat Team(BCT) and Theater Intel Transport Convergence in FY16 and Initial Operational Test & Evaluation (IOT&E) for terrestrial communications (Tactical Network Transmission (TNT) Systems) in FY17.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: BCT/Theater Testing for TS-SCI Security Enclave	-	-	13.278
Description: Testing requirement ***FY 2016 Plans:*** BCT/Theater testing of Top Secret - Sensitive Compartmented Information (TS-SCI) Security Enclave in support of Transport Convergence.			
Accomplishments/Planned Programs Subtotals	-	-	13.278

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EJ6 / *TACTICAL ENHANCEMENT*

D. Acquisition Strategy

This funding will provide enhancements and improvements to the WIN-T tactical ground networks. It will integrate Commercial-Off-the-Shelf (COTS) capabilities into WIN-T nodes for capabilities to expand network capacity and user access. The capabilities' requirements are captured in the Transmission Systems Capability Production Document (CPD).

Some of the capabilities will be integrated into existing end items through Modification Work Orders. Cellular and wireless phone capabilities for ESB units as well as Modular Communications Node - Advanced Equipment (MCNAE), to integrate a Top Secret - Sensitive Compartmented Information (TS-SCI) Security Enclave into WIN-T will be integrated in FY16 – FY20.

Other capabilities, to replace legacy equipment in the field, will be acquired as ACAT III programs, utilizing the DoDI 5000.02 standard acquisition approach starting with Milestone C determination in 4Q16. These include replacement systems for troposcatter and line of sight radio terminals to connect WIN-T nodes with broadband data links, relieving some of the burden on SATCOM.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604818A / *Army Tactical Command & Control Hardware & Software*	Project (Number/Name) EJ6 / *TACTICAL ENHANCEMENT*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Testing	TBD	ATEC : Aberdeen Proving Ground, MD	0.000	-		-		13.278		-		13.278	-	13.278	-
		Subtotal	0.000	-		-		13.278		-		13.278	-	13.278	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	-		-		13.278		-		13.278	-	13.278	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EJ6 / *TACTICAL ENHANCEMENT*

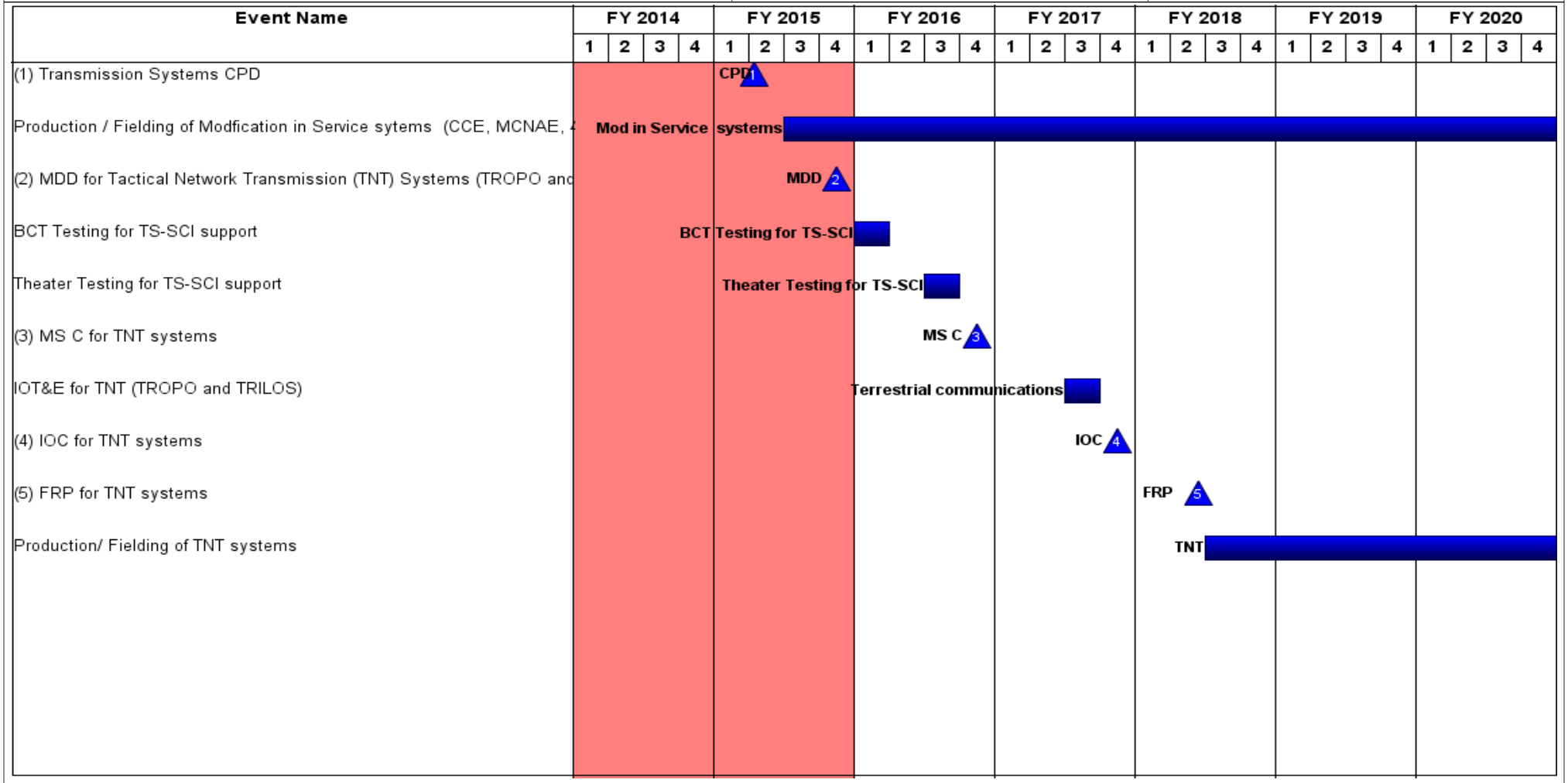

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EJ6 / *TACTICAL ENHANCEMENT*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Transmission Systems CPD	2	2015	2	2015
Production / Fielding of Modfication in Service sytems (CCE, MCNAE, 4G & WiFi)	3	2015	4	2021
MDD for Tactical Network Transmission (TNT) Systems (TROPO and TRILOS)	4	2015	4	2015
BCT Testing for TS-SCI support	1	2016	1	2016
Theater Testing for TS-SCI support	3	2016	3	2016
MS C for TNT systems	4	2016	4	2016
IOT&E for TNT (TROPO and TRILOS)	3	2017	3	2017
IOC for TNT systems	4	2017	4	2017
FRP for TNT systems	2	2018	2	2018
Production/ Fielding of TNT systems	3	2018	4	2022

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604818A / *Army Tactical Command & Control Hardware & Software*	Project (Number/Name) EJ7 / *TACTICAL DIGITAL MEDIA*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
EJ7: *TACTICAL DIGITAL MEDIA*	-	-	-	1.300	-	1.300	2.500	-	-	-	-	3.800
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Tactical Digital Media (TDM), Proj/PE 654818.EJ7 is a new funding line in FY16.

A. Mission Description and Budget Item Justification

FY16 funds will be used to test representative candidate Commercial Off The Shelf (COTS) Non-Developmental Item (NDI) camera and video equipment for effectiveness, suitability, and reliability under combat conditions to support material solutions for procurement.

Tactical Digital Media (TDM) is comprised of photo, video and audio recording and editing equipment that will be assembled and issued as variant kits tailored to unit mission requirements. TDM kits address modernization gaps associated with all operational Combat Camera (COMCAM), Public Affairs (PA), and Military Information Support Operations (MISO) units. TDM provides essential imagery, multimedia products, and live interview capabilities that directly contribute to successful execution of a Commander's strategic engagement and communications strategy across the full range of military operations. TDM also provides specific imagery, video, and multimedia support to commanders through the National Command Authority (NCA) level to assist with operational planning, decision-making, combat adversary misinformation/disinformation, alter perceptions regarding coalition efforts, and provide accurate and timely information to national and international audiences. Proposed TDM equipment is entirely COTS/NDI currently in use by military organizations and commercial industry.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Test and Evaluation ***Description:*** Test and evaluation of capabilities/equipment in order to assess emerging technologies before they are released for Army use; testing will be performed on hardware and/or software. ***FY 2016 Plans:*** Photo, video, audio recording and editing equipment will be identified, evaluated and tested in order to assess components of variant kits that support multiple mission requirements across multiple visual information (VI) disciplines.	-	-	1.146
Title: Program Management ***Description:*** Program Management comprises overall mangement of program execution, major events, reporting, funds execution, and contract management. Includes participation in program planning meetings and IPTs. ***FY 2016 Plans:***	-	-	0.154

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EJ7 / *TACTICAL DIGITAL MEDIA*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Provide technical and business oversight for TDM evaluation and testing activities. Program management functions include oversight, planning, funds execution and contract mangement support to TDM RDT&E activities.			
Accomplishments/Planned Programs Subtotals	-	-	1.300

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• B68501 Tactical Digital Media (OPA): *B68501 Tactical Digital Media (OPA)*	-	-	-	-	-	-	4.460	4.956	5.055	-	14.471

Remarks

D. Acquisition Strategy

In accordance with the approved Tactical Digital Media (TDM) Capabilities Production Document (CPD), the Army will be purchasing state-of-the-art Commercial Off The Shelf (COTS) equipment to field media variant kits tailored to unit mission requirements. The equipment will purchased on competitively awarded contracts through Common Hardware Systems (CHS) or Global Tactical Advanced Communication Systems (GTACS) and will include warranties.

The program strategy for reaching full capability is to identify and field a modern standardized set of digital media capabilities that enables the Army user community to acquire and process digital media/visual information products able to be disseminated within a fully integrated Army tactical network operations environment which includes commercial networks and interfaces. The TDM program will replace legacy analog devices by providing state-of-the art COTS/Non-Developmental Items (NDI) equipment supporting acquire and process operations that is centrally managed and resourced. New technologies and improvements of COTS/NDI equipment will be inserted as part of unit reset, New Equipment Fieldings or upgrades as necessary to provide users with state-of-art capabilities.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604818A / *Army Tactical Command & Control Hardware & Software*	Project (Number/Name) EJ7 / *TACTICAL DIGITAL MEDIA*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PM Support(Gov't-Core)	Sub Allot	PM Mission Command : PM Mission Command	0.000	-		-		0.154		-		0.154	0.160	0.314	-
		Subtotal	0.000	-		-		0.154		-		0.154	0.160	0.314	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation	C/TBD	Multiple Locations : TBD	0.000	-		-		1.146		-		1.146	2.340	3.486	-
		Subtotal	0.000	-		-		1.146		-		1.146	2.340	3.486	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	-		-		1.300		-		1.300	2.500	3.800	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EJ7 / *TACTICAL DIGITAL MEDIA*

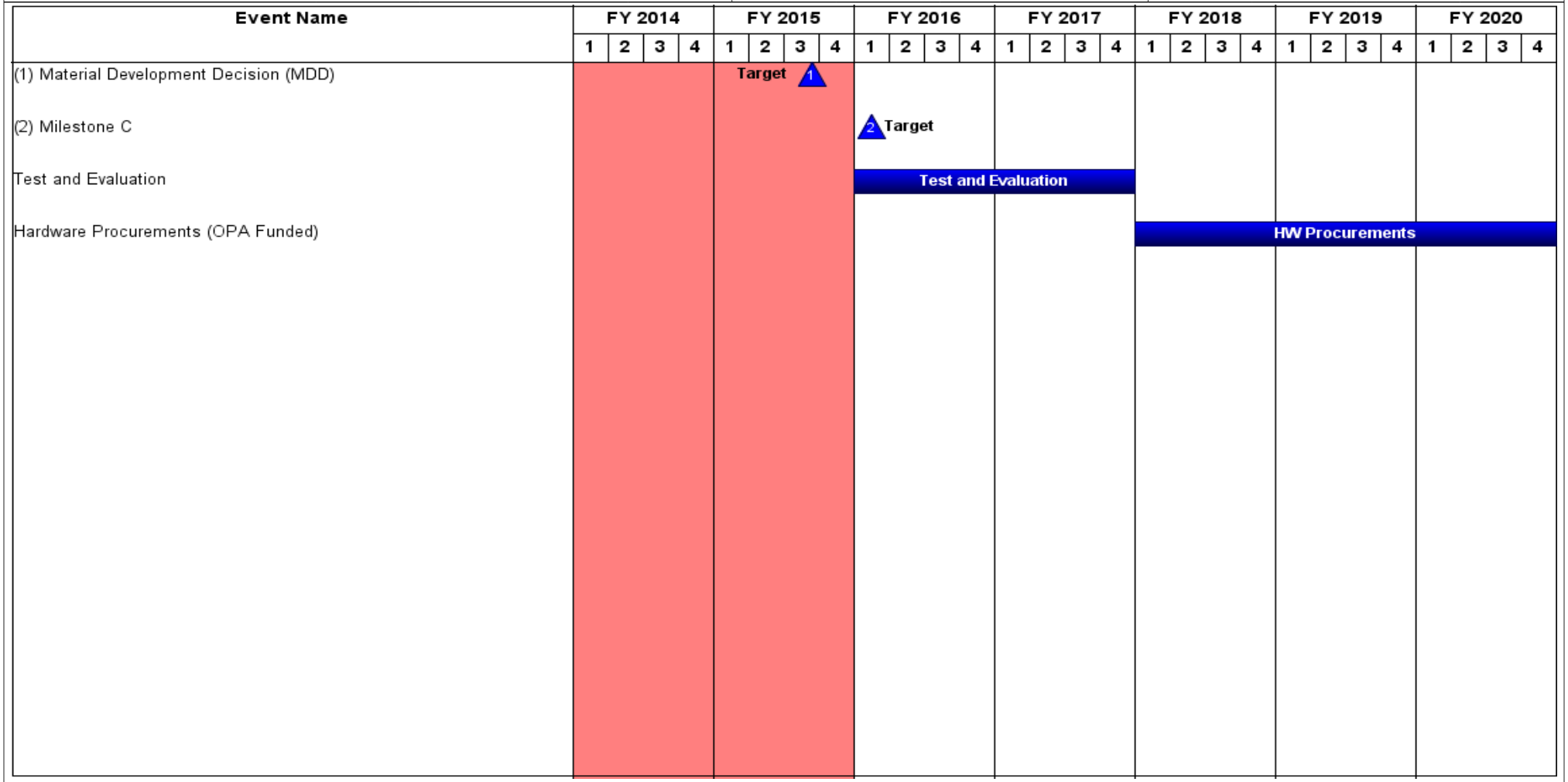

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EJ7 / *TACTICAL DIGITAL MEDIA*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Material Development Decision (MDD)	3	2015	3	2015
Milestone C	1	2016	1	2016
Test and Evaluation	1	2016	4	2017
Hardware Procurements (OPA Funded)	1	2018	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604818A / *Army Tactical Command & Control Hardware & Software*	Project (Number/Name) EK9 / *TACTICAL NETWORK OPERATIONS AND MANAGEMENT*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
EK9: *TACTICAL NETWORK OPERATIONS AND MANAGEMENT*	-	-	-	30.744	-	30.744	35.879	35.990	38.289	46.657	-	187.559
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Tactical Network Operations (NetOps) and Management (TNOM) is the program which will develop and integrate the Tactical NetOps software capabilities in support of NetOps Convergence, Army Objectives and emerging Cyber Center Of Excellence (CCOE) requirements. The end state program is designed to synchronize LandWarNet NetOps efforts in an integrated and interoperable framework, spanning all echelons of command and supporting the full range of military operations for Army, Joint, and Coalition Forces in order to ensure converged NetOps. The initial mission is convergence of all Tactical Defensive Cyber Operations (DCO) and DoD Information Network (DoDIN) functions into a single integrated set of Tactical NetOps and Management software. This integrated solution provides NetOps capability from the Soldier to the Theater network entry point and supports the Implementation of the Integrated Tactical NetOps (ITNO) Capability Production Document (CPD).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Product Development ***Description:*** Network Operations Development ***FY 2016 Plans:*** FY16 initiates the Engineering Design and Development for Network Operations software in support of the Integrated Tactical NetOps (ITNO) Capability Production Document which further integrates existing capability and extends that capability down to the Battalion Level. This funding initializes the program and funds the development effort for the first build cycle. FY16 also funds initial delivery of architecture products that help drive subsequent builds.	-	-	26.667
Title: Test and Evaluation ***Description:*** Testing and Evaluating NetOps ***FY 2016 Plans:*** Funds T&E planning and development of Test Evaluation Master Plan. Support to Material Development Decision and other program initiation efforts.	-	-	0.980
Title: Management Services ***Description:*** Program Management Support	-	-	3.097

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EK9 / *TACTICAL NETWORK OPERATIONS AND MANAGEMENT*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
FY 2016 Plans: Program Management Support			
Accomplishments/Planned Programs Subtotals	-	-	30.744

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

The Product Manager for Tactical Network Operations (NetOps) and Management (TNOM) stands up in FY 16 with the mission of convergence all NetOps functions into a single integrated set of TNOM software. The plan calls for a Material Development Decision (MDD) in early FY16 with the program entering the Engineering Manufacturing and Development (EMD) phase post Milestone B. The current strategy will provide software builds with incremental releases to program offices, such as WIN-T Inc 1 and Inc 2, for fielding and sustainment.

This integrated solution provides NetOps capability from the Soldier to the Theater network entry point. Integrated Tactical Network Operations (ITNO) provides battalion and above G6/S6 Network Managers and the G3/S3 and staff of Signal organizations with an integrated and standardized set of NetOps capabilities allowing them to plan, configure, manage, monitor, control and secure/defend their organic /assigned/attached Upper Tactical Internet (UTI)/Lower Tactical Internet (LTI) assets.

The program priorities of efforts are:

1. Develop and implement a bridge between the UTI and LTI supporting operations and capability set fielding until delivery of an integrated solution.
2. Further Integrate all UTI and LTI transport systems into a single integrated set of tools.
3. Initial integration of all Army Battle Command Systems (ABCS) systems application management and the Transport management into a single set of NetOps tools.
4. Develop and implement an integration approach for managing all tactical NetOps functions from the tactical network entry point down to the Soldier.

This program implements the Integrated Tactical NetOps Capability Production Document currently in development within Training and Doctrine Command, with Joint Requirements Oversight Committee approval anticipated in late FY15.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604818A / *Army Tactical Command & Control Hardware & Software*	Project (Number/Name) EK9 / *TACTICAL NETWORK OPERATIONS AND MANAGEMENT*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TNOM NetOps Program Management Support	C/TBD	Various : Various	0.000	-		-		3.097		-		3.097	-	3.097	-
		Subtotal	0.000	-		-		3.097		-		3.097	-	3.097	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TNOM NetOps Development	C/TBD	TBD : TBD	0.000	-		-		26.667		-		26.667	-	26.667	-
		Subtotal	0.000	-		-		26.667		-		26.667	-	26.667	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation Planning	C/TBD	Various : Various	0.000	-		-		0.980		-		0.980	-	0.980	-
		Subtotal	0.000	-		-		0.980		-		0.980	-	0.980	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	-		-		30.744		-		30.744	-	30.744	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EK9 / *TACTICAL NETWORK OPERATIONS AND MANAGEMENT*

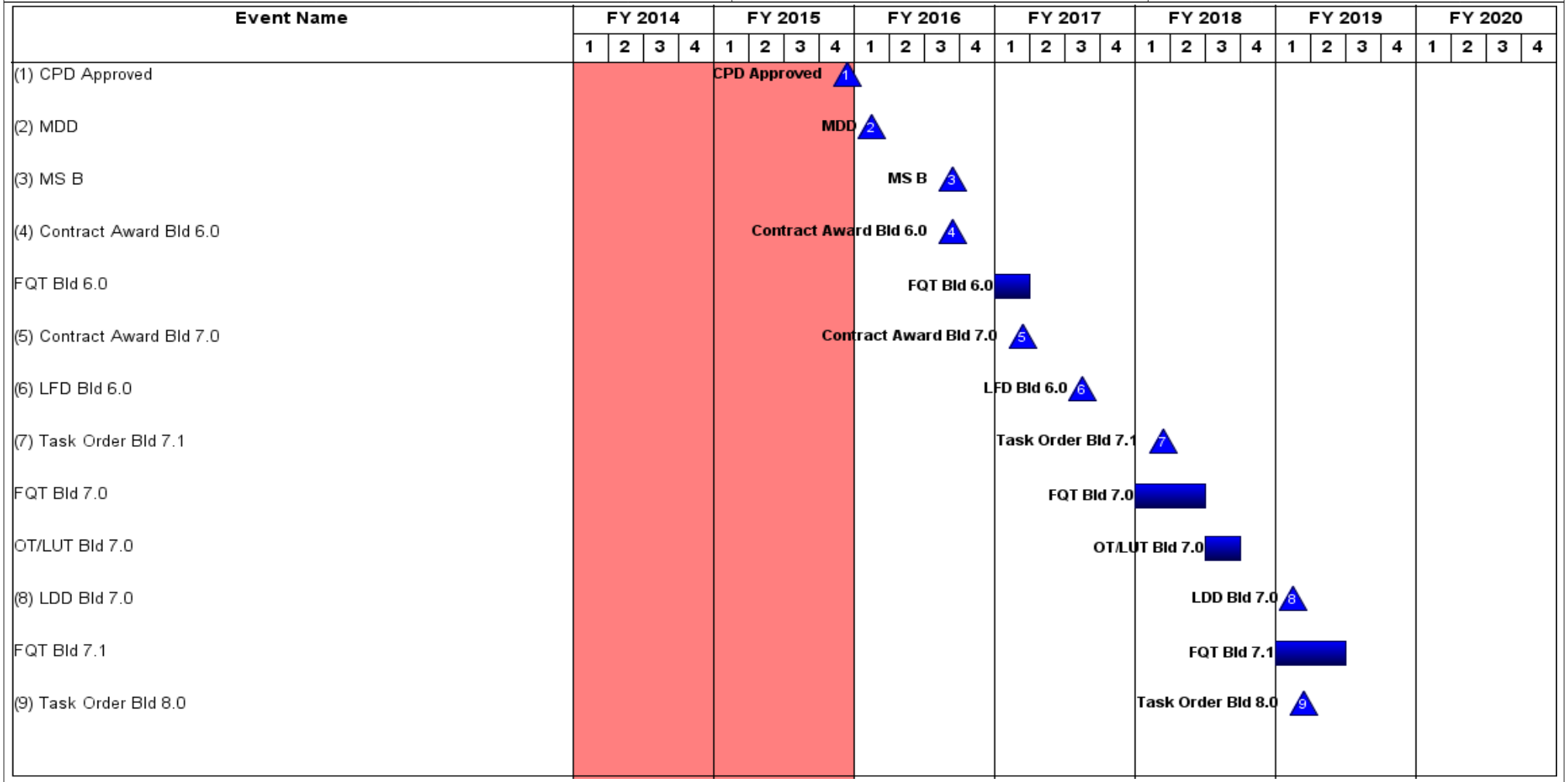

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EK9 / *TACTICAL NETWORK OPERATIONS AND MANAGEMENT*

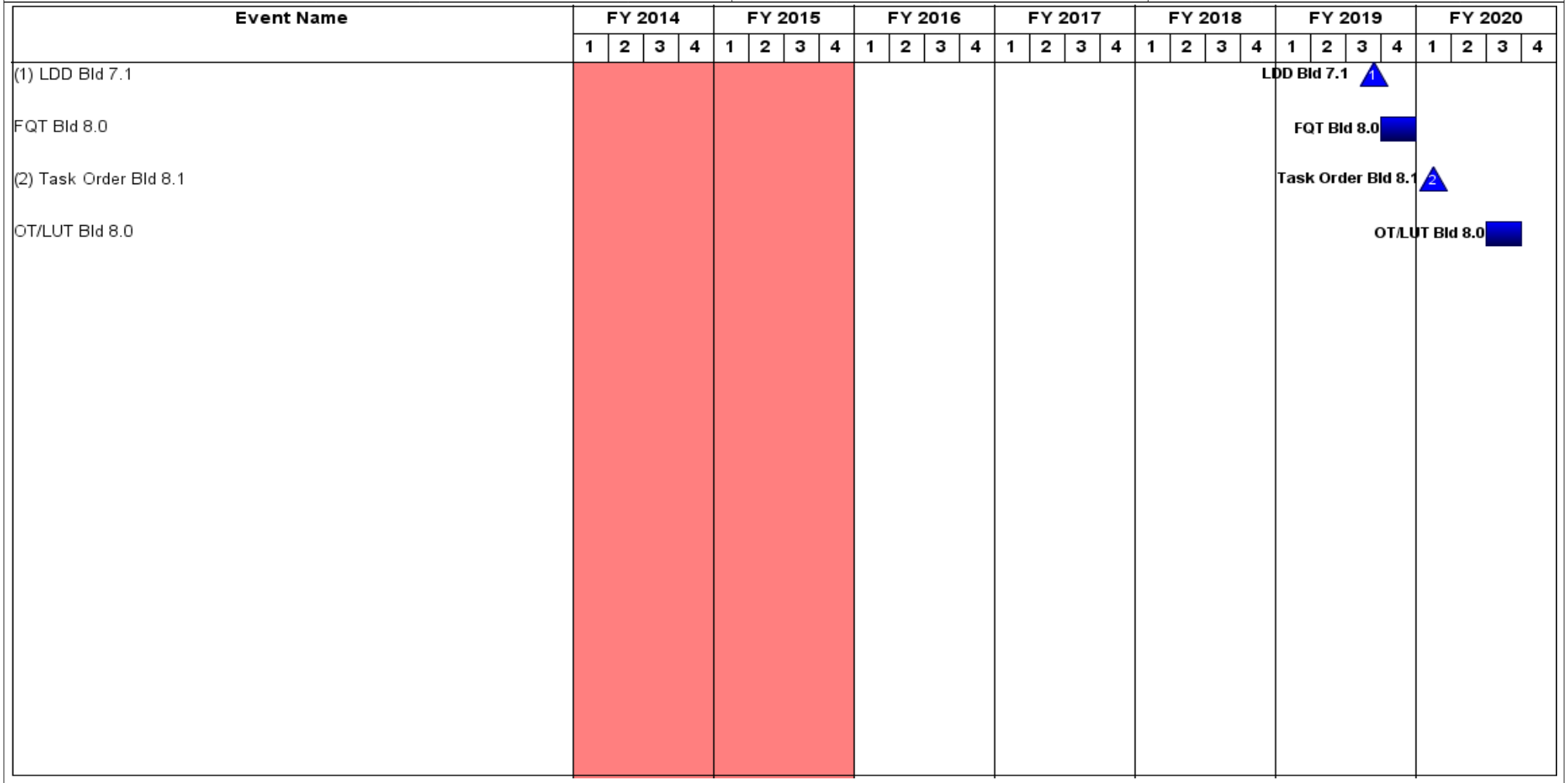

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EK9 / *TACTICAL NETWORK OPERATIONS AND MANAGEMENT*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
CPD Approved	4	2015	4	2015
MDD	1	2016	1	2016
MS B	3	2016	3	2016
Contract Award Bld 6.0	3	2016	3	2016
FQT Bld 6.0	1	2017	1	2017
Contract Award Bld 7.0	1	2017	1	2017
LFD Bld 6.0	3	2017	3	2017
Task Order Bld 7.1	1	2018	1	2018
FQT Bld 7.0	1	2018	2	2018
OT/LUT Bld 7.0	3	2018	3	2018
LDD Bld 7.0	1	2019	1	2019
FQT Bld 7.1	1	2019	2	2019
Task Order Bld 8.0	1	2019	1	2019
LDD Bld 7.1	3	2019	3	2019
FQT Bld 8.0	4	2019	4	2019
Task Order Bld 8.1	1	2020	1	2020
OT/LUT Bld 8.0	3	2020	3	2020

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604820A / *Radar Development*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	-	1.796	5.221	12.309	-	12.309	11.465	10.971	12.191	30.277	Continuing	Continuing
E10: *Sentinel*	-	1.796	5.221	12.309	-	12.309	11.465	10.971	12.191	30.277	Continuing	Continuing

A. Mission Description and Budget Item Justification

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

The Sentinel currently consists of two primary variants: the AN/MPQ-64A1 system mounted on a High Mobility Multi-purpose Wheeled Vehicle (HMMWV), and an enhanced radar variant, the AN/MPQ-64A3 mounted on a 2.5 ton trailer and towed by an armored Family of Medium Tactical Vehicle (FMTV) platform. Sentinel also consists of Identification Friend or Foe (IFF), and Forward Area Air Defense (FAAD) Command, Control and Intelligence (C2I) interfaces. The radar is deployed in both an air defense role and a force protection role for Counter-Rocket, Artillery, and Mortar (C-RAM) missions. The sensor is an advanced three-dimensional battlefield X-Band air defense phased-array radar with an instrumented range of 75 kilometers. Sentinel is capable of operating day or night, in adverse weather conditions, in the battlefield environments of dust, smoke, aerosols and enemy countermeasures. It provides 360-degree azimuth coverage for acquisition tracking. Sentinel contributes to the digital battlefield by automatically detecting, classifying, identifying and reporting targets (cruise missiles, unmanned aerial systems, rotary wing and fixed wing aircraft). Sentinel acquires targets sufficiently forward of the battle area to allow weapons reaction time and engagement at optimum ranges. Sentinel's integrated IFF reduces the potential for fratricide of US and Coalition aircraft.

The Research and Development funding supports Sentinel modernization/upgrades, hardware/software issue resolution, resolution of obsolescence issues, engineering studies, and cost reduction initiatives. The funding for Fiscal Year (FY) 2014 through FY 2020 development activities addresses the following Sentinel system capability gaps and obsolescence issues identified by the User: 1) Target Detection gap; 2) Target Tracking gap; 3) Net Readiness gap; 4) Electronic Counter Measures (ECM) gap; and 5) Unmanned Aerial Systems (UAS) Defense gap.

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

Stop, Stare and Track addresses the Target Tracking Gap. This development effort provides direct Fire Control Radar (FCR) support in an integrated air and missile defense architecture. In addition this provides significantly improved Non-Cooperative Target Recognition (NCTR) timeline and performance against all targets to include UAS, Cruise Missiles, Rotary Wing and Fixed Wing aircraft. This upgrade also enables rapid classification of cued Rockets, Artillery and Mortars (RAM), UAS, Rotary

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army	Date: February 2015
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604820A *I Radar Development*

Wing and Fixed Wing aircraft, as well as very accurate Point of Origin (POO) and Point of Impact (POI) of RAM targets and enables a robust kill assessment capability of engaged targets.

Cross Domain Solution (CDS) Network Interface addresses net readiness and system security concerns. This effort develops a CDS interface to isolate the Sentinel radar from connected networks of lower classification levels. Allows for ongoing cyber security initiatives to be reviewed and addressed as they arise. Ensures that Information Assurance/Cyber security is part of Sentinel operations, missions and functions. Makes certain that practices necessary to ensure the protection of information and personnel are instituted.

Electronic Attack/Electronic Protect (EA/EP) addresses the electronic countermeasures (ECM) gap. This effort conducts additional design and testing to verify initial EA/EP results and updates the database and associated software and hardware with more extensive EA/EP signatures to address evolving threats.

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

Medium Bandwidth Waveform upgrade will address latent tracking issues that currently exist with Sentinel in certain applications. This development effort modifies firmware as well as software in the Sentinel radar. This effort will provide better target resolution and more accurate tracking in the slant range coordinate. This improved target resolution and tracking accuracy will provide improved retention of target identification and more robust tracking that addresses the latent tracking issues.

Mode S upgrade to existing Sentinel Identification Friend or Foe (IFF) will address Sentinel's objective requirement to interrogate IFF mode S which is currently not being met. Mode S transmissions are a key component of the Automatic Dependent Surveillance-Broadcast (ADS-B) surveillance technology being used by the Federal Aviation Administration for tracking aircraft as part of the Next Generation Air Transportation System (NextGen). In the United States, all aircraft required to have transponders (most aircraft) must transition to mode S capable units by 2020. Without the Mode S upgrade, Sentinel will have to rely on these aircraft transponders responding to the legacy mode 3/A interrogations. The data available in the mode S response will be valuable in identifying the aircraft and correlating Sentinel tracks with civil aviation tracks/data and other track data sources.

The Active Electronic Steered Array (AESA) is the next generation of radar technology to replace the current phase and frequency scanned array used by Sentinel today. The AESA Antenna will provide increased capability including extended range for ground-based surveillance and situational awareness, faster and more accurate Non-Cooperative Target Recognition (NCTR) for clearing fires and preventing fratricide, improved Fire Control (FC) quality track accuracy, and management of larger track loads. The AESA will also provide improved operation in severe/urban clutter. The system will detect and track small targets, such as Unmanned Aerial Systems (UAS) and Cruise Missiles, in clutter and will detect and track slow targets, such as UAS and Rotary Wing (RW) aircraft, at low altitudes in clutter. The system will detect, track, and classify Rocket, Artillery, and Mortar (RAM) threats and will support Integrated Air and Missile Defense Battle Command System (IBCS) requirements and can provide sensor support for the Counter-RAM requirements for Indirect Fire Protection Capability Increment 2-Intercept Block 2 (IFPC Inc 2-I block 2) mission. The AESA will support advanced EI

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army					Date: February 2015
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*			R-1 Program Element (Number/Name) PE 0604820A / *Radar Development*		
B. Program Change Summary ($ in Millions)	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**
Previous President's Budget	1.548	5.224	12.213	-	12.213
Current President's Budget	1.796	5.221	12.309	-	12.309
Total Adjustments	0.248	-0.003	0.096	-	0.096
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.299	-			
• SBIR/STTR Transfer	-0.051	-			
• Adjustments to Budget Years	-	-	0.096	-	0.096
• FFRDC	-	-0.003	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604820A / *Radar Development*	Project (Number/Name) E10 / *Sentinel*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
E10: *Sentinel*	-	1.796	5.221	12.309	-	12.309	11.465	10.971	12.191	30.277	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

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

The Sentinel currently consists of two primary variants: the AN/MPQ-64A1 system mounted on a High Mobility Multi-purpose Wheeled Vehicle (HMMWV), and an enhanced radar variant, the AN/MPQ-64A3 mounted on a 2.5 ton trailer and towed by an armored Family of Medium Tactical Vehicle (FMTV) platform. Sentinel also consists of Identification Friend or Foe (IFF), and Forward Area Air Defense (FAAD) Command, Control and Intelligence (C2I) interfaces. The radar is deployed in both an air defense role and a force protection role for Counter-Rocket, Artillery, and Mortar (C-RAM) missions. The sensor is an advanced three-dimensional battlefield X-Band air defense phased-array radar with an instrumented range of 75 kilometers. Sentinel is capable of operating day or night, in adverse weather conditions, in the battlefield environments of dust, smoke, aerosols and enemy countermeasures. It provides 360-degree azimuth coverage for acquisition tracking. Sentinel contributes to the digital battlefield by automatically detecting, classifying, identifying and reporting targets (cruise missiles, unmanned aerial systems, rotary wing and fixed wing aircraft). Sentinel acquires targets sufficiently forward of the battle area to allow weapons reaction time and engagement at optimum ranges. Sentinel's integrated IFF reduces the potential for fratricide of US and Coalition aircraft.

The Research and Development funding supports Sentinel modernization/upgrades, hardware/software issue resolution, resolution of obsolescence issues, engineering studies, and cost reduction initiatives. The funding for Fiscal Year (FY) 2014 through FY 2020 development activities addresses the following Sentinel system capability gaps and obsolescence issues identified by the User: 1) Target Detection gap; 2) Target Tracking gap; 3) Net Readiness gap; 4) Electronic Counter Measures (ECM) gap; and 5) Unmanned Aerial Systems (UAS) Defense gap.

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

Stop, Stare and Track addresses the Target Tracking Gap. This development effort provides direct Fire Control Radar (FCR) support in an integrated air and missile defense architecture. In addition this provides significantly improved Non-Cooperative Target Recognition (NCTR) timeline and performance against all targets to include UAS, Cruise Missiles, Rotary Wing and Fixed Wing aircraft. This upgrade also enables rapid classification of cued Rockets, Artillery and Mortars (RAM), UAS, Rotary Wing and Fixed Wing aircraft, as well as very accurate Point of Origin (POO) and Point of Impact (POI) of RAM targets and enables a robust kill assessment capability of engaged targets.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604820A / *Radar Development*	**Project (Number/Name)** E10 / *Sentinel*

Cross Domain Solution (CDS) Network Interface addresses net readiness and system security concerns. This effort develops a CDS interface to isolate the Sentinel radar from connected networks of lower classification levels. Allows for ongoing cyber security initiatives to be reviewed and addressed as they arise. Ensures that Information Assurance/Cyber security is part of Sentinel operations, missions and functions. Makes certain that practices necessary to ensure the protection of information and personnel are instituted.

Electronic Attack/Electronic Protect (EA/EP) addresses the electronic countermeasures (ECM) gap. This effort conducts additional design and testing to verify initial EA/EP results and updates the database and associated software and hardware with more extensive EA/EP signatures to address evolving threats.

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

Medium Bandwidth Waveform upgrade will address latent tracking issues that currently exist with Sentinel in certain applications. This development effort modifies firmware as well as software in the Sentinel radar. This effort will provide better target resolution and more accurate tracking in the slant range coordinate. This improved target resolution and tracking accuracy will provide improved retention of target identification and more robust tracking that addresses the latent tracking issues.

Mode S upgrade to existing Sentinel Identification Friend or Foe (IFF) will address Sentinel's objective requirement to interrogate IFF mode S which is currently not being met. Mode S transmissions are a key component of the Automatic Dependent Surveillance-Broadcast (ADS-B) surveillance technology being used by the Federal Aviation Administration for tracking aircraft as part of the Next Generation Air Transportation System (NextGen). In the United States, all aircraft required to have transponders (most aircraft) must transition to mode S capable units by 2020. Without the Mode S upgrade, Sentinel will have to rely on these aircraft transponders responding to the legacy mode 3/A interrogations. The data available in the mode S response will be valuable in identifying the aircraft and correlating Sentinel tracks with civil aviation tracks/data and other track data sources.

The Active Electronic Steered Array (AESA) is the next generation of radar technology to replace the current phase and frequency scanned array used by Sentinel today. The AESA Antenna will provide increased capability including extended range for ground-based surveillance and situational awareness, faster and more accurate Non-Cooperative Target Recognition (NCTR) for clearing fires and preventing fratricide, improved Fire Control (FC) quality track accuracy, and management of larger track loads. The AESA will also provide improved operation in severe/urban clutter. The system will detect and track small targets, such as Unmanned Aerial Systems (UAS) and Cruise Missiles, in clutter and will detect and track slow targets, such as UAS and Rotary Wing (RW) aircraft, at low altitudes in clutter. The system will detect, track, and classify Rocket, Artillery, and Mortar (RAM) threats and will support Integrated Air and Missile Defense Battle Command System (IBCS) requirements and can provide sensor support for the Counter-RAM requirements for Indirect Fire Protection Capability Increment 2-Intercept Block 2 (IFPC Inc 2-I block 2) mission.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Product Development	-	3.557	8.733
Description: Funding is provided for the following efforts:			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604820A / *Radar Development*	**Project (Number/Name)** E10 / *Sentinel*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
FY 2015 Plans: Integrate firmware, software and hardware. Build prototype subsystems/components for testing. Complete software code coding and modification of the system search and track logic, clutter mapping, and waveforms. Characterize performance, design & replace firmware, software and hardware. Perform technical assessments, concept studies, cost reduction, risk reduction, threat analysis, and required documentation. ***FY 2016 Plans:*** Integrate firmware, software and hardware. Build prototype subsystems/components for testing. Complete software code coding and modification of the system search and track logic, clutter mapping, and waveforms. Characterize performance, design & replace firmware, software and hardware. Perform technical assessments, concept studies, cost reduction, risk reduction, threat analysis, and required documentation.			
Title: Test & Evaluation ***Description:*** Funding is provided for the following efforts: ***FY 2014 Accomplishments:*** Conduct system verification test and system qualification test on software upgrades. ***FY 2015 Plans:*** Conduct software qualification test and hardware verification testing, field testing against representative targets. Prepare logistics products and required documentation for material release of software and hardware upgrades. ***FY 2016 Plans:*** Conduct software qualification test and hardware verification testing, field testing against representative targets. Prepare logistics products and required documentation for material release of software and hardware upgrades.	1.637	1.103	2.491
Title: Management Support ***Description:*** This funds Government and technical support. ***FY 2014 Accomplishments:*** Provides government management, technical and administrative support in FY 2014. ***FY 2015 Plans:*** Provides government management, technical and administrative support in FY 2015. ***FY 2016 Plans:*** Provides government management, technical and administrative support in FY 2016.	0.159	0.561	1.085
Accomplishments/Planned Programs Subtotals	1.796	5.221	12.309

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604820A / *Radar Development*	**Project (Number/Name)** E10 / *Sentinel*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• PE 0605456A: *Proj PA3, PAC-3/MSE MISSILE*	86.223	34.991	2.272	-	2.272	-	-	-	-	-	123.486
• SSN C53101: *MSE Missile*	690.401	532.605	414.946	-	414.946	430.622	462.676	493.613	569.488	Continuing	Continuing
• PE 0205456: *Proj EF9, System Integration and Test*	-	78.720	64.159	-	64.159	60.214	58.722	75.315	96.392	Continuing	Continuing
• SSN C50016: *Lower Tier Air and Missile Defense (AMD)*	-	110.300	115.075	-	115.075	130.366	113.676	123.582	151.421	Continuing	Continuing
• PE 0102419A: *Proj E55, Joint Aero Stat Program - EMD Effort*	57.976	-	-	-	-	-	-	-	-	-	57.976
• PE 0604319A: *Proj DU3, IFPC2 (FY12 PE0603305A IFPC II - Intercept)*	76.559	96.131	155.361	-	155.361	90.323	58.562	13.384	109.495	Continuing	Continuing
• SSN C62001: *INDIRECT FIRE PROTECTION CAPABILITY, INC 2-1 Block 1 System*	-	-	-	-	-	19.920	48.076	139.362	175.738	Continuing	Continuing
• SSN C62002: *INDIRECT FIRE PROTECTION CAPABILITY, INC 2-1 Block 1 Missile*	-	-	-	-	-	-	73.552	123.106	186.480	Continuing	Continuing
• PE 0605457A: *Proj S40, Army Integrated Air and Missile Defense (AIAMD)*	358.192	152.516	214.099	-	214.099	227.103	169.575	153.451	33.424	Continuing	Continuing
• SSN BZ5075: *IAMD Battle Command System*	-	-	20.917	-	20.917	204.513	296.361	375.763	443.637	Continuing	Continuing
• PE 0604741A: *Proj 126, 146, 149; Air Defense C2I Eng Dev*	38.412	15.898	24.569	-	24.569	27.131	20.524	20.018	18.082	Continuing	Continuing
• SSN AD5070: *Air & MSL Defense Planning & Control Sys*	13.090	27.374	28.176	-	28.176	32.443	32.690	33.032	13.366	Continuing	Continuing
• SSN WK5057: *Sentinel Mods*	27.983	44.305	43.285	-	43.285	46.979	38.727	41.484	42.484	Continuing	Continuing
• PE 0202429A: *Proj EP8, JLENS COCOM EXERCISE*	22.659	43.248	40.565	-	40.565	46.371	6.746	-	-	-	159.589

Remarks

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

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604820A / *Radar Development*	**Project (Number/Name)** E10 / *Sentinel*

D. Acquisition Strategy

Sentinel was procured from Thales Raytheon Systems (TRS) as a non-development item. TRS owns the Technical Data Package (TDP) and therefore no other contractor has the technical ability to modify the Sentinel radar or Sentinel software.

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

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

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

Electronic Attack/Electronic Protect (EA/EP): The Sentinel Product Office will contract with Thales Raytheon Systems (TRS) to verify the initial EA/EP Database and update the database, software and hardware with more extensive EA/EP signatures to address evolving threats. The updated database will be tested, documented and released for installation.

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

Medium Bandwidth Waveform: The Sentinel Product Office will contract with Thales Raytheon Systems (TRS) to address latent tracking issues that currently exist with Sentinel in certain applications. The effort modifies firmware as well as software in the Sentinel radar. The updated medium bandwidth waveform software and firmware will be tested, documented and released for installation in the field.

Mode S: The Sentinel Product Office will contract with Thales Raytheon Systems (TRS) to address Sentinel's objective requirement to interrogate Identification Friend or Foe (IFF) mode S on board commercial aircraft. The updated software will be tested, documented and released for installation in the field.

Active Electronic Steered Array (AESA): The Cruise Missile Defense Systems (CMDS) Project Office will support requirement documentation and conduct design analysis to include Analysis of Alternatives (AoA), decision review preparation, and contract package development for acquisition of a Short-to-Medium-Range Radar to replace the Sentinel. CMDS will issue a competitive RFP for development of a follow-on radar. The software and hardware will be tested, documented and released for installation in the field.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604820A / *Radar Development*	Project (Number/Name) E10 / *Sentinel*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Improved Sentinel Development	Various	Cruise Missile Defense Systems Project Office : Huntsville, AL	11.398	-		-		-		-		-	-	11.398	-
System of Systems Mod Development & Integration	Various	Cruise Missile Defense Systems Project Office : Huntsville, AL	1.169	-		-		-		-		-	-	1.169	-
Battle Space Improvement	Various	Cruise Missile Defense Systems Project Office : Huntsville, AL	0.170	0.049		0.050		-		-		-	-	0.269	-
Stop, Stare and Track	Various	Cruise Missile Defense Systems Project Office : Huntsville, AL	0.373	0.110		0.050		-		-		-	-	0.533	-
Electronic Attack/ Electronic Protect	Various	Cruise Missile Defense Systems Project Office : Huntsville, AL	0.000	-		0.313		0.310		-		0.310	Continuing	Continuing	-
Cross Domain Solution Network Interface / Cyber Security	Various	Cruise Missile Defense Systems Project Office : Huntsville, AL	0.000	-		0.030		0.278		-		0.278	Continuing	Continuing	-
Signal Data Processor North Finding Module	Various	Cruise Missile Defense Systems Project Office : Huntsville, AL	0.000	-		0.118		0.268		-		0.268	Continuing	Continuing	-
Medium Bandwidth Waveform	Various	Thales Raytheon Systems & Various : Fullerton, CA	0.000	-		-		0.229		-		0.229	Continuing	Continuing	-
		Subtotal	13.110	0.159		0.561		1.085		-		1.085	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604820A / *Radar Development*	Project (Number/Name) E10 / *Sentinel*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Improved Sentinel Development	SS/CPFF	Thales Raytheon Systems : Fullerton, CA	102.729	-		-		-		-		-	-	102.729	-
System of Systems Mod Development & Integration	SS/CPFF	Thales Raytheon Systems : Fullerton, CA	20.820	-		-		-		-		-	-	20.820	-
Battle Space Improvement	Various	Thales Raytheon Systems & Various : Fullerton,CA / Various	1.601	-		-		-		-		-	-	1.601	-
Stop, Stare, and Track	Various	Thales Raytheon Systems & Various : Fullerton, CA / Various	3.604	-		-		-		-		-	-	3.604	-
Electronic Attack/ Electronic Protect	Various	Thales Raytheon Systems & Various : Fullerton, CA / Various	0.000	-		2.046		3.037		-		3.037	Continuing	Continuing	-
Cross Domain Solution Network Interface / Cyber Security	Various	Thales Raytheon Systems & Various : Fullerton, CA / Various	0.000	-		0.216		2.400		-		2.400	Continuing	Continuing	-
Signal Data Processor/ North Finding Module	Various	Thales Raytheon Systems & Various : Fullerton, CA / Various	0.000	-		1.295		2.353		-		2.353	Continuing	Continuing	-
Medium Bandwidth Waveform	Various	Thales Raytheon Systems & Various : Fullerton, CA	0.000	-		-		0.943		-		0.943	Continuing	Continuing	-
		Subtotal	128.754	-		3.557		8.733		-		8.733	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604820A / *Radar Development*	Project (Number/Name) E10 / *Sentinel*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Improved Sentinel Development	SS/CPFF	Thales Raytheon Systems : Fullerton, CA	16.930	-		-		-		-		-	-	16.930	-
System of Systems Mod Development & Integration	SS/CPFF	Thales Raytheon Systems : Fullerton, CA	0.352	-		-		-		-		-	-	0.352	-
		Subtotal	17.282	-		-		-		-		-	-	17.282	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Improved Sentinel Mod Development	SS/CPFF	Thales Raytheon Systems : Fullerton, CA	34.599	-		-		-		-		-	-	34.599	-
System of Systems Mod Development & Integration	SS/CPFF	Thales Raytheon Systems : Fullerton, CA	2.331	-		-		-		-		-	-	2.331	-
Battle Space Improvement	Various	Thales Raytheon Systems & Various : Fullerton, CA / Various	0.421	0.448		0.450		-		-		-	-	1.319	-
Stop, Stare and Track	Various	Thales Raytheon Systems & Various : Fullerton, CA / Various	0.658	1.189		0.450		-		-		-	-	2.297	-
Electronic Attack/ Electronic Protect	Various	Thales Raytheon Systems & Various : Fullerton, CA / Various	0.000	-		0.203		0.600		-		0.600	Continuing	Continuing	-
Cross Domain Solution Network Interface / Cyber Security	Various	Thales Raytheon Systems & Various : Fullerton, CA / Various	0.000	-		-		0.832		-		0.832	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604820A / *Radar Development*	Project (Number/Name) E10 / *Sentinel*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Signal Data Processor North Finding Module	Various	Thales Raytheon Systems & Various : Fullerton, CA / Various	0.000	-		-		0.781		-		0.781	Continuing	Continuing	-
Medium Bandwidth Waveform	Various	Thales Raytheon Systems & Various : Fullerton, CA	0.000	-		-		0.278		-		0.278	Continuing	Continuing	-
		Subtotal	38.009	1.637		1.103		2.491		-		2.491	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	197.155	1.796		5.221		12.309		-		12.309	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604820A / *Radar Development*	**Project (Number/Name)** E10 / *Sentinel*

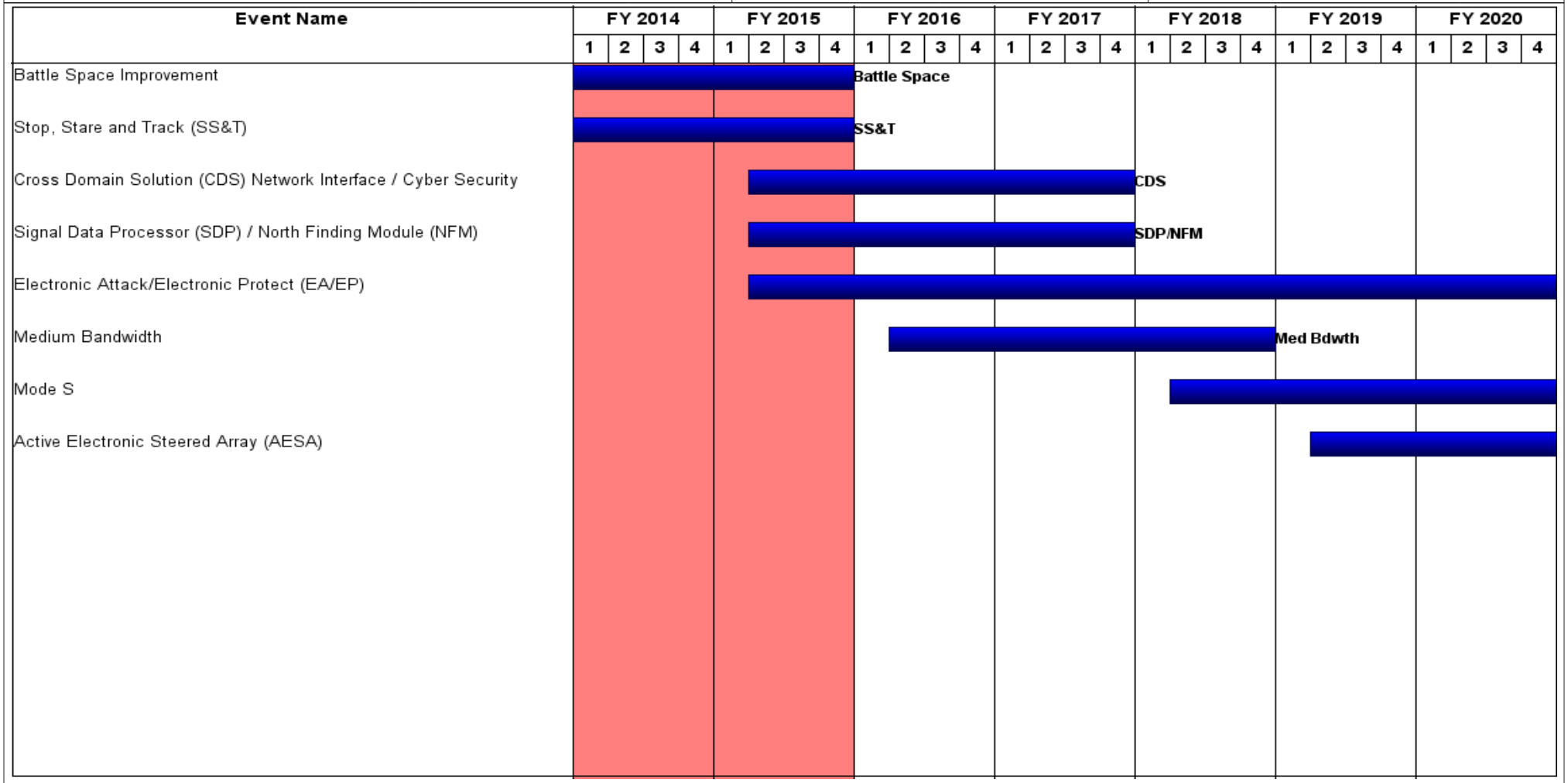

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604820A / *Radar Development*	**Project (Number/Name)** E10 / *Sentinel*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Battle Space Improvement	4	2012	4	2015
Stop, Stare and Track (SS&T)	4	2012	4	2015
Cross Domain Solution (CDS) Network Interface / Cyber Security	2	2015	4	2017
Signal Data Processor (SDP) / North Finding Module (NFM)	2	2015	4	2017
Electronic Attack/Electronic Protect (EA/EP)	2	2015	4	2020
Medium Bandwidth	2	2016	4	2018
Mode S	2	2018	4	2020
Active Electronic Steered Array (AESA)	2	2019	1	2024

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604822A *I General Fund Enterprise Business System (GFEBS)*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	-	3.218	-	15.700	-	15.700	-	-	-	-	Continuing	Continuing
DV6: *General Fund Enterprise Business System*	-	3.218	-	1.000	-	1.000	-	-	-	-	Continuing	Continuing
GF5: *General Fund Enterprise Business System*	-	-	-	14.700	-	14.700	-	-	-	-	-	14.700

Note

The GFEBS program received FY 2014 funding in PE 0605013A Project M05. The FY 2016 funding in PE 0604822A Project GF5 is a realignment of funding and a not a New Start.
FY 2016 Project GF5 was increased $14.700 million to support the Headquarters Army Environmental System (HQAES) effort.
FY 2016 Project DV6 was increased $1.000 million to complete testing of GFEBS-SA.

A. Mission Description and Budget Item Justification

The General Fund Business Enterprise System (GFEBS) is a Major Automated Information System program and is currently in the sustainment phase. It followed the DoD Business Enterprise Architecture which is aligned to the mandated Federal Enterprise Architecture. GFEBS was implemented to fulfill the needs and comply with the Federal Financial Management Improvement Act, The Chief Financial Officers Act of 1990, the Government Performance and Results Act of 1993, the Government Management Reform Act of 1994, and the Clinger-Cohen Act of 1996 and to fulfill the stated mission of the Assistant Secretary of the Army for Financial Management and Comptroller. GFEBS replaced, in full or in part, financial systems operating in excess of 40 years including the Standard Finance Systems and other costly feeder systems which do not allow the Department of Defense or the U.S. government to achieve an unqualified audit opinion on its financial statements. GFEBS is used to administering the Army's General Fund. GFEBS was developed using a commercial off-the-shelf Enterprise Resource Planning system that is certified by the Chief, Financial Officer Council and provides six core financial functions. GFEBS allows tactical commanders to make informed decisions on a virtually real time system.

On 1 October 2008, GFEBS deployed to Wave 1 end users at Fort Jackson Garrison, Defense Finance Accounting Service (DFAS) Indianapolis, Indiana and several other organizations. On 1 April 2009, GFEBS deployed to Wave 2 users at Fort Benning, Fort Stewart, DFAS Rome and several other organizations. Wave 3 deployed in October FY10, Wave 4 in January of FY11, Wave 5 in April 2011, Wave 6 in July 2011, Wave 7 in October 2011, Wave 8A in April 2012 and the final Wave 8B in July 2012. GFEBS is fielded to over 37,000 trained end users. Each fielded release subsumed the previous release keeping all deployed sites executing under the same GFEBS release. The Full Deployment Decision was received by the Milestone Decision Authority on 24 June 2011 and Full Deployment was Full Deployment was achieved on 1 July 2012.

GFEBS-Sensitive Activities (SA): GFEBS is a commercial off-the-shelf Enterprise Resource Planning System certified by the Chief Financial Officers Council. GFEBS has trained and supports over 37,000 end users at 227 installations worldwide and is the Army's solution to the current capability gap in accounting and financial management. Army still has classified and sensitive financial activity remaining in legacy systems that cannot be processed in our new, fully-fielded GFEBS. To protect sensitive information and enable auditability, Army needs a separate instance of GFEBS operated on a secure network for processing sensitive and classified financial

transactions. GFEBS-SA will be implemented in two functional releases to 3,000 users across 100 locations worldwide. GFEBS-SA will integrate seamlessly with GFEBS to provide secure, web-based financial execution and reporting capabilities to the Army's classified and sensitive activities. SA is envisioned as a fully functional GFEBS application operated on a secure network, including additional performance requirements designed to enhance security. SA is essential to comply with the Chief Financial Officers Act and the Federal Financial Management Improvement Act; includes the additional security controls; shall be delivered NLT 1QFY17 with all capability and required cross domain interfaces. SA will be accessible on SIPRnet domain, contain Secret Collateral level information, and below. SA will utilize a cross-domain solution to exchange summary level financial transaction data to GFEBS and other required systems, enabling total general ledger accountability in one system. In accordance with 2010 NDAA, GFEBS-SA willl support the legal requirements to achieve full audit readiness of all DOD finanical statement by 2017. Without the SA increment, GFEBS will be unable to achieve an unqualified audit opinion or achieve audit readiness. GFEBS and GFEBS-SA will provide Army's decision makers with relevant, reliable, and timely information for decision making. RDTE funds are required to execute the System Integrator contract to develop and test the SA solution. Sensitive Activities provides a classified version of the GFEBS program. Sensitive Activities allows processing of data in a secure environment to protect and manage classified data without causing risk to our national security.

Integration of Environmental Management will migrate HQAES capabilities for collection, analysis, and reporting of environmental clean-up, quality and hazardous waste data.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	0.226	-	-	-	-
Current President's Budget	3.218	-	15.700	-	15.700
Total Adjustments	2.992	-	15.700	-	15.700
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	2.992	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	14.700	-	14.700
• GFEBS-SA	-	-	1.000	-	1.000

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604822A / *General Fund Enterprise Business System (GFEBS)*	Project (Number/Name) DV6 / *General Fund Enterprise Business System*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
DV6: *General Fund Enterprise Business System*	-	3.218	-	1.000	-	1.000	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

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

A. Mission Description and Budget Item Justification

Plan, develop, and manage GFEBS-SA as a separate instance from GFEBS base program to support evolutionary delivery of capabilities. SA is envisioned as a fully functional GFEBS application operated on a secure network (SIPRNET), including additional performance requirements designed to enhance security. SA is essential to comply with the Chief Financial Officers (CFO) Act and the Federal Financial Management Improvement Act (FFMIA). Fully integrated (across domains) secure GFEBS-SA capability with all required cross domain interfaces shall be delivered no later than 1QFY17.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Product Development	3.218	-	1.000
Description: Funding is for the following activities: ***FY 2014 Accomplishments:*** Execution of systems Integrator contractor to develop and test functional, technical and configuration designs for secure solution of GFEBS. ***FY 2016 Plans:*** Complete system testing.			
Accomplishments/Planned Programs Subtotals	3.218	-	1.000

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPA: *GFEBS Sensative Activites (OPA SSN B55511)*	-	13.728	5.455	-	5.455	-	-	-	-	Continuing	Continuing

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604822A / *General Fund Enterprise Business System (GFEBS)*	**Project (Number/Name)** DV6 / *General Fund Enterprise Business System*

D. Acquisition Strategy

Plan, develop, and manage GFEBS-SA as a separate instance from GFEBS base program to support evolutionary delivery of capabilities. SA is envisioned as a fully functional GFEBS application operated on a secure network (SIPRNET), including additional performance requirements designed to enhance security. SA is essential to comply with the Chief Financial Officers (CFO) Act and the Federal Financial Management Improvement Act (FFMIA). Fully integrated (across domains) secure GFEBS-SA capability with all required cross domain interfaces.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604822A / *General Fund Enterprise Business System (GFEBS)*	Project (Number/Name) DV6 / *General Fund Enterprise Business System*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
System Integrator Contract	PO	EDC : Alexandria, VA	17.056	3.218		-		-		-		-	-	20.274	-
		Subtotal	17.056	3.218		-		-		-		-	-	20.274	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Support Costs	Various	PdM GFEBS SA : Alexandria, VA	2.726	-		-		-		-		-	-	2.726	-
		Subtotal	2.726	-		-		-		-		-	-	2.726	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Testing	IA	JITC/ATEC : Alexandria, VA	4.960	-		-		1.000		-		1.000	-	5.960	-
		Subtotal	4.960	-		-		1.000		-		1.000	-	5.960	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	24.742	3.218		-		1.000		-		1.000	-	28.960	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604822A / *General Fund Enterprise Business System (GFEBS)*	**Project (Number/Name)** DV6 / *General Fund Enterprise Business System*

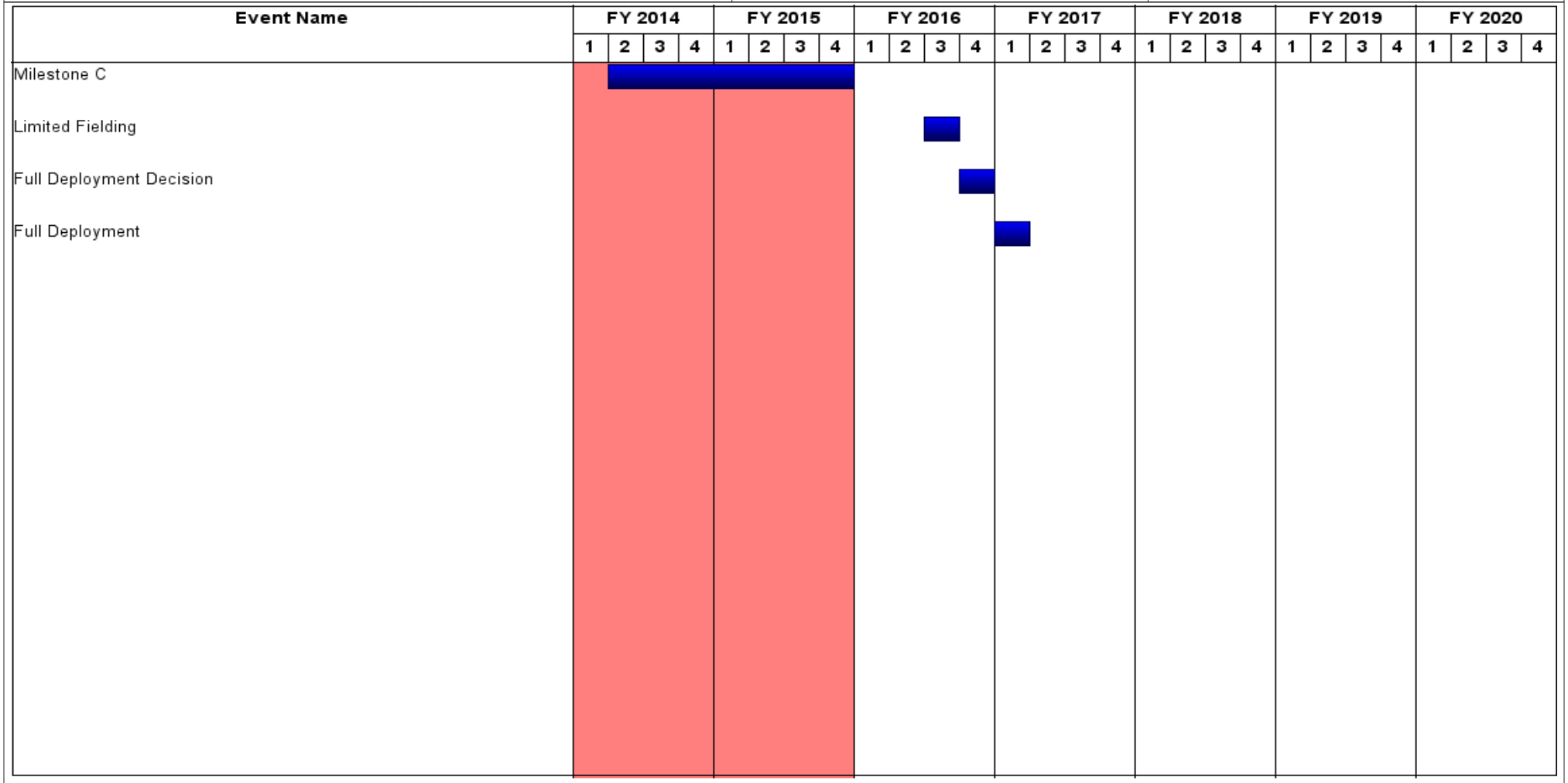

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604822A / *General Fund Enterprise Business System (GFEBS)*	**Project (Number/Name)** DV6 / *General Fund Enterprise Business System*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Milestone C	2	2014	4	2015
Limited Fielding	3	2016	3	2016
Full Deployment Decision	4	2016	4	2016
Full Deployment	1	2017	1	2017

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604822A / *General Fund Enterprise Business System (GFEBS)*	Project (Number/Name) GF5 / *General Fund Enterprise Business System*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
GF5: *General Fund Enterprise Business System*	-	-	-	14.700	-	14.700	-	-	-	-	-	14.700
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

The GFEBS program received FY 2014 funding in PE 0605013A Project M05. The FY 2016 funding in PE 0604822A Project GF5 is a realignment of funding and a not a New Start.

Integration of Environmental Management will migrate Headquarters Army Environmental System (HQAES) capabilities for collection, analysis, and reporting of environmental clean-up, quality and hazardous waste data.

A. Mission Description and Budget Item Justification

The General Fund Business Enterprise System (GFEBS) is a Major Automated Information System program and is currently in the sustainment phase. It followed the DoD Business Enterprise Architecture which is aligned to the mandated Federal Enterprise Architecture. GFEBS was implemented to fulfill the needs and comply with the Federal Financial Management Improvement Act, The Chief Financial Officers Act of 1990, the Government Performance and Results Act of 1993, the Government Management Reform Act of 1994, and the Clinger-Cohen Act of 1996 and to fulfill the stated mission of the Assistant Secretary of the Army for Financial Management and Comptroller. GFEBS replaced, in full or in part, financial systems operating in excess of 40 years including the Standard Finance Systems and other costly feeder systems which do not allow the Department of Defense or the U.S. government to achieve an unqualified audit opinion on its financial statements. GFEBS is used to administering the Army's General Fund. GFEBS was developed using a commercial off-the-shelf Enterprise Resource Planning system that is certified by the Chief, Financial Officer Council and provides six core financial functions. GFEBS allows tactical commanders to make informed decisions on a virtually real time system.

On 1 October 2008, GFEBS deployed to Wave 1 end users at Fort Jackson Garrison, Defense Finance Accounting Service (DFAS) Indianapolis, Indiana and several other organizations. On 1 April 2009, GFEBS deployed to Wave 2 users at Fort Benning, Fort Stewart, DFAS Rome and several other organizations. Wave 3 deployed in October FY10, Wave 4 in January of FY11, Wave 5 in April 2011, Wave 6 in July 2011, Wave 7 in October 2011, Wave 8A in April 2012 and the final Wave 8B in July 2012. GFEBS is fielded to 53,000 trained end users. Each fielded release subsumes the previous release keeping all deployed sites executing under the same GFEBS release. The Full Deployment Decision was received by the Milestone Decision Authority on 24 June 2011 and Full Deployment was Full Deployment was achieved on 1 July 2012.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: HQAES Development and Integration	-	-	14.700
Description: Initial development and integration of HQAES capabilities for collection, analysis and reporting of environmental clean-up, quality and hazardous waste data.			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604822A / *General Fund Enterprise Business System (GFEBS)*	**Project (Number/Name)** GF5 / *General Fund Enterprise Business System*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
FY 2016 Plans: Development and integration of Environmental Management, Integrated Resource Management, and Total Cost Management. Integration of Environmental Management will migrate HQAES capabilities for collection, analysis, and reporting of environmental clean-up, quality and hazardous waste data.			
Accomplishments/Planned Programs Subtotals	-	-	14.700

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPA: *OPA, SSN BE4168*	7.614	2.853	13.540	-	13.540	4.209	4.242	4.320	4.402	-	41.180
• OMA: *OMA,*	56.707	52.155	59.030	-	59.030	59.288	61.398	61.573	62.804	-	412.955

Remarks

D. Acquisition Strategy

GFEBS Program Management Office (PMO) requires a performance-based, hybrid fixed price and cost reimbursable) task order with a base period (one-year)and four (one-year) options for a full range of technical, functional, and managerial support to sustain GFEBS and develop and implement solutions in response to requests for new GFEBS functionality. GFEBS is in the Sustainment phase; wherein, the system's performance is continually assessed, updated, and audited for compliance to Federal Regulations, Federal Financial Management Improvement Act, Financial Improvement and Audit Readiness, and accounting standards. The scope is comprised of a full range of services and solutions necessary to support, sustain, improve and maintain GFEBS, Army-wide. Sustainment of the GFEBS infrastructure consists of risk-based preventive, corrective and perfective maintenance of an Army financial system that is primarily Commercial Off-The-Shelf (COTS) based and thereby directly impacted by industry best practices, marketplace trends, and the evolution of commercial information technology capabilities.

GFEBS PMO anticipates awarding a task order under a Government-Wide Acquisition Contract (i.e. National Institutes of Health, Chief Information Officer - Solutions and Partners 3 (CIO-SP3)). A Request for Proposal will include requirements documents such as a Performance Work Statement, Service Level Agreements (SLAs), and a Quality Assurance Surveillance Plan and fair opportunity will be provided to all contract holders. The services will be grouped and referenced as Contract Line Item Numbers to include a hybrid of contract types (i.e. firm-fixed price, cost-plus- fixed fee, and cost-plus-incentive fee) with incentives (positive and negative). Costs(containment and reduction), quality (performance standards), and schedule (delivery) will all be incentivized through competition, options, contract types, and SLAs.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604822A / *General Fund Enterprise Business System (GFEBS)*	Project (Number/Name) GF5 / *General Fund Enterprise Business System*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development	Various	Accenture : Kingstowne VA 22305	120.968	-		-		-		-		-	Continuing	Continuing	-
HQAES Integration	C/FFP	TBD : TBD	0.000	-		-		14.700		-		14.700	-	14.700	-
		Subtotal	120.968	-		-		14.700		-		14.700	-	-	-

Remarks

FY16 Funds used for initial migration of HQAES capabilities for collection, analysis and reporting of environmental clean-up, quality and hazardous waste data; and to establish the GFEBS architecture and infrastructure for follow-on capabilities.

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	120.968	-		-		14.700		-		14.700	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604822A / *General Fund Enterprise Business System (GFEBS)*	**Project (Number/Name)** GF5 / *General Fund Enterprise Business System*

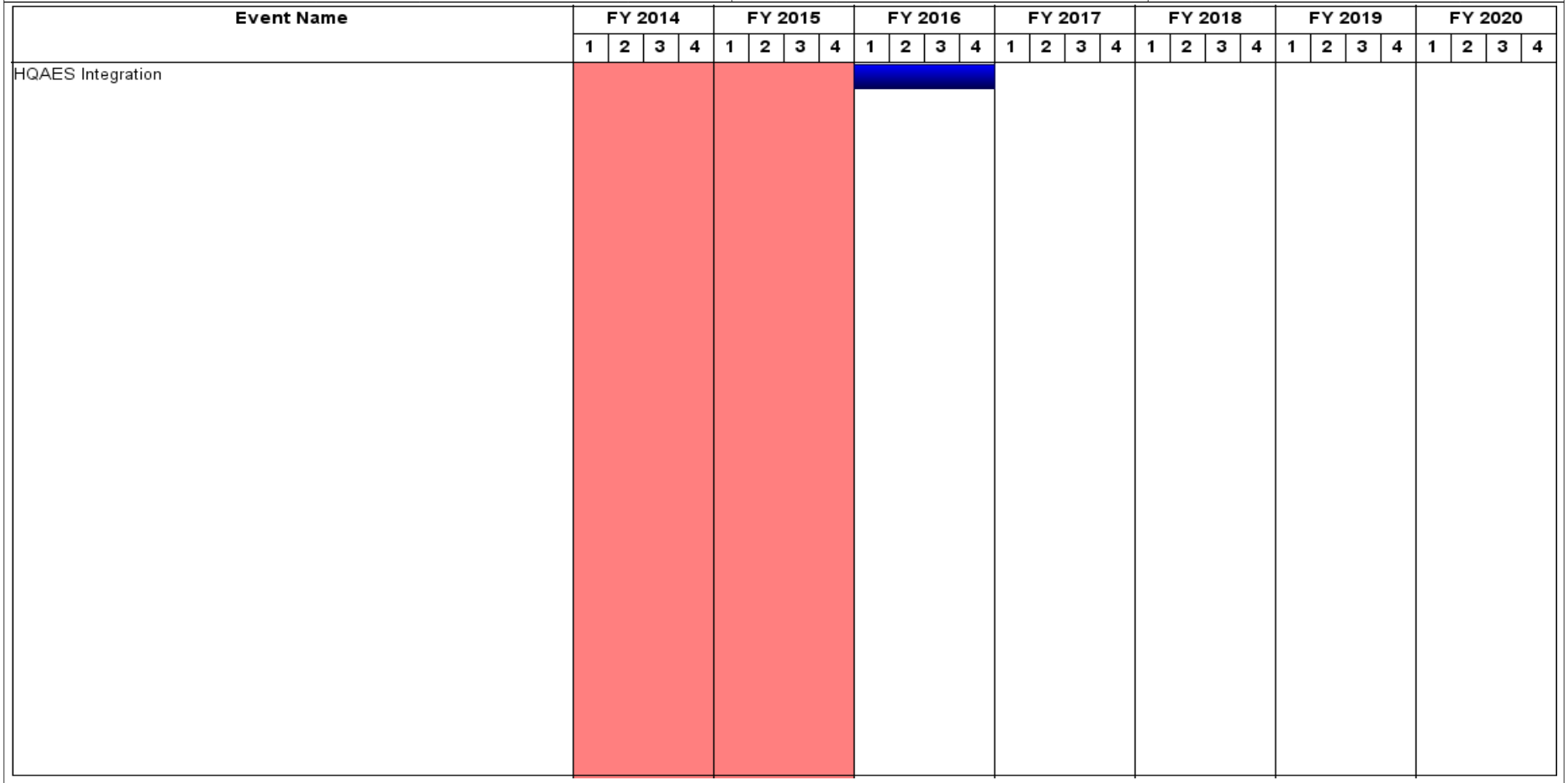

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604822A / *General Fund Enterprise Business System (GFEBS)*	**Project (Number/Name)** GF5 / *General Fund Enterprise Business System*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
HQAES Integration	1	2016	4	2016

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604823A / *Firefinder*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	-	17.734	23.480	6.243	-	6.243	11.314	11.006	10.350	12.062	Continuing	Continuing
L86: *LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)*	-	-	-	2.967	-	2.967	3.230	3.463	3.500	3.475	Continuing	Continuing
L88: *Enhanced AN/TPQ 36*	-	17.734	23.480	3.276	-	3.276	8.084	7.543	6.850	8.587	Continuing	Continuing

Note

FY 2016 Project L86 is a New Start.
FY 2016 funds were provided to keep pace as technology evolves and address emerging threats.
FY 2015 adjustment in the amount of -$14.000 was due to unsustained growth.

A. Mission Description and Budget Item Justification

This Program funds design, development and test of primary target acquisition and counterfire radars to automatically detect, locate and classify hostile indirect fire weapons (mortars, artillery, and rockets). This PE directly supports the prioritization, tracking, and locating of targets, and dissemination of that information for simultaneous attack of multiple threats. It provides the Warfighter with continuous and responsive counterfire target acquisition systems for all types and phases of military operations. Project L86, Lightweight Counter Mortar Radar, Version AN/TPQ-50 provides 360 degree coverage and is used to detect, locate and report hostile locations of enemy indirect firing systems. Project L88, AN/TPQ-53 (formerly known as Enhanced AN/TPQ-36), is a highly mobile radar system that will leverage the latest in technology design to accelerate technology infusion and increase range while improving False Alarm Rate, reducing obsolescence and increasing reliability. The AN/TPQ-53 will provide 90 degree coverage and extended range, with an incremental development to increase detection capability to 360 degrees.

The Fiscal Year (FY) 2016 funds of $6.243 million will support development and testing for electronic protection and new and emerging threats, including the performance of technical assessments, concept studies, cost reduction, risk reduction and required documentation.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army					Date: February 2015
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*			R-1 Program Element (Number/Name) PE 0604823A / *Firefinder*		
B. Program Change Summary ($ in Millions)	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**
Previous President's Budget	20.210	37.492	-	-	-
Current President's Budget	17.734	23.480	6.243	-	6.243
Total Adjustments	-2.476	-14.012	6.243	-	6.243
• Congressional General Reductions	-	-14.000			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-1.804	-			
• SBIR/STTR Transfer	-0.672	-			
• Adjustments to Budget Years	-	-	6.243	-	6.243
• FFRDC	-	-0.012	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604823A / *Firefinder*	Project (Number/Name) L86 / *LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
L86: *LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)*	-	-	-	2.967	-	2.967	3.230	3.463	3.500	3.475	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

FY 2016 Project L86 is a New Start.

A. Mission Description and Budget Item Justification

The AN/TPQ-50 (formerly known as AN/TPQ-48(V)3) Lightweight Counter Mortar Radar (LCMR) is a digitally connected, day/night mortar, cannon, and rocket locating system. It is used to detect, locate, track, and report enemy indirect firing systems and provides the ability to observe friendly fire. The AN/TPQ-50 is capable of being deployed in two configurations, standalone or vehicle mounted. It can be set up and operational in 20 minutes and disassembled in 10 minutes. The AN/TPQ-50 is deployed as part of a System of Systems for the Counter-Rocket, Artillery, Mortar (C-RAM) construct or Rocket, Artillery, Mortar (RAM) Warn. It provides data to the Forward Area Air Defense Command and Control (FAAD C2) node for the sense and warn force protection capability at fixed and semi-fixed sites. It provides 360 degrees of azimuth coverage from ranges of 500 meters to 10 kilometers. The AN/TPQ-50 is a program of record with systems currently fielded to multiple Continental United States (CONUS) and Outside Continental United States (OCONUS) locations and ready for deployment to Operation Freedom's Sentinel.

The Fiscal Year (FY) 2016 RDTE appropriation of $2.967 million will support development and testing of electronic protection and new and emerging threats including the performance of technical assessments, concept studies, cost reduction, risk reduction and required documentation.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Electronic Protection ***Description:*** Develop Radio Frequency (RF) management tactical decision aids to improve operational frequency band selection and develop protection algorithms for the signal processor to defeat radar targeting armaments. ***FY 2016 Plans:*** Funding will initiate the developmental efforts to improve Spectrum Management, mitigate electromagnetic interference (EMI) from commercial and military bands; this includes all associated program management office (PMO) support costs.	-	-	1.052
Title: New and emerging threats ***Description:*** This engineering effort will allow the AN/TPQ-50 to more precisely detect future weapons and munitions, in both quantity and quality. ***FY 2016 Plans:***	-	-	1.915

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604823A / *Firefinder*	**Project (Number/Name)** L86 / *LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
This will initiate the work required to enhance the AN/TPQ-50's capability to accurately detect, track and locate new threats to the warfighter. This includes all associated program management office (PMO) support costs.			
Accomplishments/Planned Programs Subtotals	-	-	2.967

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• B05201: *SSN: B05201 Lightweight Counter Mortar Radar*	98.535	24.828	63.472	-	63.472	46.395	11.399	9.614	-	Continuing	Continuing

Remarks

D. Acquisition Strategy

The AN/TPQ-50 Lightweight Counter Mortar Radar was developed in 2009 to meet Training and Doctrine Command (TRADOC) Capabilities Production Document (CPD) requirements. A favorable full rate production (FRP) decision was achieved on 21 June 2013. The AN/TPQ-50 is now in Full Rate Production with 163 units on order. A second three year production contract is scheduled for 2QFY16. Follow on production contracts will be awarded as needed to fulfill the AAO.
The Fiscal Year (FY) 2016 RDTE appropriation of $2.967 million will support development and testing of electronic protection and new and emerging threats including the performance of technical assessments, concept studies, cost reduction, risk reduction and required documentation.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604823A / *Firefinder*	Project (Number/Name) L86 / *LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management (Government Matrix)	Various	Various : Activities	1.155	-		-		0.144		-		0.144	Continuing	Continuing	-
		Subtotal	1.155	-		-		0.144		-		0.144	-	-	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
New and Emerging Threats	C/CPFF	TBD : TBD	0.000	-		-		1.782	Jan 16	-		1.782	Continuing	Continuing	-
Electronic Protection	C/CPFF	TBD : TBD	0.000	-		-		0.979	Jan 16	-		0.979	0.592	1.571	-
		Subtotal	0.000	-		-		2.761		-		2.761	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Support (Government)	Various	Various : Activities	4.751	-		-		0.062		-		0.062	0.286	5.099	-
		Subtotal	4.751	-		-		0.062		-		0.062	0.286	5.099	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	5.906	-		-		2.967		-		2.967	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604823A / *Firefinder*	**Project (Number/Name)** L86 / *LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)*

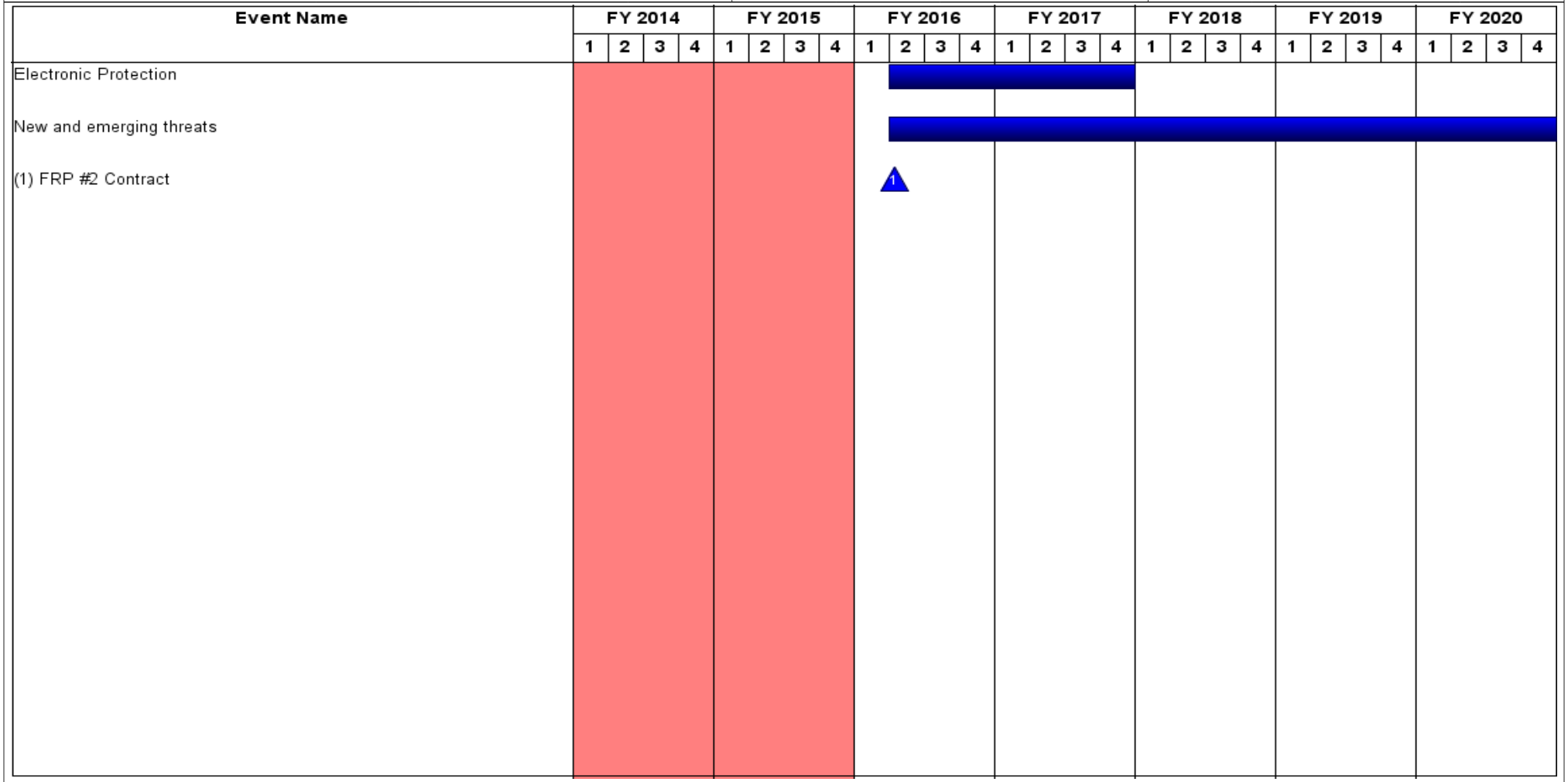

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604823A / *Firefinder*	**Project (Number/Name)** L86 / *LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Electronic Protection	2	2016	4	2017
New and emerging threats	2	2016	4	2020
FRP #2 Contract	2	2016	2	2016

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604823A / *Firefinder*	Project (Number/Name) L88 / *Enhanced AN/TPQ 36*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
L88: *Enhanced AN/TPQ 36*	-	17.734	23.480	3.276	-	3.276	8.084	7.543	6.850	8.587	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The AN/TPQ-53 (formerly known as the Enhanced AN/TPQ-36) Counterfire Target Acquisition Radar System Capability Production Document (CPD) was approved on 29 September 2010. The AN/TPQ-53 System is a highly mobile radar set that automatically detects, classifies, tracks, and locates the point of origin of projectiles fired from mortar, artillery, and rocket systems with sufficient accuracy for first round fire for effect. It mitigates close combat radar coverage gaps and will ultimately replace the current AN/TPQ-36 and AN/TPQ-37 Firefinder Radars; fully supporting brigade combat teams (BCTs) and fires brigades operations. The AN/TPQ-53 system interoperates with battle command systems (BCSs) to provide the maneuver commander increased counterfire radar flexibility. The AN/TPQ-53 System is capable of being deployed as part of the Indirect Fire Protection Capability (IFPC) system of systems (SoS) to provide a sense and warn capability for fixed and semi-fixed sites. The AN/TPQ-53 provides a system with increased range and accuracy throughout a 90 degree search sector (stare mode) as well as 360 degree coverage (rotating) for locating mortar, artillery and rocket firing positions.

The Fiscal Year (FY) 2016 funds of $3.276 million will support development and testing of pre-planned product improvements (P3I) for electronic protection and new and emerging threats, including the performance of technical assessments, concept studies, cost reduction, risk reduction and required documentation.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Test support	5.947	20.839	-
Description: Funding is provided to support testing efforts ***FY 2014 Accomplishments:*** Test activities to include developmental testing (DT), Initial Operational Test and Evaluation (IOT&E), operational capabilities and limitations (C&Ls) testing, software and hardware independent verification and validation (IV&V), ammunition, program management office (PMO) and test support costs. ***FY 2015 Plans:*** Test activities to include Rehearsal of Concept (ROC) drill, delta IOT&E, reliability and performance testing, follow-on testing, operational C&L tests, ammunition, PMO and test support costs.			
Title: Electronic Protection / Worldwide Interoperability for Microwave Access (WiMAX)	-	-	1.638
Description: Develop radio frequency (RF) management tactical decision aids to improve operational frequency band selection and radar emplacement. Develop protection algorithms for the signal processor to defeat radar targeting armaments. ***FY 2016 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604823A / *Firefinder*	**Project (Number/Name)** L88 / *Enhanced AN/TPQ 36*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Mitigate electromagnetic interference (EMI) from military bands, hostile EMI, and the WiMAX commercial spectrum; this includes associated program management office (PMO) support costs			
Title: High Clutter Environment ***Description:*** Development efforts to track projectiles through high clutter environments. ***FY 2014 Accomplishments:*** Complete development efforts to track projectiles through a high clutter environment; this includes associated PMO support costs.	5.020	-	-
Title: Low Quadrant Elevation (QE) Shots ***Description:*** Improve system ability to come to solution for low QE shots with short time of flight. Improve system performance in multi-path conditions. ***FY 2014 Accomplishments:*** Complete efforts to develop algorithms to detect low QE shots; this includes associated PMO support costs.	3.553	-	-
Title: New and emerging threats ***Description:*** Developmental efforts to detect the emerging threats of more precise weapons and munitions, including non-traditional munitions, considering both quantity and quality. ***FY 2016 Plans:*** Initiate developmental efforts to accurately detect, track, and locate new and emerging threats to the warfighter as a result of changes in the battlefield and areas of operation; this includes associated PMO costs.	-	-	1.638
Title: Signal Data Processor (SDP) ***Description:*** Development efforts to upgrade the SDP in order to support the high speed processing demands of the radar as well as the latest operating system versions. ***FY 2015 Plans:*** SDP design efforts include software and computing architecture development; this includes associated testing and program management office (PMO) costs.	-	2.227	-
Title: Global Positioning System (GPS) Military Code (M-Code) ***Description:*** Congress has passed a law requiring GPS equipment to be capable of receiving M-Code. A concept and design will be formulated based upon design documentation from the project manager. ***FY 2014 Accomplishments:***	1.252	0.414	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604823A / *Firefinder*	**Project (Number/Name)** L88 / *Enhanced AN/TPQ 36*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Initiate software and design development based on information provided by Product Directorate (PD) Positioning Navigation and Timing (PNT); this includes associated PMO costs. ***FY 2015 Plans:*** Continue software and design development based on information provided by PD PNT; this includes associated PMO costs.			
Title: Wireless Communication Upgrade ***Description:*** Upgrade of the Rajant radio suite of communication equipment utilized by the AN/TPQ-53 system to ensure compliance with information assurance (IA) requirements. ***FY 2014 Accomplishments:*** Development efforts to include updates of the software design; this includes associated PMO costs.	1.962	-	-
Accomplishments/Planned Programs Subtotals	17.734	23.480	3.276

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• SSN B05310 AN/TPQ-53: *SSN B05310 AN/TPQ-53*	348.557	159.050	217.379	-	217.379	345.879	217.246	98.900	-	-	1,387.011

Remarks

D. Acquisition Strategy

The AN/TPQ-53 leverages technology developed in the multi-mission radar advanced technology objective (ATO) program incorporating the latest antenna technology into the AN/TPQ-53. In 2006, the Government awarded a contract following full and open competition for the design of the AN/TPQ-53 radar and the purchase of four non-recurring engineering (NRE) radars. Twelve additional quick reaction capability (QRC) radars were purchased under the same contract in response to an urgent directed procurement in July 2008. The Milestone Decision Authority (MDA) approved the acquisition of up to 20 more QRC radars. Twenty systems were procured through two separate contract actions in 2010 and 2011. A competitive production contract for Low Rate Initial Production (LRIP) systems was awarded in 2012 and options for additional systems were awarded in 2013 and 2014. Production and delivery of all QRC/Initial Production (IP) systems are complete, and production of LRIP systems is ongoing. A Full Rate Production (FRP) contract to fill the remainder of the Army Acquisition Objective (AAO) is expected to be awarded following a successful completion of the second Initial Operational Test and Evaluation (IOT&E). Additionally, all initial production systems will be retrofitted to the FRP configuration. The FRP system deliveries will continue through fiscal year (FY) 2021. The system will eventually replace all of the AN/TPQ-36 and AN/TPQ-37 systems in the fleet.

The Fiscal Year (FY) 2016 funds of $3.276 million will support development and testing of pre-planned product improvements (P3I) for electronic protection and new and emerging threats, including the performance of technical assessments, concept studies, cost reduction, risk reduction and required documentation.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604823A / *Firefinder*	**Project (Number/Name)** L88 / *Enhanced AN/TPQ 36*

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604823A / *Firefinder*	Project (Number/Name) L88 / *Enhanced AN/TPQ 36*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management (Contractor)	Various	Various : Activities	3.618	0.351	Sep 2014	-		-		-		-	-	3.969	-
Program Management (Government)	Various	Various : Activities	1.007	0.332	Sep 2014	1.305	May 2015	0.156	Mar 2016	-		0.156	Continuing	Continuing	-
		Subtotal	4.625	0.683		1.305		0.156		-		0.156	-	-	-

Remarks

Efforts completed before Fiscal Year (FY) 2014 are not included in this R-3 form.

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Electronic Protection/ Worldwide Interoperability for Microwave Access (WiMAX)	SS/CPFF	Lockheed Martin : Syracuse, NY	0.000	-		-		1.560	Mar 2016	-		1.560	Continuing	Continuing	-
High Clutter Environment	SS/CPFF	Lockheed Martin : Syracuse, NY	5.340	5.000	Mar 2015	-		-		-		-	-	10.340	-
Low Quadrant Elevation (QE) Shots	SS/CPFF	Lockheed Martin : Syracuse, NY	1.332	3.533	Mar 2015	-		-		-		-	-	4.865	-
New and Emerging Threats	SS/CPFF	Lockheed Martin : Syracuse, NY	0.000	-		-		1.560	Mar 2016	-		1.560	Continuing	Continuing	-
Signal Data Processor (SDP)	SS/CPFF	Lockheed Martin : Syracuse, NY	0.000	-		1.992	Mar 2015	-		-		-	-	1.992	-
Global Positioning System (GPS) Military Code (M-Code)	SS/CPFF	Lockheed Martin : Syracuse, NY	0.000	1.232	Mar 2015	0.179	Mar 2015	-		-		-	-	1.411	-
Wireless Communication Upgrade	SS/CPFF	Lockheed Martin : Syracuse, NY	0.000	1.942	Mar 2015	-		-		-		-	-	1.942	-
		Subtotal	6.672	11.707		2.171		3.120		-		3.120	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604823A / *Firefinder*	Project (Number/Name) L88 / *Enhanced AN/TPQ 36*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Support	Various	Various : Activities	30.857	5.344		20.004		-		-		-	-	56.205	-
		Subtotal	30.857	5.344		20.004		-		-		-	-	56.205	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	42.154	17.734		23.480		3.276		-		3.276	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604823A / *Firefinder*	**Project (Number/Name)** L88 / *Enhanced AN/TPQ 36*

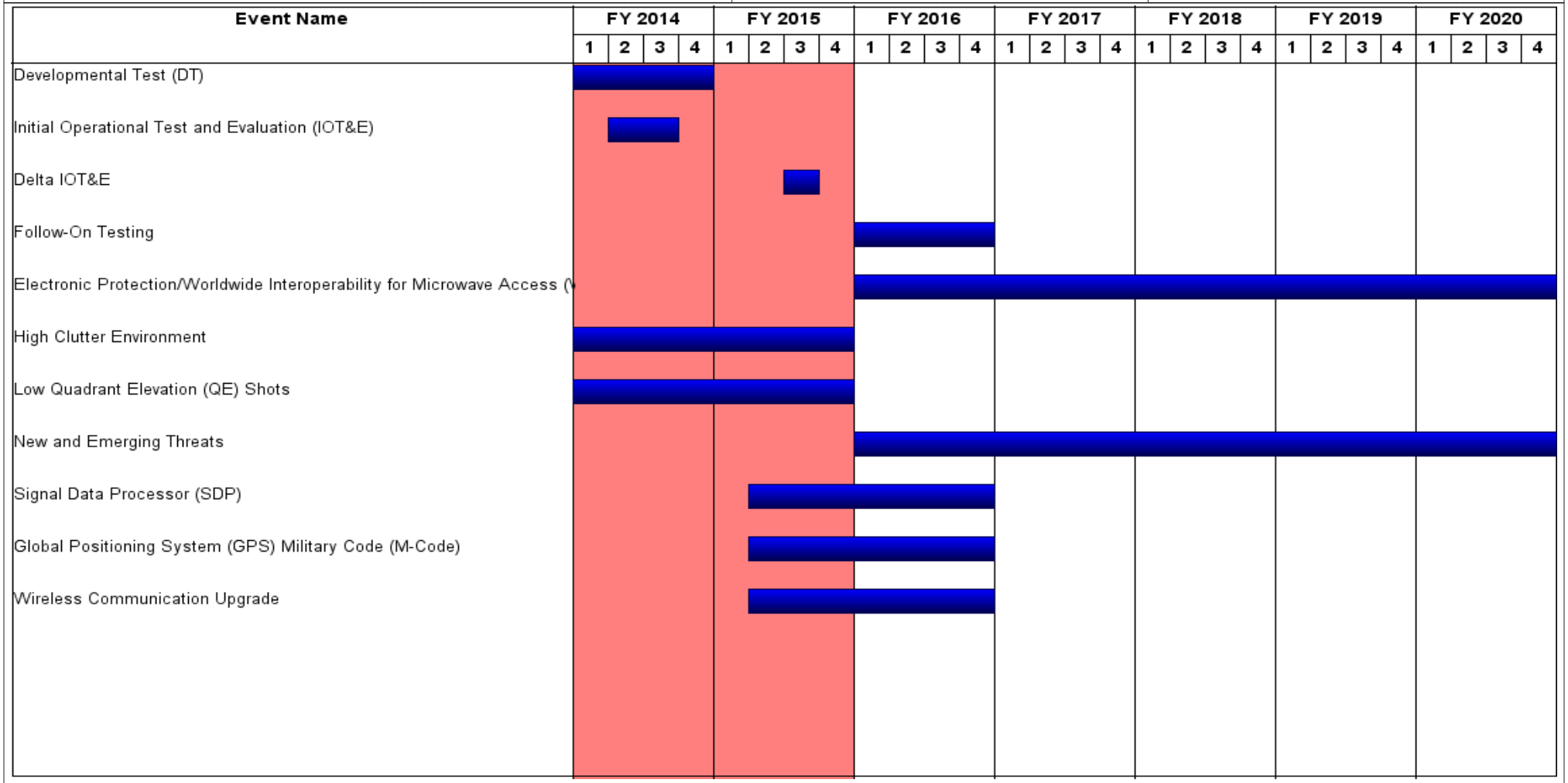

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604823A / *Firefinder*	**Project (Number/Name)** L88 / *Enhanced AN/TPQ 36*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Developmental Test (DT)	2	2012	4	2014
Initial Operational Test and Evaluation (IOT&E)	2	2014	3	2014
Delta IOT&E	3	2015	3	2015
Follow-On Testing	1	2016	4	2016
Electronic Protection/Worldwide Interoperability for Microwave Access (WiMAX)	1	2016	4	2021
High Clutter Environment	1	2013	4	2015
Low Quadrant Elevation (QE) Shots	1	2013	4	2015
New and Emerging Threats	1	2016	4	2021
Signal Data Processor (SDP)	2	2015	4	2016
Global Positioning System (GPS) Military Code (M-Code)	2	2015	4	2016
Wireless Communication Upgrade	2	2015	4	2016

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604827A *I Soldier Systems - Warrior Dem/Val*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	-	25.477	6.155	18.776	-	18.776	23.839	20.850	19.204	19.505	Continuing	Continuing
DX7: *TACTICAL COMMUNICATIONS AND PROTECTIVE SYSTEM*	-	-	0.922	0.934	-	0.934	0.952	0.971	0.989	0.993	Continuing	Continuing
S65: *Soldier Power*	-	7.164	-	5.411	-	5.411	11.990	8.870	7.142	7.277	Continuing	Continuing
S75: *Ground Soldier Ensemble*	-	18.313	5.233	12.431	-	12.431	10.897	11.009	11.073	11.235	Continuing	Continuing

Note

Fiscal Year 2014: Program Decreases of $5.718 million to Ground Soldier Ensemble and $2.000 million to Soldier Power.

The FY 2016 funding request was reduced for $4.692 million to account for the availability of prior year execution balances.

A. Mission Description and Budget Item Justification

This program element contains four projects: Project S56 for Mounted Soldier System (MSS), Project S65 for Soldier Power, Project S75 for Nett Warrior (NW), [named in honor of Medal of Honor recipient COL Robert Nett], previously known as Ground Soldier System (GSS), and Project DX7 Tactical Communications and Protective System (TCAPS). MSS provides an integrated suite of enhancements to the combat vehicle crew member and commander to address identifiable capability gaps in their ability to fight, communicate, and maneuver across the full spectrum of operations. MSS consists of lightweight, modular, and misison tailorable equipment and Command, Control, Communications and Computer (C4) devices worn, carried, or used by mounted crew members in performance of their missions. Congressionally added funding in FY10 for Soldier Power efforts has been applied to the Soldier Power project line. NW provides unparalleled situational awareness and understanding to the dismounted leader allowing for faster and more accurate decisions in the tactical fight. This translates into Soldiers being at the right place, at the right time, with the right equipment making them more effective, more lethal, and more survivable in the execution of their combat mission. TCAPS enables Soldiers to communicate over radios in combat environments while simultaneously providing hearing protection from both steady state and impulse noise.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army					Date: February 2015
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*			R-1 Program Element (Number/Name) PE 0604827A / *Soldier Systems - Warrior Dem/Val*		
B. Program Change Summary ($ in Millions)	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**
Previous President's Budget	18.467	6.157	11.976	-	11.976
Current President's Budget	25.477	6.155	18.776	-	18.776
Total Adjustments	7.010	-0.002	6.800	-	6.800
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 1	7.010	-0.002	6.800	-	6.800

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604827A / *Soldier Systems - Warrior Dem/Val*	Project (Number/Name) DX7 / *TACTICAL COMMUNICATIONS AND PROTECTIVE SYSTEM*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
DX7: *TACTICAL COMMUNICATIONS AND PROTECTIVE SYSTEM*	-	-	0.922	0.934	-	0.934	0.952	0.971	0.989	0.993	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Tactical Communications and Protective System (TCAPS) provides Soldiers with advanced, active hearing protection that simultaneously protects Soldiers' hearing while enabling situational awareness and mission command. TCAPS protects Soldiers against harmful impulse and steady-state noises characteristic of combat environments while enabling Soldiers to communicate with each other using voice communications or over a tactical radio. TCAPS also enhances survivability and situational awareness by allowing Soldiers to selectively amplify faint sounds that would not be otherwise audible.

By reducing noise-induced hearing damage, TCAPS contributes to the reduction of post-service disability compensation and limits lost in-service time related to hearing injury. TCAPS will employ commercial-off-the-shelf (COTS) solution(s) that are evaluated annually. The best commercial solutions evaluated will be transitioned into production and fielding. TCAPS will also continually evaluate lower cost active hearing protection solutions for soldiers without radios.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Testing Tactical Communications and Protective System (TCAPS) ***Description:*** TCAPS procurement of test articles and testing and evaluation. ***FY 2015 Plans:*** Conduct testing of commercial TCAPS solutions for soldiers without a radio to allow all combat soldiers Active Hearing Protection and transition to procurement. ***FY 2016 Plans:*** TCAPS will buy test articles and conduct an annual relook of commercial technology to seek improved capabilities, conduct testing and evaluation, and transition to procurement.	-	0.631	0.639
Title: System Engineering and Program Management (SEPM) ***Description:*** Conduct System Engineering and Program Management support to TCAPS. ***FY 2015 Plans:***	-	0.291	0.295

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604827A / *Soldier Systems - Warrior Dem/Val*	**Project (Number/Name)** DX7 / *TACTICAL COMMUNICATIONS AND PROTECTIVE SYSTEM*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Conduct government systems engineering and program management for TCAPS such as: developing training materials for the TCAPS Non-Radio solution and to develop preplanned product improvement documentation. ***FY 2016 Plans:*** Will continue to conduct government systems engineering and program management for TCAPS such as; developing advance electronic training materials for improved leader training and ensuring integration and interoperability with other Soldier equipment.			
Accomplishments/Planned Programs Subtotals	-	0.922	0.934

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• B55510: *Tactical Communications and Protective System*	31.868	22.654	25.597	-	25.597	22.579	23.653	25.640	20.402	-	172.393

Remarks

D. Acquisition Strategy

TCAPS is an ACAT III program leveraging commercial-off-the-shelf (COTS) technology. TCAPS will conduct an annual relook of commercial technology to seek improved capabilities, reduce cost, conduct test and evaluation, and transition to procurement.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604827A / *Soldier Systems - Warrior Dem/Val*	Project (Number/Name) DX7 / *TACTICAL COMMUNICATIONS AND PROTECTIVE SYSTEM*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SEPM	MIPR	Fort Belvoir : Ft Belvoir, VA	0.018	-		0.291		0.295		-		0.295	-	0.604	-
		Subtotal	0.018	-		0.291		0.295		-		0.295	-	0.604	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Articles (Engineering Assessment)	MIPR	DLA DSCP : Philadelphia, PA	0.026	-		0.028		0.028		-		0.028	-	0.082	-
Test Articles (Development Test)	MIPR	DLA DSCP : Philadelphia, PA	0.020	-		0.019		0.019		-		0.019	-	0.058	-
Test Articles (OT)	MIPR	DLA DSCP : Philadelphia, PA	0.120	-		0.141		0.144		-		0.144	-	0.405	-
		Subtotal	0.166	-		0.188		0.191		-		0.191	-	0.545	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Annual Relook of Technology/Evaluation	MIPR	ATEC, AEC, OTC, ARL-SLAD : Various Locations	0.177	-		0.190		0.192		-		0.192	-	0.559	-
Developmental and Operational Test	Various	ATEC, AEC, OTC, ARL-SLAD : Various Locations	0.411	-		0.253		0.256		-		0.256	-	0.920	-
Customer Test	Various	Army Hearing Program Office : Various Locations	0.028	-		-		-		-		-	-	0.028	-
		Subtotal	0.616	-		0.443		0.448		-		0.448	-	1.507	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604827A / *Soldier Systems - Warrior Dem/Val*	Project (Number/Name) DX7 / *TACTICAL COMMUNICATIONS AND PROTECTIVE SYSTEM*	

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.800	-		0.922		0.934		-		0.934	-	2.656	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604827A / *Soldier Systems - Warrior Dem/Val*	**Project (Number/Name)** DX7 / *TACTICAL COMMUNICATIONS AND PROTECTIVE SYSTEM*

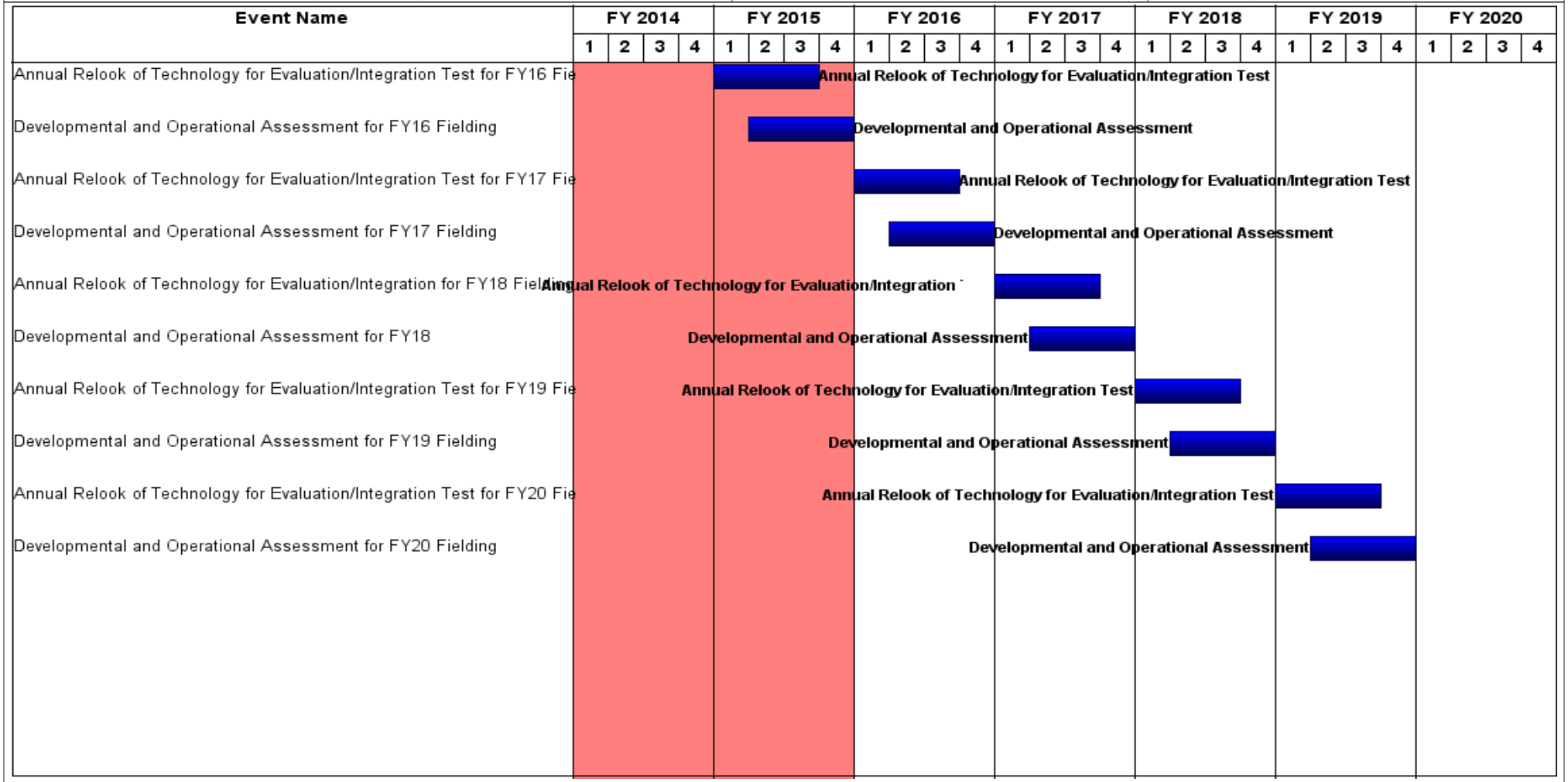

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604827A / *Soldier Systems - Warrior Dem/Val*	**Project (Number/Name)** DX7 / *TACTICAL COMMUNICATIONS AND PROTECTIVE SYSTEM*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Annual Relook of Technology for Evaluation/Integration Test for FY16 Fielding	1	2015	3	2015
Developmental and Operational Assessment for FY16 Fielding	2	2015	4	2015
Annual Relook of Technology for Evaluation/Integration Test for FY17 Fielding	1	2016	3	2016
Developmental and Operational Assessment for FY17 Fielding	2	2016	4	2016
Annual Relook of Technology for Evaluation/Integration for FY18 Fielding	1	2017	3	2017
Developmental and Operational Assessment for FY18	2	2017	4	2017
Annual Relook of Technology for Evaluation/Integration Test for FY19 Fielding	1	2018	3	2018
Developmental and Operational Assessment for FY19 Fielding	2	2018	4	2018
Annual Relook of Technology for Evaluation/Integration Test for FY20 Fielding	1	2019	3	2019
Developmental and Operational Assessment for FY20 Fielding	2	2019	4	2019

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604827A / *Soldier Systems - Warrior Dem/Val*	Project (Number/Name) S65 / *Soldier Power*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
S65: *Soldier Power*	-	7.164	-	5.411	-	5.411	11.990	8.870	7.142	7.277	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

Soldier and Small Unit Power (SUP) Systems enable dismounted Soldiers and squads to execute their missions with significantly less battery weight and enable longer missions without a daily unit re-supply of batteries. These improved renewable systems enable the warfighter to sustain themselves for extended mission duration in the most austere operating environments. This effort began as a Congressional add for development and system improvement for early fuel cell and battery technology and now develops a line of power sources and solutions suited for the individual Soldier and the small unit. These power solutions include, but are not limited to, Soldier-worn power systems, integrated power vests, power management devices and small unit generators including the platoon power generator (PPG), chargers, scavengers or harvesters; all intended for use in the most austere operating environments. An advanced, Integrated Soldier Power/Data System (ISPDS) provides the Soldier with a body-worn power/data capability that is significantly more efficient and lighter than carrying separate batteries for each device. Soldier and Small Unit Power systems address the power and energy capability gap created by the increase in mission essential, Soldier-portable power consumers, such as Situational Awareness (SA) displays, Global Positioning System (GPS) navigation, weapon sensors, precision targeting systems and portable Soldier radios. Soldier-portable power systems reduce the weight and logistical burden associated with moving fuel and primary (disposable) batteries across the conventional battlefield. By using renewable energy and power scavenging technology, Soldiers and small units are able to operate independently for longer durations without being tethered to a large generator, vehicle, or supply train. This effort supports the following requirements: August 2013 Small Unit Power MDD, September 2013 Small Unit Power Capability Development Document (CDD), March 2011 Soldier Protection CDD, the December 2011 Operational Energy Initial Capabilities Document (ICD), the Army Chief of Staff's Squad: Foundation of the Decisive Force initiative, and the December 2011 Operation Enduring Freedom (OEF) Operational Energy directives.

Platoon Power Generator: This project supports the demonstration and development of a Platoon Power Generator (PPG). The SUP PPG (1kW Generator) will provide small units with sufficient portable power to sustain Modified Table of Organizational Equipment (MTOE) unit power demand in support of 48 to 72 hour missions using a common logistical fuel (JP-8). It will be used for charging batteries and powering various types of Army communications and electronics devices. It will provide sufficient power to recharge and power all Platoon equipment and fulfill residual power gaps at the Squad and Soldier level. The generator will provide Platoon power for charging batteries when away from vehicles in Stryker Brigade Combat Teams (SBCT), Armor Brigade Combat Team (ABCT) and as a power source for Infantry Brigade Combat Teams (IBCT) in austere environments. FY16 funds allow for the award and management of R&D contracts to two manufacturers to develop and demonstrate a 1kW PPG. In the following year, these two manufacturers will be down-selected to one for further refinement and test and evaluation.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Individual Soldier Power	1.940	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604827A / *Soldier Systems - Warrior Dem/Val*	**Project (Number/Name)** S65 / *Soldier Power*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Description: Integrated Soldier Power/Data System (ISPDS) and individual power/Conformal Wearable Battery (CWB) ***FY 2014 Accomplishments:*** Matured an integrated Soldier system capable of managing power to a system that transfers C4I data between Soldier worn/ carried peripherals. This system comprises of a safe rechargeable, high energy, lightweight, Soldier-wearable battery that conforms to the Soldier's body armor and improved outer tactical vest. This improved conformal battery is the central source of power for all Soldier worn devices on the body and serves as the central power storage point for the Soldier. This integrated Soldier system passes its power and peripheral C4I data through a wiring system that integrates into the fabric of the improved outer tactical vest and/or its soft armor. Partially matured Soldier carried power/data management devices that are capable of harvesting energy from a variety of available power sources and developed a highly efficient solar and kinetic technology conducive to a variety of operating environments and capable of providing over twice the current level of power in an equal or smaller form factor. FY2015 efforts not funded with FY 2015 program funding will expend FY 2014 funding in support of FY 2015 efforts for engineering and manufacturing development (EMD) activities leading to Milestone C/Full Rate Production in 4QFY15 for ISPDS and CWB.			
Title: Squad Power Generation and Squad Power Manager (SPM) ***Description:*** Soldier portable, renewable energy solutions and charging capability for Squad formations. ***FY 2014 Accomplishments:*** Developed Soldier-portable, renewable energy solutions that have the power capacity to sustain squads in expeditionary austere operations for 72 hours, while decreasing dependence on combat logistics through the use of Solar technology. Developed and optimized lightweight universal, Soldier-portable chargers and energy harvesters capable of supporting the variety of batteries and electronic devices used in the conventional BCT formations. FY2015 Efforts not funded with FY 2015 program funding will expend FY 2014 funding in FY 2015 to support EMD activities leading to Milestone C/Full Rate Production in 4QFY15 for Squad Power Generation and SPM.	4.338	-	-
Title: Soldier Power Test and Evaluation ***Description:*** Integration testing and annual testing and evaluation events ***FY 2014 Accomplishments:*** Conducted annual developmental test and evaluation on Soldier Power components at Electronic Proving Ground, Arizona and Aberdeen Proving Ground, Maryland with focus on environmental testing, reliability, electro-magnetic interference and electro-magnetic compatibility. Conducted operational test and evaluation on Soldier Power components at Fort Bliss, Texas and Transformative Reductions in Operational Energy Consumption (TROPEC) Evaluation at the Jungle Warfare Training Center	0.886	-	0.609

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604827A / *Soldier Systems - Warrior Dem/Val*	**Project (Number/Name)** S65 / *Soldier Power*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
(JWTC); Okinawa, Japan. Partially completed test and evaluation of Soldier Power equipment informing the operational reliability and performance at the Soldier and Squad levels. FY 2015 efforts not funded with FY 2015 program funding will expend FY2014 funding in support of a limited user test leading to the Milestone C/Full Rate Production in 4QFY15. ***FY 2016 Plans:*** Will conduct developmental test (DT) and evaluation on Soldier Power generation and Soldier borne portable chargers and harvesters which include Small Unit Power generation devices at the Individual, Squad and Platoon power levels at Electronic Proving Ground, Arizona and Aberdeen Proving Ground, Maryland with focus on environmental testing, reliability, electro-magnetic interference and electro-magnetic compatibility. Conduct user assessment, verification and operational test (OT) events and evaluation on Soldier Power components at Fort Devens, Massachusetts; Fort Bliss, Texas; Fort Benning, Georgia; Fort Bragg, North Carolina; and a Joint operational test in the tropical environment. Support Soldier Power equipment as a NIE system including: Brigade level support, equipping, training, test costs, and spares for yearly Army Interoperability Certification (as required); environmental testing, and electronic warfare testing.			
Title: Soldier Power Generation (SPG) ***Description:*** Soldier portable, renewable energy solutions for Soldier Power Generation. ***FY 2016 Plans:*** Will mature Soldier-Worn technologies such as highly efficient solar, thermal and chemical energy conducive to a variety of operating environments and capable of providing twice the current level of power to achieve energy independence. Will develop Soldier power solutions that have the capacity to sustain expeditionary austere operations for 72 hours, while achieving energy independence of combat logistics through the use of other alternative renewable sources of power. Will continue development and optimization of lightweight, Soldier-portable chargers/harvesters and generators capable of supporting the variety of power devices used in tactical formations. The program funding will support EMD activities leading to Milestone C/Full Rate Production in 4QFY16 for SPG.	-	-	1.482
Title: Platoon Power Generator (PPG) ***Description:*** Prepare for award and manage an EMD phase R&D contract for the PPG. ***FY 2016 Plans:*** Award EMD contract and fund applicable functional support agreements.	-	-	3.320
Accomplishments/Planned Programs Subtotals	7.164	-	5.411

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604827A / *Soldier Systems - Warrior Dem/Val*	**Project (Number/Name)** S65 / *Soldier Power*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• R80010000: *Small Unit Power Increment*	-	-	43.639	-	43.639	30.502	37.660	43.451	47.730	Continuing	Continuing

Remarks

D. Acquisition Strategy

Pursue a variety of Soldier power initiatives under full and open competition. These initiatives range from Commercial-Off-The-Shelf (COTS) solutions to developmental efforts. The type of solicitation depends on the maturity of the technology. The power initiatives will be evaluated through scheduled test and evaluation events, and if successful, selected for procurement and subsequent fielding and sustainment. The acquisition strategy varies by product. For example, the SPM acquisition strategy will consist of two phases. Phase one includes the purchase of test articles using the Defense Logistics Agency (DLA) Special Operational (Spec Ops) Equipment Tailored Logistic Support Program (TLSP) Phase two includes the procurement of additional test articles through Indefinite Delivery Indefinite Quantity (IDIQ) contracts established through the Army Contracting Command (ACC). The project manager office will establish IDIQ contracts to support the SUP requirements over time. Each SUP system will be procured under purchase orders for production quantities that will be on a Firm Fixed Price (FFP) basis.

PEO CS/CSS Effort on the Platoon Power Generation:

Full and open competitive acquisition will be conducted culminating in an award of up to two (2) Cost Plus Incentive Fee (CPIF) contracts supporting a 24 month Engineering and Manufacturing Development (EMD) phase. Two selected contractors will be awarded EMD contracts and will separately perform a 15 month effort (Phase I) to fabricate and produce the minimum order of 10 SUP PPG (1kW Generator) systems (5 per vendor). Phase I will be followed by a down-select evaluation to choose the manufacturer that could produce the best value system. During Phase II, selected vendor will produce 5 additional systems to undergo developmental test (DT), a logistics demonstration (LD), pre-production qualification test, and limited user / operational test (LUT/OT). Upon successful completion of these tests and completion of logistics supportability, the performance data and Soldier's feedback will be utilized in preparation for Milestone C (MS C).

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604827A / *Soldier Systems - Warrior Dem/Val*	Project (Number/Name) S65 / *Soldier Power*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PM integration and oversight	MIPR	Various : Various	1.263	1.842		-		0.237		-		0.237	Continuing	Continuing	Continuing
		Subtotal	1.263	1.842		-		0.237		-		0.237	-	-	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Soldier Power Development and Integration	TBD	TBD : TBD	8.104	3.774		-		1.002		-		1.002	Continuing	Continuing	Continuing
Platoon Power Generation	C/CPIF	TBD : TBD	0.000	-		-		2.500		-		2.500	1.500	4.000	-
		Subtotal	8.104	3.774		-		3.502		-		3.502	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Martix Support	MIPR	ARL, CERDEC, Various : Various	1.512	0.828		-		0.243		-		0.243	Continuing	Continuing	Continuing
Platoon Power Generation	IA	TBD : TBD	0.000	-		-		0.820		-		0.820	0.600	1.420	-
		Subtotal	1.512	0.828		-		1.063		-		1.063	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Various Testing Organizations	MIPR	Various : Various	0.000	0.720		-		0.609		-		0.609	Continuing	Continuing	Continuing
Platoon Power Generation	MIPR	TBD : TBD	0.000	-		-		-		-		-	0.220	0.220	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604827A / *Soldier Systems - Warrior Dem/Val*	Project (Number/Name) S65 / *Soldier Power*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.720		-		0.609		-		0.609	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	10.879	7.164		-		5.411		-		5.411	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604827A / *Soldier Systems - Warrior Dem/Val*	**Project (Number/Name)** S65 / *Soldier Power*

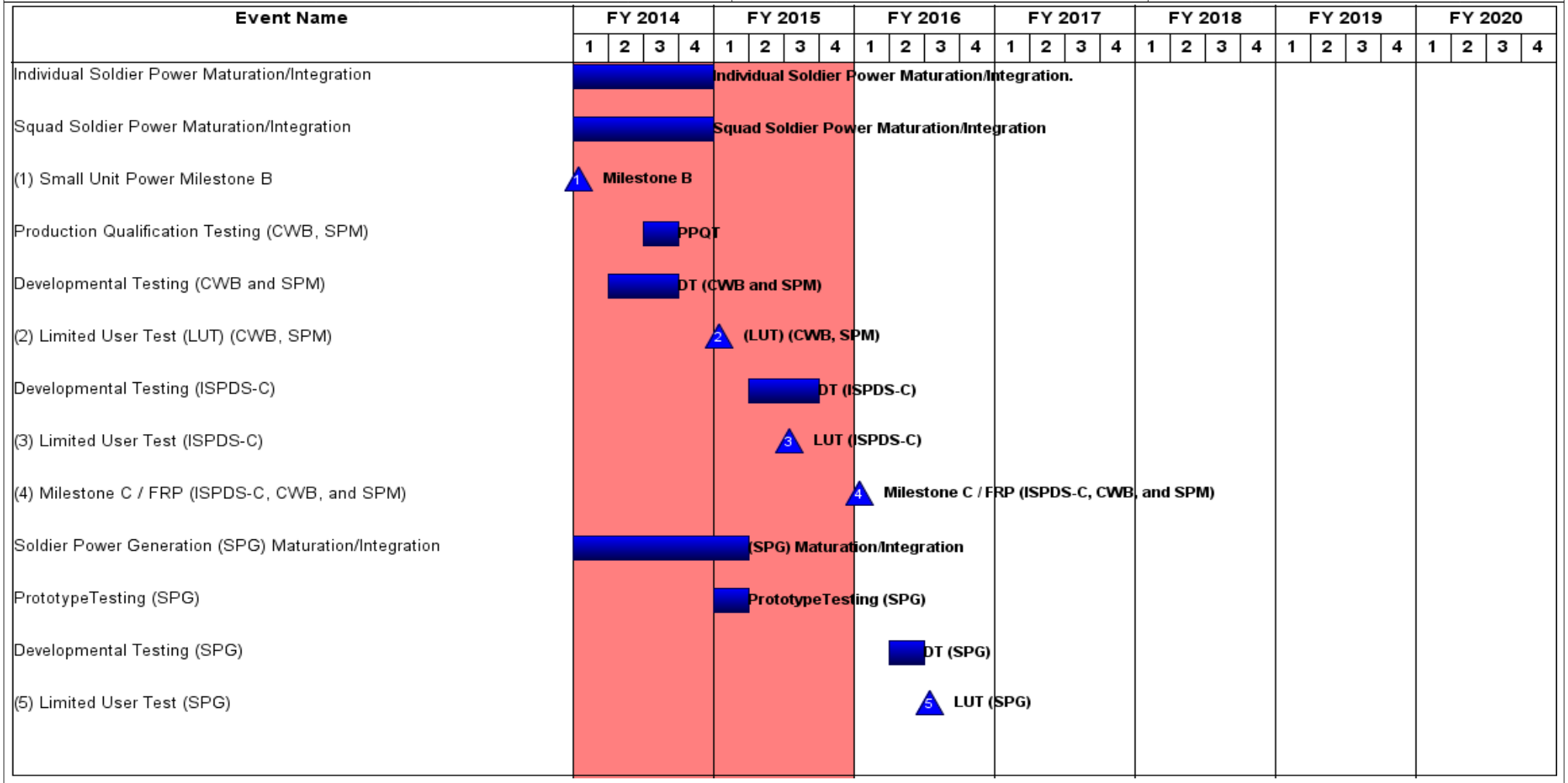

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604827A / *Soldier Systems - Warrior Dem/Val*	**Project (Number/Name)** S65 / *Soldier Power*

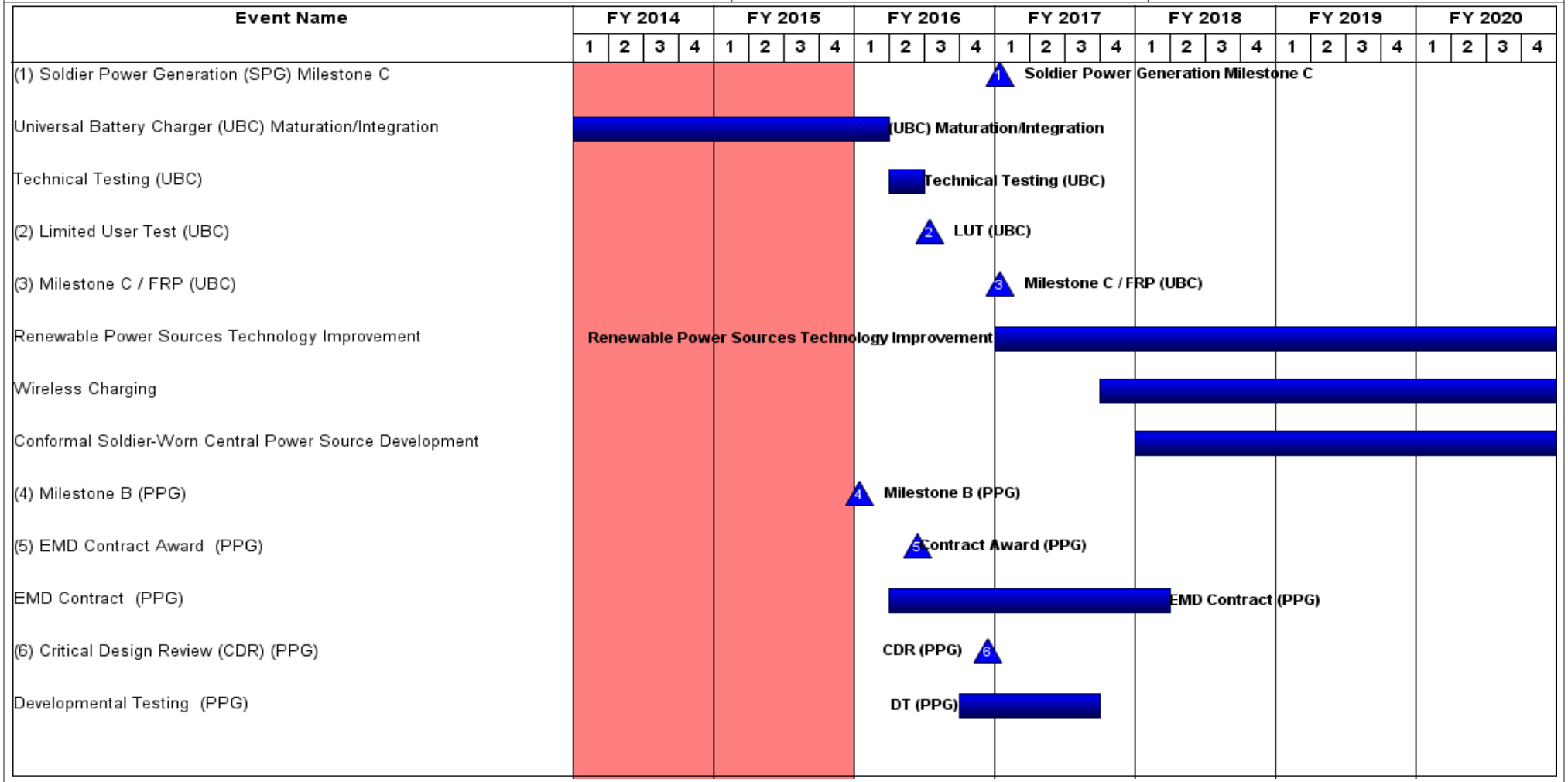

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604827A / *Soldier Systems - Warrior Dem/Val*	**Project (Number/Name)** S65 / *Soldier Power*

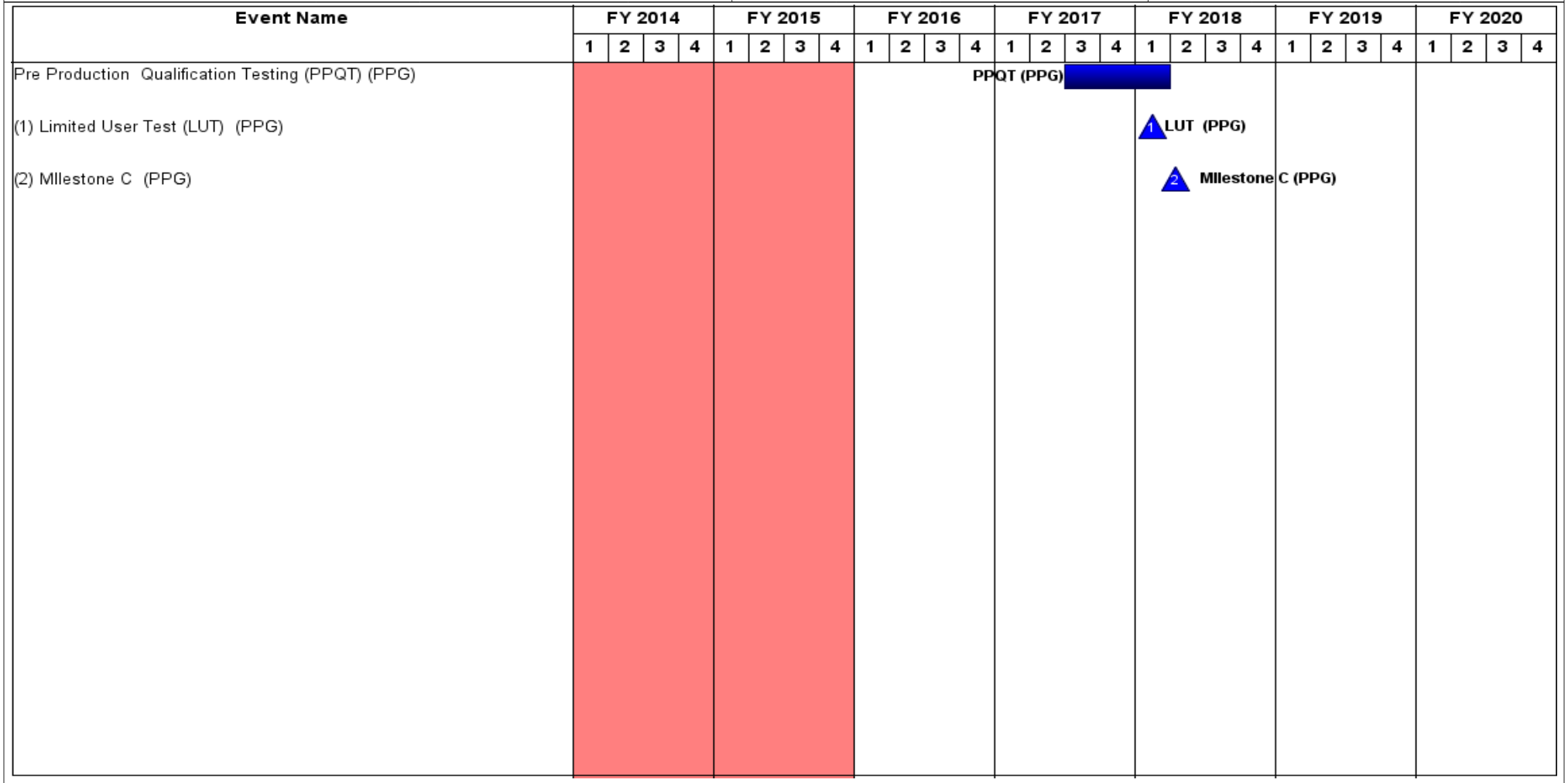

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604827A / *Soldier Systems - Warrior Dem/Val*	**Project (Number/Name)** S65 / *Soldier Power*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Individual Soldier Power Maturation/Integration	1	2013	4	2014
Squad Soldier Power Maturation/Integration	1	2013	4	2014
Small Unit Power Milestone B	1	2014	1	2014
Production Qualification Testing (CWB, SPM)	3	2014	3	2014
Developmental Testing (CWB and SPM)	2	2014	3	2014
Limited User Test (LUT) (CWB, SPM)	1	2015	1	2015
Developmental Testing (ISPDS-C)	2	2015	3	2015
Limited User Test (ISPDS-C)	3	2015	3	2015
Milestone C / FRP (ISPDS-C, CWB, and SPM)	1	2016	1	2016
Soldier Power Generation (SPG) Maturation/Integration	1	2014	1	2015
PrototypeTesting (SPG)	1	2015	1	2015
Developmental Testing (SPG)	2	2016	2	2016
Limited User Test (SPG)	3	2016	3	2016
Soldier Power Generation (SPG) Milestone C	1	2017	1	2017
Universal Battery Charger (UBC) Maturation/Integration	1	2014	1	2016
Technical Testing (UBC)	2	2016	2	2016
Limited User Test (UBC)	3	2016	3	2016
Milestone C / FRP (UBC)	1	2017	4	2020
Renewable Power Sources Technology Improvement	1	2017	4	2020
Wireless Charging	4	2017	1	2021
Conformal Soldier-Worn Central Power Source Development	1	2018	1	2021
Milestone B (PPG)	1	2016	1	2016

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604827A / *Soldier Systems - Warrior Dem/Val*	**Project (Number/Name)** S65 / *Soldier Power*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
EMD Contract Award (PPG)	2	2016	2	2016
EMD Contract (PPG)	2	2016	1	2018
Critical Design Review (CDR) (PPG)	4	2016	4	2016
Developmental Testing (PPG)	4	2016	3	2017
Pre Production Qualification Testing (PPQT) (PPG)	3	2017	1	2018
Limited User Test (LUT) (PPG)	1	2018	1	2018
MIlestone C (PPG)	2	2018	2	2018

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604827A / *Soldier Systems - Warrior Dem/Val*	Project (Number/Name) S75 / *Ground Soldier Ensemble*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
S75: *Ground Soldier Ensemble*	-	18.313	5.233	12.431	-	12.431	10.897	11.009	11.073	11.235	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Nett Warrior (NW) Program (named in honor of Medal of Honor recipient Colonel Robert C. Nett), also known as the Ground Soldier System (GSS) Program, leverages commercial smart devices and secure Army tactical radios to provide the dismounted leader an integrated mission command and situational awareness system for use during combat operations. The NW system provides leaders electronic real-time information on friendly positions; information about enemy activity and movement; navigational data and map imagery; a collaborative planning tool; and other mission related graphics which effectively puts the power of the entire Army tactical network in the hands of the dismounted leader. The NW system also provides the same integrated mission command capability to the tactical vehicle-mounted leaders so that when dismounted, the leader still maintains the common operating picture (COP) and has continuous situational awareness. This capability provides unparalleled situational awareness and enhanced communications to the dismounted leader allowing for faster, more accurate decisions and reduced fratricide in the tactical fight.

The continued development and integration of the NW program also integrates applications from other programs aimed at considerably reducing the weight and bulk of the dismounted soldier's load by using a single End User Device. The NW program harnesses soldiers' experience in combat operations and employs combat veterans for Soldier feedback enhancing human factors design and fightability of the system. This project funds the following: 1) Incorporation of additional new hardware applications and capabilities into Nett Warrior, 2) Yearly developmental and operational tests of the NW with continually advancing commercial smart device technology inserted, 3) Software development for planned updates, 4) Integration of new End User Devices with the existing and re-competed Army Tactical Radios, including vehicle power integration, 5) Government led integration and system engineering and program management, and 6) Conduct NW Operational Test and Evaluation with Mechanized and Infantry units in FY16/17.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Test and Evaluation including twice a year Network Integration Evaluation (NIE) to gain Soldier feedback	6.007	1.292	2.596
Description: Funding is provided for the following efforts. ***FY 2014 Accomplishments:*** Conducted NW test and evaluation for technical verification at developmental test events and user verification through IOT&E operational assessment at Network Integration Evaluation (NIE) 14.2 to support FY15 Low Rate Initial Production (LRIP) decision. Supported NW as a baseline NIE system including: Brigade level support, equipping, training, and spares for NW; conducted yearly Army Interoperability Certification; environmental testing; electronic warfare testing; and Information Assurance penetration prevention testing for new commercial smart devices. ***FY 2015 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604827A / *Soldier Systems - Warrior Dem/Val*	**Project (Number/Name)** S75 / *Ground Soldier Ensemble*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Continue NW test and evaluation for technical verification at developmental events and user verification through operational testing including Initial Operational Test & Evaluation (IOT&E) for a LRIP decision. Will continue support for NW as a baseline NIE system including: Brigade level support, equipping, training, test costs, and spares for NW; yearly Army Interoperability Certification; environmental testing; and Information Assurance penetration prevention testing for new commercial smart devices. ***FY 2016 Plans:*** Will conduct NW test and evaluation for technical verification at developmental events and user verification through planned Operational Test and Evaluation to include new hardware and new Rifleman Radios from PEO C3T. Support NW as a baseline NIE system including: Brigade level support, equipping, training, test costs, and spares for NW; yearly Army Interoperability Certification; environmental testing; electronic warfare testing; and Information Assurance penetration prevention testing for new commercial smart devices. Will test emerging secure 4G/LTE Army Networks.			
Title: Hardware and Software Integration and Evaluation for Capability Improvements ***Description:*** Funding is provided for the following efforts. ***FY 2014 Accomplishments:*** Continued software integration of the Army's Joint Battle Command Platform software development kit for commercial smart device hardware to support Governmental T&E activities. Conducted Developmental Tests (DT), and Operational Testing (OT) preparing for Full Rate Production Decision in FY15. Integrated applications to expand Nett Warrior capabilities to meet other requirements with a common smart device. Provided Software updates to support Army Interoperability Certification testing and other testing supporting DT and OT. ***FY 2015 Plans:*** Acquire, integrate and evaluate low cost, advanced commercial smart devices, cables, and other hardware for potential integration into the NW system of proven and mature capabilities. Integrate 3rd party software combat applications and keep pace with emerging technology and inform the acquisition decision process as to yearly Army Capability Set insertion. Integrate new PEO C3T radios from competitive Rifleman Radio procurement. ***FY 2016 Plans:*** Integrate and evaluate emerging advanced commercial smart devices, cables, and other hardware including unmanned sensor systems for potential adoption into the NW system. Will continue to integrate 3rd party software combat applications for increased functionality. This will continually allow NW to keep pace with emerging technology, lower cost and weight, and inform the future acquisition decision process as to yearly Army Capability Set insertion.	5.138	1.244	5.004
Title: Software Development and Integration ***Description:*** Funding is provided for the following efforts.	4.722	2.082	2.491

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604827A / *Soldier Systems - Warrior Dem/Val*	**Project (Number/Name)** S75 / *Ground Soldier Ensemble*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
FY 2014 Accomplishments: Completed software integration of the Army's Joint Battle Command Platform software development kit into Nett Warrior commercial smart device hardware to support Governmental T&E activities. Conducted Developmental Tests (DT), and Operational Testing (OT) that led to production decisions and fielding for FY14 and prepared for LRIP decision in FY15. Integrated other Army applications that expanded Nett Warrior capabilities to meet other requirements utilizing a common smart device in mobile hand-held computing environment. Provided Software updates that supported Army Interoperability Certification testing and other required testing supporting DT and OT. ***FY 2015 Plans:*** Develop and integrate Nett Warrior software development kit products for commercial smart device hardware for integration into the NW system to provide the most current capability into production on a semi-annual basis. Integrate applications to expand Nett Warrior capabilities to meet other Army requirements with a common smart device. Maintain software updates and changes for NW program to keep pace with Army software capability updates, maintain information assurance accreditation, and retain interoperability certification for Army Capability Sets. ***FY 2016 Plans:*** Will continue to integrate other Army required applications via the Nett Warrior software development kit that expands capabilities to meet other requirements utilizing a common smart device in a common mobile hand held computing environment. Will maintain software that allows the NW program to keep pace with Army software blocking updates, retain interoperability certification for Army Capability Sets and information assurance accreditation.			
Title: Integration with AN/PRC-154A and Vehicle Platforms ***Description:*** Funding is provided for the following efforts. ***FY 2014 Accomplishments:*** Completed integration and verification of the AN/PRC-154A radio into NW system and vehicle integration kits for DT and IOT&E. Integrated GPS relay and power recharging systems for Stryker Brigade Combat Team vehicles with development, testing and verification of multiple vehicle integration kits to support NW and the radio batteries. ***FY 2016 Plans:*** Integrate new commercial smart devices with competitively procured Rifleman Radio from PEO C3T in preparation for planned Operational Testing in FY16/17. Will conduct integration of Army secure 4G/LTE, and unmanned sensor networks.	0.179	-	1.412
Title: Conduct Systems Engineering and Program Management Support to Nett Warrior ***Description:*** Funding is provided for the following efforts.	2.267	0.615	0.928

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604827A / *Soldier Systems - Warrior Dem/Val*	**Project (Number/Name)** S75 / *Ground Soldier Ensemble*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
FY 2014 Accomplishments: Conducted government systems engineering and program management support for NW program including documentation preparation for upcoming acquisition lifecycle decision. Integrated the latest commercial smart devices, software applications and technology for test and evaluation. Collected input from Soldiers at semi-annual NIE events that improved NW size, weight, power, fightability, safety and effectiveness via surveys and electronic data monitoring from Developmental and Operational Testing (DT/OT) events. ***FY 2015 Plans:*** Continue to conduct government systems engineering and program management support for NW program including documentation preparation for Full Rate Production decision. Collect input from Soldiers at semi-annual NIE events to improve NW size, weight, power, fightability, safety and effectiveness via surveys and electronic data monitoring from Developmental and Operational Testing (DT/OT) events. ***FY 2016 Plans:*** Will continue to conduct government systems engineering and program management support for NW program as there is not a prime contractor. Will collect input from Soldiers to improve NW size, weight, power, fightability, safety and effectiveness via surveys. Will manage system configuration, and execute test, development and integration planning including investigation and analysis of emerging innovative commercial technologies to lower the size, weight, power and cost of Nett Warrior.			
Accomplishments/Planned Programs Subtotals	18.313	5.233	12.431

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPA 3, R80501: *OPA 3, R80501, Ground Soldier System*	61.859	-	43.639	-	43.639	30.502	37.660	43.451	47.730	Continuing	Continuing
• RDT&E, PE 0603827A S49: *RDT&E, PE 0603827A S49 - Ground Soldier System (GSS)*	-	-	-	-	-	-	-	-	-		

Remarks

D. Acquisition Strategy

The Nett Warrior (NW) program provides unparalleled situational awareness and mission command to dismounted combat leaders through an integrated End User Device, power source and radio. The NW program executed a MS A in FY09 and began three competing TD phase contracts leading to developmental and operational testing FY10-11. A Configuration Steering Board (CSB) was held August 2011 which restructured the program to implement COTS-based technology. NW was

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604827A / *Soldier Systems - Warrior Dem/Val*	**Project (Number/Name)** S75 / *Ground Soldier Ensemble*

restructured to use commercial End User Devices and the government as the prime integrator. Twice a year technology maturation and integration is assessed at NIE events. The NW MS C was approved 3 April 2012 followed by a low rate Capability Set (CS) 14 production award. Conducted Developmental Test and Evaluation during 4QFY12-1QFY13, followed by 1QFY13 Operational Test (OT) as well as hardware, software, integration and program management. The Developmental and Operational tests validated the system utility, supportability, and austere-environment power production and regeneration strategy that resulted in a production decision in 2QFY13 to procure the CS14 quantity of NW systems and support equipment. Conducted 1QFY14 Operational Test, and additional Developmental and Operational Tests during 2QFY14-3QFY14, as well as hardware, software, integration and program management. The Developmental and Operational tests will continue to validate the system utility, supportability, and austere-environment power production and regeneration strategy. Initial Operational Tests under OSD oversight are being conducted in 3QFY14 and 1QFY15 leading to a LRIP decision in 3QFY15 to procure the CS16/17 quantity of NW systems and support equipment. While in LRIP production NW also continues to reduce size, weight and power through a semi-annual integration and evaluation and test of the latest commercial smart device technologies which evolve continuously.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604827A / *Soldier Systems - Warrior Dem/Val*	Project (Number/Name) S75 / *Ground Soldier Ensemble*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Hardware and software integration and evaluation	Various	Various : Various	16.663	5.138		1.244		5.004		-		5.004	Continuing	Continuing	Continuing
Systems Engineering and program management support	Various	Various : Various	20.843	2.267		0.615		0.928		-		0.928	Continuing	Continuing	Continuing
		Subtotal	37.506	7.405		1.859		5.932		-		5.932	-	-	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Integration with Project Manager Tactical Radios and Vehicle Platforms	Various	Various : Various	1.882	0.179		-		1.412		-		1.412	Continuing	Continuing	Continuing
		Subtotal	1.882	0.179		-		1.412		-		1.412	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development and Integration	Various	Various : Various	5.795	4.722		2.082		2.491		-		2.491	Continuing	Continuing	Continuing
		Subtotal	5.795	4.722		2.082		2.491		-		2.491	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Various Testing Organizations	Various	Various : Various	16.022	6.007		1.292		2.596		-		2.596	Continuing	Continuing	Continuing
		Subtotal	16.022	6.007		1.292		2.596		-		2.596	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604827A / *Soldier Systems - Warrior Dem/Val*	Project (Number/Name) S75 / *Ground Soldier Ensemble*	

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	61.205	18.313		5.233		12.431		-		12.431	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604827A / *Soldier Systems - Warrior Dem/Val*	**Project (Number/Name)** S75 / *Ground Soldier Ensemble*

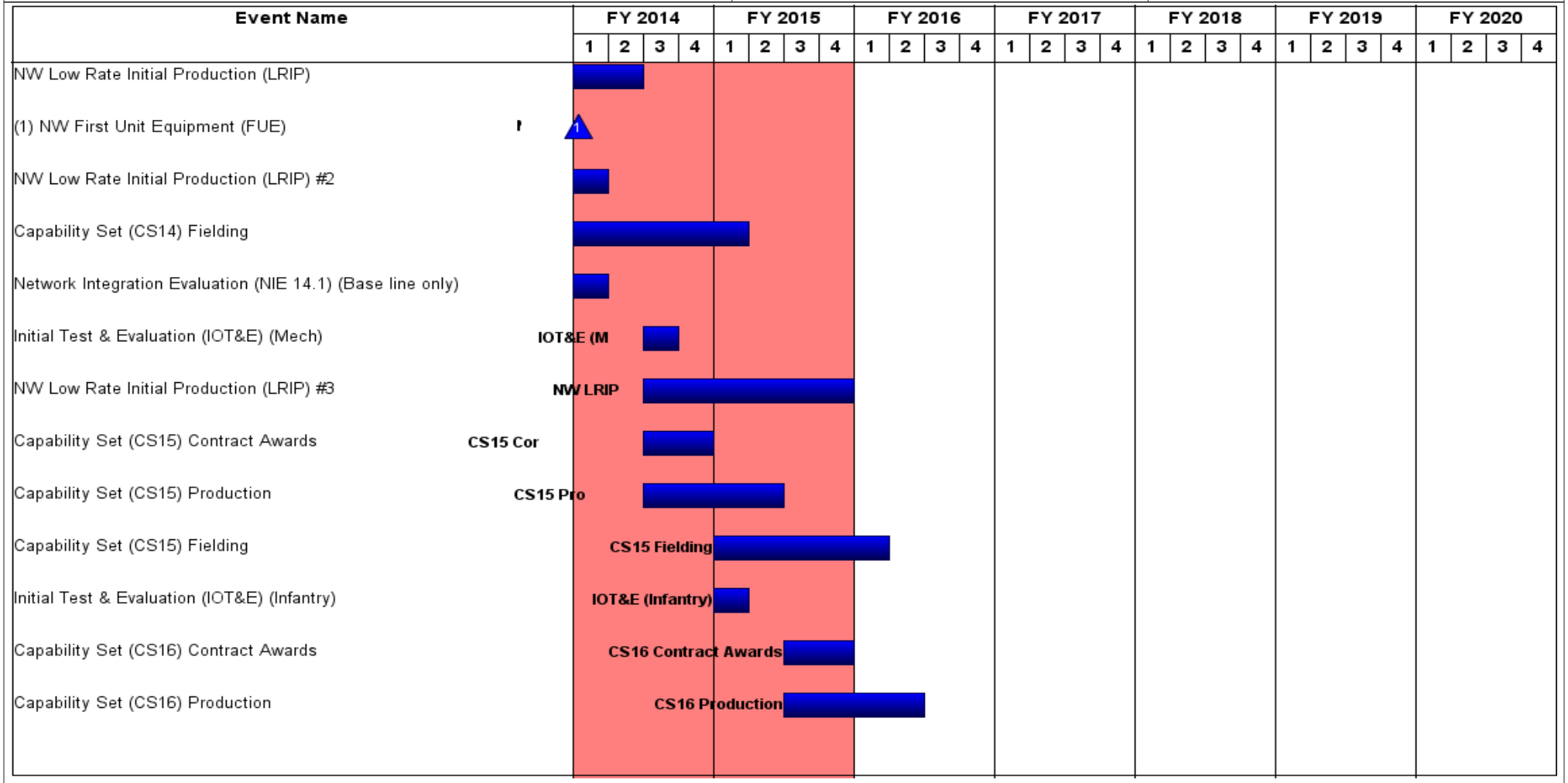

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604827A / *Soldier Systems - Warrior Dem/Val*	**Project (Number/Name)** S75 / *Ground Soldier Ensemble*

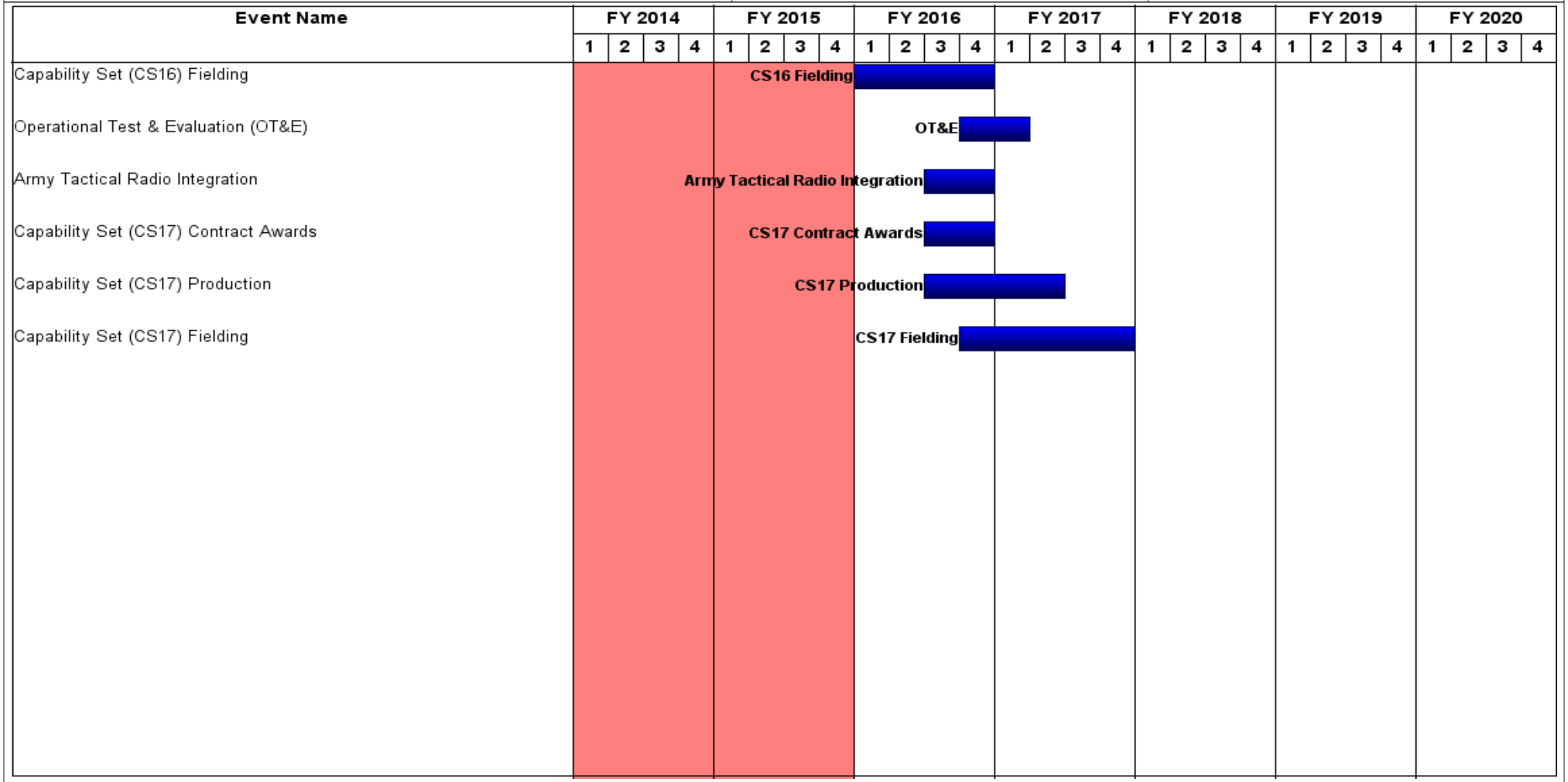

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604827A / *Soldier Systems - Warrior Dem/Val*	**Project (Number/Name)** S75 / *Ground Soldier Ensemble*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
NW Low Rate Initial Production (LRIP)	3	2012	2	2014
NW First Unit Equipment (FUE)	1	2014	1	2014
NW Low Rate Initial Production (LRIP) #2	3	2013	1	2014
Capability Set (CS14) Fielding	1	2014	1	2015
Network Integration Evaluation (NIE 14.1) (Base line only)	1	2014	1	2014
Initial Test & Evaluation (IOT&E) (Mech)	3	2014	3	2014
NW Low Rate Initial Production (LRIP) #3	3	2014	4	2015
Capability Set (CS15) Contract Awards	3	2014	4	2014
Capability Set (CS15) Production	3	2014	2	2015
Capability Set (CS15) Fielding	1	2015	1	2016
Initial Test & Evaluation (IOT&E) (Infantry)	1	2015	1	2015
Capability Set (CS16) Contract Awards	3	2015	4	2015
Capability Set (CS16) Production	3	2015	2	2016
Capability Set (CS16) Fielding	1	2016	4	2016
Operational Test & Evaluation (OT&E)	4	2016	1	2017
Army Tactical Radio Integration	3	2016	4	2016
Capability Set (CS17) Contract Awards	3	2016	4	2016
Capability Set (CS17) Production	3	2016	2	2017
Capability Set (CS17) Fielding	4	2016	4	2017

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604854A / *Artillery Systems - EMD*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	-	117.241	1.911	1.953	-	1.953	1.973	1.991	10.639	20.896	Continuing	Continuing
509: *LIGHTWEIGHT 155M HOWITZER*	-	-	1.911	1.953	-	1.953	1.973	1.991	10.639	20.896	Continuing	Continuing
516: *Paladin/FAASV*	-	117.241	-	-	-	-	-	-	-	-	-	117.241

Note

Beginning FY15, 0604854A, project 516 has been moved to new APE 0210609A, project ED8.

A. Mission Description and Budget Item Justification

Paladin Integrated Management (PIM) is an ACAT 1D Acquisition Program. The program will replace the current fleet of M109 Family of Vehicles (FoV) consisting of the M109A6 Paladin Self Propelled Howitzer and M992A2 Field Artillery Ammunition Supply Vehicle (FAASV). PIM is an Army Modernization Program that addresses a critical capability gap created by the Non-Line of Sight Cannon termination in June of 2009 as well as obsolescence and Space, Weight, and Power (SWAP) issues in the M109 FoV current fleet. The PIM system integrates current Bradley Fighting Vehicle suspension and drive train items, Future Combat Systems (FCS) developed Electric Gun Drive systems and current fleet (M109A6) fire control systems into a new chassis providing better force protection, survivability and increases electrical power over the current fleet. PIM is a two vehicle system: Self Propelled Howitzer (SPH) and Carrier Ammunition Tracked (CAT). The SPH has all characteristics listed above. The CAT utilizes all these same components and traits less those that relate directly to the cannon system. The PIM system replaces the current M109 FoV on a one for one basis, in the cannon fires battalions in the Armored Brigade Combat Team Formations and the Echelons above Brigade (EAB). The overall intent is to increase Soldier force protection, vehicle survivability, provide an appropriate amount of SWAP capacity to add future capabilities, increase vehicle reliability, reduce life cycle costs and extend the life of the M109 FoV through FY 2050.

The Lightweight 155mm Howitzer (LW155), also known as the M777A2, provides direct, reinforcing, general support fires to maneuver forces and direct support artillery. It replaces all howitzers in all missions in the USMC and replaces the M198 howitzer as the general support artillery for light forces in the Army. The LW155 fires unassisted projectiles to a range of 15 miles and assisted projectiles to 19 miles. The addition of the digital fire control system enables the weapon to program and fire the improved Excalibur precision-guided munitions to ranges in excess of 25 miles with better than 10-meter Circular Error Probable (CEP) accuracy. The LW155 is the first ground combat system whose major structures are made of high strength titanium alloy and the system makes extensive use of hydraulics to operate the breech, load tray, recoil and wheel arms. The combination of titanium structures and the use of hydraulic systems resulted in a significant weight savings of 7000 lbs over the M198 system. Compared to the M198, the LW155 emplaces three-times faster and displaces four-times faster. It traverses 32 percent more terrain worldwide and is 70 percent more survivable than the M198. It is a successful joint service program between the Marine Corps and Army working together to develop, produce, field, and sustain the howitzer. The LW155 was first introduced into the Marine Corps in April 2005 and the Marines have now fielded the howitzer to all active units. The Army has fielded the howitzer to its Stryker Brigade Combat teams (SBCT), Fires Brigades and National Guard. Fielding of the Infantry Brigade Combat Teams (IBCT) commenced in FY14 and will continue through 2018. The LW155 saw extensive action in Afghanistan, receiving high marks for its performance. Having now been in the field for almost 10 years, the howitzer will be going through obsolescent replacement of electronic components in its digital fire control system.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army	Date: February 2015
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604854A / *Artillery Systems - EMD*

Funding supports engineering studies for capabilities identified in the Joint U.S. Army, U.S. Marine Corps Operational Requirements Document (JORD) for the Advanced Towed Cannon System but deferred during Engineering Manufacturing and Development due to technology maturity, cost and schedule as well as government sustainment activities requiring RDTE. This includes a digital direct fire sight for the Digital Fire Control System; low temperature, high density power solutions; and electric elevation drives and auto loader to achieve full operational requirements. Efforts in FY2015-FY2018 will be centered on researching technical solutions while efforts in FY2019-FY2020 will involve developing technology demonstrator prototypes.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	121.270	1.912	1.938	-	1.938
Current President's Budget	117.241	1.911	1.953	-	1.953
Total Adjustments	-4.029	-0.001	0.015	-	0.015
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-0.001			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-4.029	-	0.015	-	0.015

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604854A / *Artillery Systems - EMD*	Project (Number/Name) 509 / *LIGHTWEIGHT 155M HOWITZER*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
509: *LIGHTWEIGHT 155M HOWITZER*	-	-	1.911	1.953	-	1.953	1.973	1.991	10.639	20.896	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

The Lightweight 155mm (LW155) Towed Howitzer is a jointly managed program with the Marine Corps.

A. Mission Description and Budget Item Justification

The Lightweight 155mm Howitzer (LW155), also known as the M777A2, provides direct, reinforcing, general support fires to maneuver forces and direct support artillery. It replaces all howitzers in all missions in the USMC and replaces the M198 howitzer as the general support artillery for light forces in the Army. The LW155 fires unassisted projectiles to a range of 15 miles and assisted projectiles to 19 miles. The addition of the digital fire control system enables the weapon to program and fire the improved Excalibur precision-guided munitions to ranges in excess of 25 miles with better than 10-meter Circular Error Probable (CEP) accuracy. The LW155 is the first ground combat system whose major structures are made of high strength titanium alloy and the system makes extensive use of hydraulics to operate the breech, load tray, recoil and wheel arms. The combination of titanium structures and the use of hydraulic systems resulted in a significant weight savings of 7000 lbs over the M198 system. Compared to the M198, the LW155 emplaces three-times faster and displaces four-times faster. It traverses 32 percent more terrain worldwide and is 70 percent more survivable than the M198. It is a successful joint service program between the Marine Corps and Army working together to develop, produce, field, and sustain the howitzer. The LW155 was first introduced into the Marine Corps in April 2005 and the Marines have now fielded the howitzer to all active units. The Army has fielded the howitzer to its Stryker Brigade Combat teams (SBCT), Fires Brigades and National Guard. Fielding of the Infantry Brigade Combat Teams (IBCT) commenced in FY14 and will continue through 2018. The LW155 has seen extensive action in Afghanistan, receiving high marks for its performance. Having now been in the field for almost 10 years, the howitzer will be going through obsolescent replacement of electronic components in its digital fire control system.

Funding supports engineering studies for capabilities identified in the Joint U.S. Army, U.S. Marine Corps Operational Requirements Document (JORD) for the Advanced Towed Cannon System but deferred during Engineering Manufacturing and Development due to technology maturity, cost and schedule as well as government sustainment activities requiring RDTE. This includes a digital direct fire sight for the Digital Fire Control System; low temperature, high density power solutions; and electric elevation drives and auto loader to achieve full operational requirements. Efforts in FY2015-FY2018 will be centered on researching technical solutions while efforts in FY2019-FY2020 will involve developing technology demonstrator prototypes.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Management Services	-	0.194	0.197
Description: Funding supports management services within the Program Management Office, Towed Artillery Systems			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604854A / *Artillery Systems - EMD*	**Project (Number/Name)** 509 / *LIGHTWEIGHT 155M HOWITZER*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Funding supports management and coordination with the Armaments Research Development and Engineering Center to conduct trade studies to determine the best material solution for the digital direct fire sight and low temperature, high density power solutions. ***FY 2016 Plans:*** Funding supports management and coordination with the Armaments Research Development and Engineering Center to conduct modeling, simulation, analysis and trade studies to characterize the M777A2 for performance improvements. The data generated from these efforts will be used to establish a database to support government sustainment activities as well as future technology demonstrations focused on achieving current JORD objective capabilities as well as Force 2025 and Beyond Initiatives.			
Title: Product Development ***Description:*** Funds engineering support from the Armaments Research Development and Engineering Center ***FY 2015 Plans:*** Funding supports conducting trade studies to determine the best material solution for digital direct fire sight for the Digital Fire Control System and low temperature, high density power solutions to achieve full operational requirements. ***FY 2016 Plans:*** Funding will support modeling, simulation, analysis and trade studies to characterize the M777A2 for performance improvements. ARDEC will establish a technical database that will support PM initiated sustainment activities and future technology demonstrations. Begins preliminary designs efforts.	-	1.717	1.756
Accomplishments/Planned Programs Subtotals	-	1.911	1.953

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• M777 Mods: *M777 Mods - Modification of Weapons and Other Combat Vehicles SSN GZ1700*	35.800	18.166	10.070	-	10.070	12.009	0.581	-	-	-	76.626

Remarks

Procurement Funding supports active retrofits for previously contracted Digital Fire Control System components, addressing obsolescence.

D. Acquisition Strategy

This will be a collaborative effort between the Program Management Office, Towed Artillery Systems, and the Armaments Research Development and Engineering Center at Picatinny Arsenal.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604854A / *Artillery Systems - EMD*	**Project (Number/Name)** 509 / *LIGHTWEIGHT 155M HOWITZER*

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604854A / *Artillery Systems - EMD*	Project (Number/Name) 509 / *LIGHTWEIGHT 155M HOWITZER*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management	Sub Allot	Program Management Towed Artillery Systems : Picatinny Arsenal, NJ	0.000	-		0.194	Feb 2015	0.197	Oct 2015	-		0.197	Continuing	Continuing	Continuing
		Subtotal	0.000	-		0.194		0.197		-		0.197	-	-	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering	MIPR	Armaments Research & Developmet Center : Picatinny Arsenal, NJ	0.000	-		1.717	Feb 2015	1.756	Oct 2015	-		1.756	Continuing	Continuing	Continuing
		Subtotal	0.000	-		1.717		1.756		-		1.756	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	-		1.911		1.953		-		1.953	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604854A / *Artillery Systems - EMD*	**Project (Number/Name)** 509 / *LIGHTWEIGHT 155M HOWITZER*

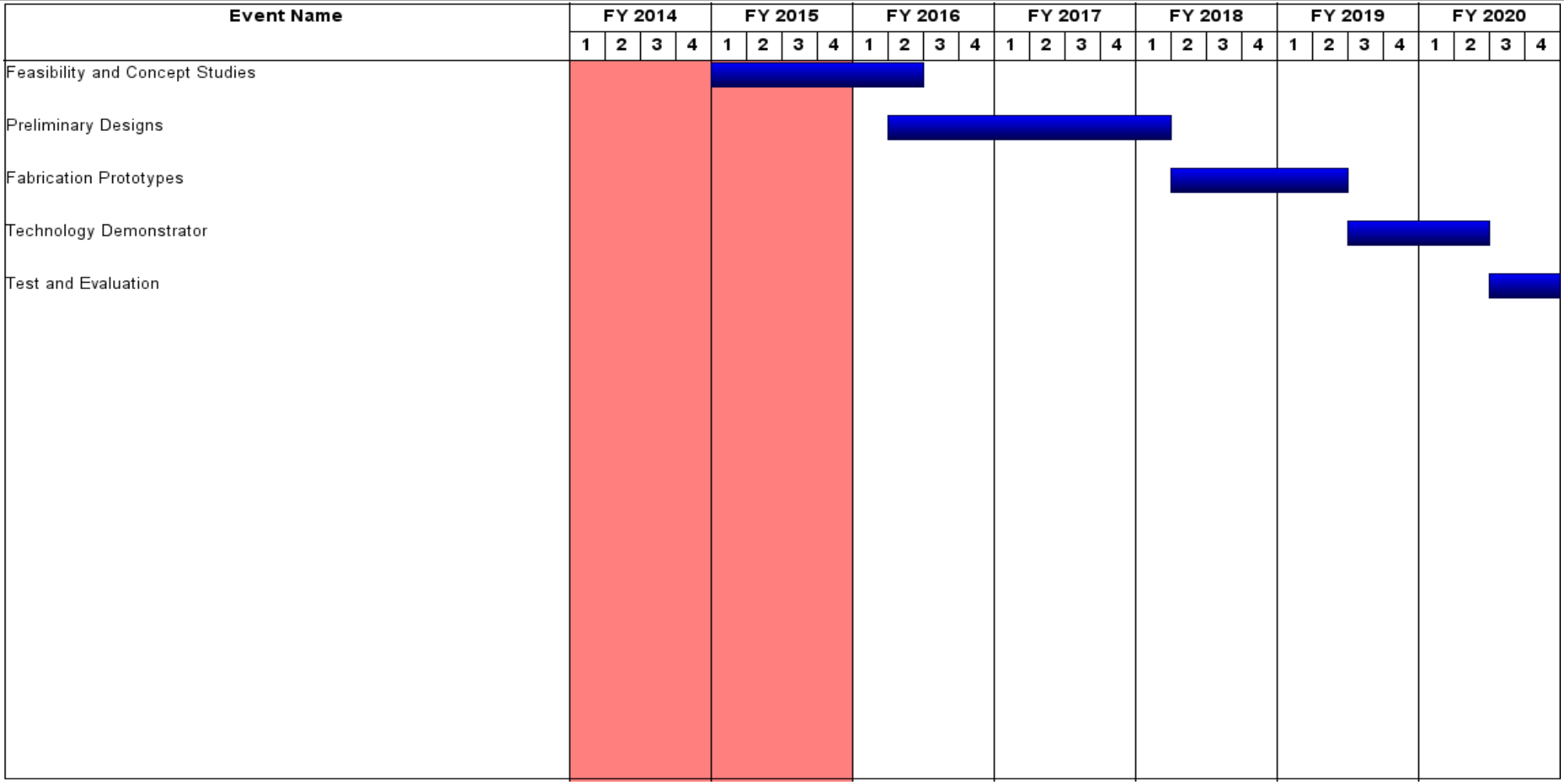

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604854A / *Artillery Systems - EMD*	**Project (Number/Name)** 509 / *LIGHTWEIGHT 155M HOWITZER*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Feasibility and Concept Studies	1	2015	2	2016
Preliminary Designs	2	2016	1	2018
Fabrication Prototypes	2	2018	2	2019
Technology Demonstrator	3	2019	2	2020
Test and Evaluation	3	2020	2	2021

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604854A / *Artillery Systems - EMD*	Project (Number/Name) 516 / *Paladin/FAASV*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
516: *Paladin/FAASV*	-	117.241	-	-	-	-	-	-	-	-	-	117.241
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Starting FY15, 0604854A, project 516 has been moved to new APE 0600609A, project ED8.

A. Mission Description and Budget Item Justification

Paladin Integrated Management (PIM) is an ACAT 1D Acquisition Program. The program will replace the current fleet of M109 Family of Vehicles (FoV) consisting of the M109A6 Paladin Self Propelled Howitzer and M992A2 Field Artillery Ammunition Supply Vehicle (FAASV). PIM is an Army Modernization Program that addresses a critical capability gap created by the Non-Line of Sight Cannon termination in June of 2009 as well as obsolescence and Space, Weight, and Power (SWAP) issues in the M109 FoV current fleet. The PIM system integrates current Bradley Fighting Vehicle suspension and drive train items, Future Combat Systems (FCS) developed Electric Gun Drive systems and current fleet (M109A6) fire control systems into a new chassis providing better force protection, survivability and increases electrical power over the current fleet. PIM is a two vehicle system: Self Propelled Howitzer (SPH) and Carrier Ammunition Tracked (CAT). The SPH has all characteristics listed above. The CAT utilizes all these same components and traits less those that relate directly to the cannon system. The PIM system replaces the current M109 FoV on a one for one basis, in the cannon fires battalions in the Armored Brigade Combat Team Formations and the Echelons above Brigade (EAB). The overall intent is to increase Soldier force protection, vehicle survivability, provide an appropriate amount of SWAP capacity to add future capabilities, increase vehicle reliability, reduce life cycle costs and extend the life of the M109 FoV through FY 2050.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Paladin/FAASV Integrated Management (PIM) Development	84.969	-	-
Description: Funding is provided for the following developmental efforts: ***FY 2014 Accomplishments:*** Continued developmental fixes, sub-system qualification, and testing for production. Continued engineering development for Corrective Actions, Producibility, and Obsolescence (CPOs) and Software Phase III efforts required for LRIP production-continue Software Phase II maintenance efforts for CPO functionality. Executed Software Developmental Qualification Testing (DQT) for Software Phase III. Developed of an Objective Underbelly Kit per guidance of the Defense Acquisition Executive (DAE.) Continued development of logistical support products (manuals and training) required for fielding. Execution of First Article Testing (FAT) of production vehicles.			
Title: Test and Evaluation	4.900	-	-
Description: Funding is provided for the following government test efforts: ***FY 2014 Accomplishments:***			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604854A / *Artillery Systems - EMD*	**Project (Number/Name)** 516 / *Paladin/FAASV*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Planned and executed continued DT including qualification of subsystems, system safety, performance testing, live fire exploitation testing, and logistics demonstration. Key developmental tests events included verification of CPO changes to validate the LRIP production configuration. This testing consisted of full load cooling test, software DQT, and automotive and firing performance testing on a production representative vehicle. Key live fire test events included final exploitation testing on a BH&T and production representative vehicle, component ballistic testing, and testing of the Automatic Fire Extinguisher System (AFES). Logistics demonstration is integrated with the test plan as CPO changes are verified.			
Title: Program Management ***Description:*** Funding is provided for the following program management support: ***FY 2014 Accomplishments:*** Government System Engineering and Program Management for the total program including: OEM management consisting of weekly, monthly, and quarterly program management reviews; continued contract execution management for the EMD phase contract until completion of all efforts in FY 16. Managed Government Developmental Test and Evaluation program. Management of the program cost, schedule, and performance metrics including making programmatic trade-off decisions. Management of Other Governmental Agencies (OGAs) that supported the PIM program.	18.455	-	-
Title: Training ***Description:*** Funding is provided for the following training government and contractor efforts: ***FY 2014 Accomplishments:*** Continue PIM training developmental efforts that support TADSS for crew and maintainers, NET, and fielding plans.	5.864	-	-
Title: Data ***Description:*** Funding is provided for the following data contractor efforts: ***FY 2014 Accomplishments:*** Contractor Technical Data Package Updates and Technical Publications	3.053	-	-
Accomplishments/Planned Programs Subtotals	117.241	-	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• Paladin/FAASV: *Paladin/FAASV Mod*	4.769	45.411	60.079	-	60.079	67.428	66.925	56.415	-	109.000	410.027

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604854A / *Artillery Systems - EMD*	**Project (Number/Name)** 516 / *Paladin/FAASV*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• Paladin Integrated Management (PIM): *PIM Mod In Service*	199.477	-	-	-	-	-	-	-	-	-	199.477

Remarks

Starting FY15, 0604854A, project 516 has been moved to new APE 0600609A, project ED8.

D. Acquisition Strategy

The PIM Program was initiated on 16 August 07 under the BAE Systems, Inc., System Technical Support (STS) Contract W56HZV-07-C-0096. Subsequent work directives were awarded under BAE STS contract W56HZV-07-C-0256 to further define the configuration of the PIM vehicles. On 14 August 2009, a Research, Development, Test and Evaluation (RDT&E) Contract W56HZV-09-C-0550 was awarded to BAE Systems Inc. for the Prototype Development and Fabrication of 7 prototype vehicles (5 PIM Self Propelled Howitzer (SPH) Systems and 2 PIM Carrier Ammunition Tracked (CAT) vehicles). A Comprehensive Contract Modification (CCM) award to the RDT&E contract was accomplished on 6 Jan 2012. This modification allows for the completion of the design engineering and initial developmental test portion of the Engineering and Manufacturing Development (EMD) Phase and transfers the system responsibility for the program from the Government to BAE Systems Inc. An additional modification to the EMD contract was awarded on 18 Jul 2014 to extend the contract until 31 Mar 2017 to cover contractor support to Production Qualification Testing (PQT), the Logistics Demonstration, and Initial Operational Test & Evaluation (IOT&E). The awarded Low-Rate Initial Production (LRIP) contract is of a Fixed Price Incentive Firm Target (FPIF) contract type for procurement of vehicles with a period of performance running from Nov 2013 through approximately Jun 2019. The LRIP contract will provide for three LRIP years with the initial base year including 19 SPHs and 18 CATs and the remaining two option years with 18 sets and 30 sets, respectively (each set consisting of one each SPH and CAT) of PIM vehicles. The Full Rate Production (FRP) contract is planned as a FPIF contract that converts to a Firm Fixed Price (FFP) contract after the second year of FRP. The FRP contract provides for the remaining PIM vehicles to fulfill the requirement up to the Army Acquisition Objective of 580 sets.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604854A / *Artillery Systems - EMD*	Project (Number/Name) 516 / *Paladin/FAASV*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMO Support	MIPR	PM Paladin/FAASV : Picatinny, NJ/ TACOM	106.191	18.455	Dec 2013	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	106.191	18.455		-		-		-		-	-	-	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Training	SS/CPIF	BAE Systems : York, PA	6.428	5.864	Nov 2013	-		-		-		-	Continuing	Continuing	Continuing
Data	SS/CPIF	BAE : York, PA	6.788	3.053	Nov 2013	-		-		-		-	Continuing	Continuing	Continuing
Small Business Innovative Research/Small Business Technology Transfer Program	Various	TACOM : Warren, MI	3.668	-		-		-		-		-	Continuing	Continuing	Continuing
PIM Development - Contractor	SS/CPIF	BAE, Systems : York, PA	487.871	84.969	Nov 2013	-		-		-		-	Continuing	Continuing	Continuing
PIM Development - Government	MIPR	Various OGAs : Various	0.000	-		-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	504.755	93.886		-		-		-		-	-	-	-

Remarks

Funding has been moved to new PE 650609 and PROJECT ED8.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
System Level Testing	Various	Various OGAs : Various	45.991	4.900	Feb 2014	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	45.991	4.900		-		-		-		-	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604854A / *Artillery Systems - EMD*	Project (Number/Name) 516 / *Paladin/FAASV*	

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	656.937	117.241		-		-		-		-	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604854A / *Artillery Systems - EMD*	**Project (Number/Name)** 516 / *Paladin/FAASV*

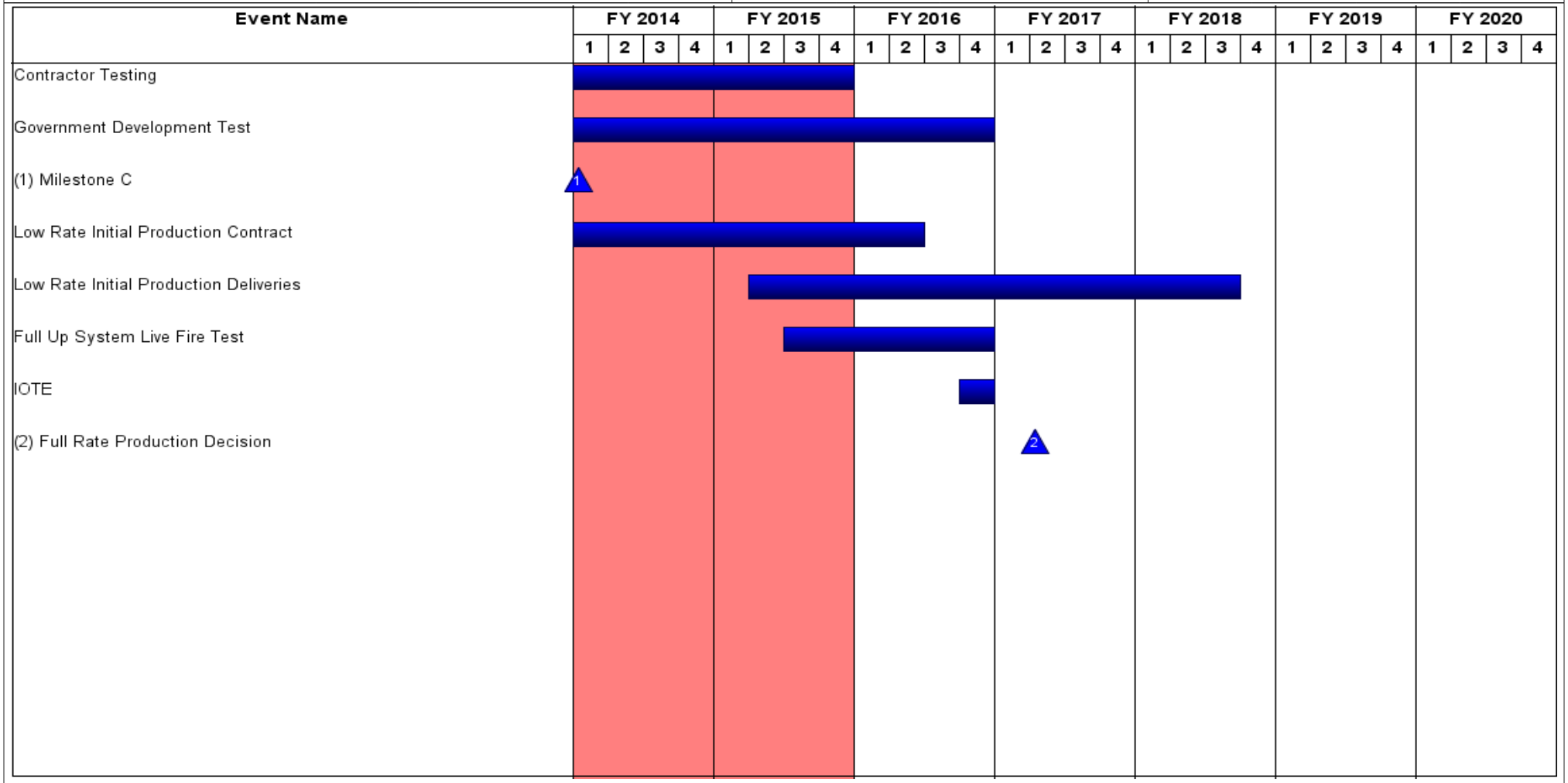

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604854A / *Artillery Systems - EMD*	**Project (Number/Name)** 516 / *Paladin/FAASV*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Contractor Testing	1	2011	4	2015
Government Development Test	3	2011	4	2016
Milestone C	1	2014	1	2014
Low Rate Initial Production Contract	1	2014	2	2016
Low Rate Initial Production Deliveries	2	2015	3	2018
Full Up System Live Fire Test	3	2015	4	2016
IOTE	4	2016	4	2016
Full Rate Production Decision	2	2017	2	2017

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0605013A *I Information Technology Development*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	-	59.329	69.728	67.358	-	67.358	106.070	98.187	75.188	46.642	Continuing	Continuing
099: *Army Human Resource System*	-	4.855	1.469	0.289	-	0.289	0.642	1.469	1.135	1.138	Continuing	Continuing
184: *Installation Support Modules*	-	1.280	0.764	0.907	-	0.907	1.534	1.405	1.386	1.414	Continuing	Continuing
193: *Medical Communications For Combat Casualty*	-	6.279	1.465	4.611	-	4.611	1.224	0.390	-	-	-	13.969
738: *AcqBiz*	-	12.398	8.671	10.454	-	10.454	13.058	12.036	22.540	11.631	Continuing	Continuing
M05: *Enterprise Army Workload & Performance Sys*	-	0.678	-	-	-	-	-	-	-	-	-	0.678
T04: *USMEPCOM TRANSFORMTION - IT MODERNIZATION*	-	-	15.426	20.847	-	20.847	22.829	19.850	9.927	4.964	Continuing	Continuing
T05: *Army Business System Modernization Initiatives*	-	33.839	41.933	30.250	-	30.250	66.783	63.037	40.200	27.495	Continuing	Continuing

Note

The FY16 funding request was reduced for $8.257 million to account for the availability of prior year execution balances.

A. Mission Description and Budget Item Justification

This program supports efforts to plan, design, develop, and test information technology solutions to fulfill the Army's Warfighter Support Mission and accommodate changing Army requirements while fulfilling future Army needs. Provides for development and acquisition of Combat Service Support (CSS) and business information technology solutions to help arm, sustain, fix, move, train and man the force. Completed development/acquisition efforts will also enhance sustaining base functions and power projection capabilities and facilitate global messaging and electronic data interchange (EDI). Ongoing development efforts support multiple functional areas including logistics, personnel, transportation, training, medical/health protection, and the sustaining base.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army					Date: February 2015
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*			R-1 Program Element (Number/Name) PE 0605013A / *Information Technology Development*		
B. Program Change Summary ($ in Millions)	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**
Previous President's Budget	68.778	69.761	92.832	-	92.832
Current President's Budget	59.329	69.728	67.358	-	67.358
Total Adjustments	-9.449	-0.033	-25.474	-	-25.474
• Congressional General Reductions	-0.036	-0.033			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-2.334	-			
• Adjustments to Budget Years	-7.079	-	-17.217	-	-17.217
• Underexecution Adjustment	-	-	-8.257	-	-8.257

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605013A / *Information Technology Development*	Project (Number/Name) 099 / *Army Human Resource System*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
099: *Army Human Resource System*	-	4.855	1.469	0.289	-	0.289	0.642	1.469	1.135	1.138	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project funds the Personnel Transformation - Enterprise Service Bus and GoArmy Ed.
- Personnel Transformation (PT)- Enterprise Service Bus (ESB)- The Army's Enterprise Service Bus (ESB) provides a data integration service in which data can be extracted from the legacy human resource systems and transferred to DIMHRS. The ESB will be a middleware application which will provide a single interface to and from DIMHRS from the Army Legacy Systems. The ESB will provide the infrastructure for the integration of new and existing applications by allowing systems and applications to easily exchange information across different environments and platforms. It will also form the information bridge between IPPS-A, the Army Legacy Systems, and external systems to create more streamlined systems in support of the military mission and personnel transformation goals.

- GoArmy Ed is an Army continuing Education System (ACES) program that provides the virtual gateway to request Tuition Assistance (TA) online, anytime for classroom, distance learning, and online college courses. GoArmy Ed is a dynamic online portal that automates many of the paper-based processes historically conducted in-person at Army Education Centers. GoArmyEd includes automated registration tools that enforce TA policies and procedures. GoArmyED is used by authorized users to pursue their post secondary educational goals: Army Education Counselors to provide educational guidance; and Colleges to deliver degree and course offerings and to report user progress.

Modernization initiatives address continued improvements related to the integration of new users and decreasing reliance on the help desk. GoArmyEd is the Army's enterprise education solution. GoArmyEd has integrated the Reserve Component (USAR and National Guard) and is actively integrating the Department of the Army Civilians. In addition, GoArmyEd is working to add a new data warehouse for HQ data retrieval and user self help tools. Education benefits are paramount to recruiting and retention of quality Soldiers, Civilians and Families.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: AHRS	4.855	1.469	0.289
Description: Funding will support continued enhancement/automation of the software functionality.			
FY 2014 Accomplishments: GoArmy Ed will add functionality, continue automation of manual business processes, integration of DA Civilians and a new Data Warehouse.			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** 099 / *Army Human Resource System*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
GoArmy Ed will add functionality, continue automation of manual business processes, and add a virtual self help tool. ***FY 2016 Plans:*** GoArmy Ed will add functionality, continue automation of manual business processes, and add a virtual self help tool.			
Accomplishments/Planned Programs Subtotals	4.855	1.469	0.289

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• GCSS-A Inc 1: *SSN W00800*	71.236	117.524	159.262	-	159.262	134.827	31.303	2.410	3.245	Continuing	Continuing

Remarks

D. Acquisition Strategy

GoArmy Ed - The program manager makes extensive use of Integrated Product Teams (IPTs). Sub-elements of the acquisition (engineering and design, logistics planning, testing, etc.) are intensively managed by integrated teams of government and contractor personnel. Task performance is tracked against the Work Breakdown Structure (WBS) and resources allocated to each task are adjusted based on performance against the WBS. GoArmy Ed contractual efforts are acquired on a firm fixed price basis on existing contractual vehicles.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** 099 / *Army Human Resource System*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AHRS - ECPs/SCPs/ICPs	C/FFP	Hewlit Packard : various	89.251	-		-		-		-		-	-	89.251	-
AHRS - Software Development	C/FFP	Hewlit Packard : various	51.723	-		-		-		-		-	-	51.723	-
Go Army ED	C/FFP	IBM : Various	0.585	4.855		1.469		0.289		-		0.289	Continuing	Continuing	-
		Subtotal	141.559	4.855		1.469		0.289		-		0.289	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	141.559	4.855		1.469		0.289		-		0.289	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** 099 / *Army Human Resource System*

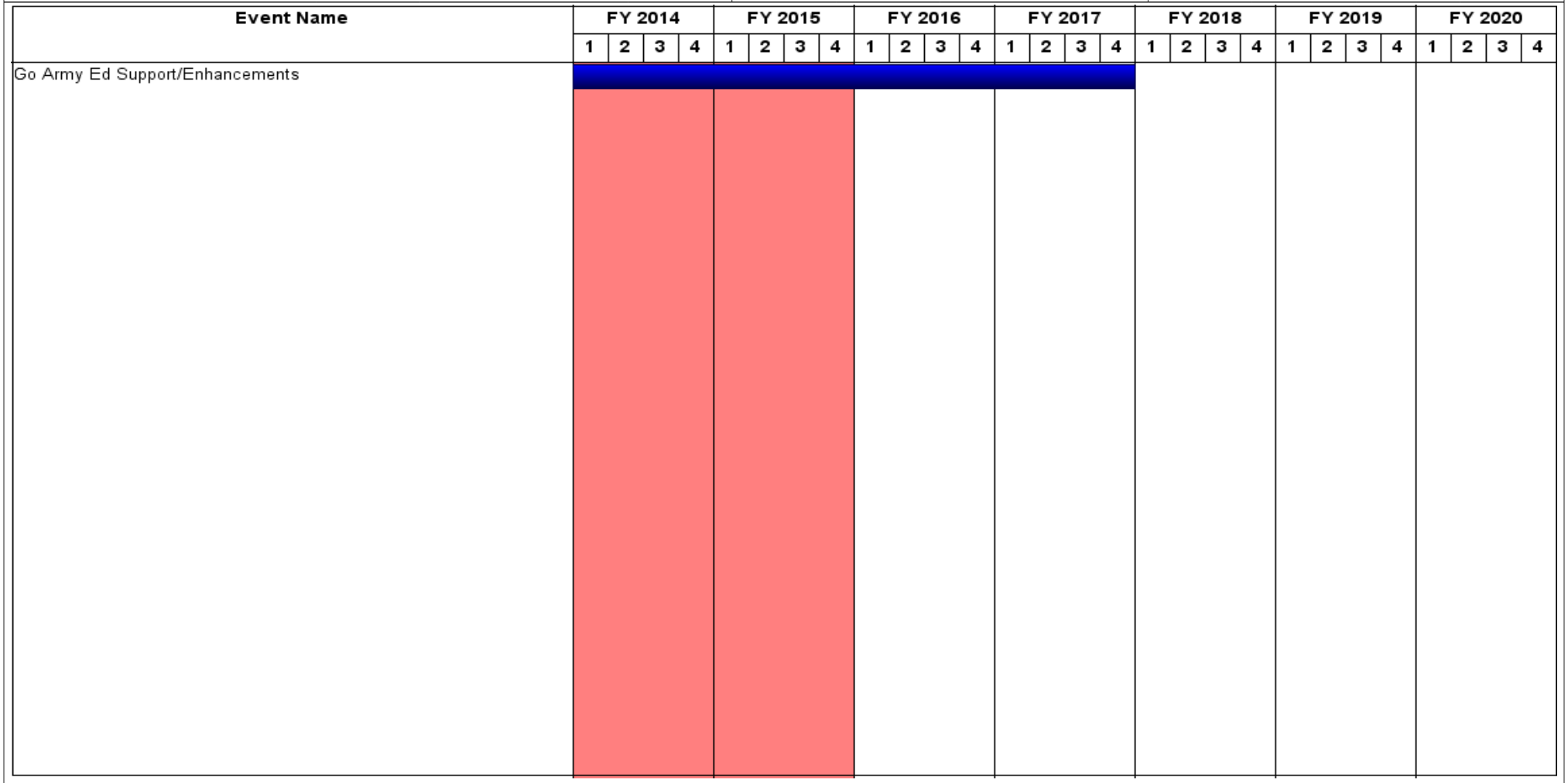

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** 099 / *Army Human Resource System*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Go Army Ed Support/Enhancements	1	2013	4	2017

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605013A / *Information Technology Development*	Project (Number/Name) 184 / *Installation Support Modules*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
184: *Installation Support Modules*	-	1.280	0.764	0.907	-	0.907	1.534	1.405	1.386	1.414	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

ISM budget request supports Army Data Centralization by virtualizing ISM systems.

A. Mission Description and Budget Item Justification

Installation Support Modules (ISM) consists of four standardized, web based, custom-developed enterprise wide applications that integrate essential installation business practices and processes throughout the Army, to meet Army Force Generation (ARFORGEN) Brigade Combat Team readiness and deployment requirements. Three modules support human resources business functions (In/Out-Processing, Transition Processing, and Personnel Locator); the fourth module, Central Issue Facility (CIF) supports management of over 9 million combatant Organizational Clothing and Individual Equipment inventory. The web server architecture is fully internet protocol capable and allows soldiers ready access to their records and commanders and logisticians access to information affecting readiness of combat organizations.

Coalition Warfighter Interoperability Demonstration (CWID) is a mandated Joint program that requires participation by the US Army to explore near-term technologies that support Joint and Coalition Warfare Interoperability. Funding is to facilitate Coalition Force interoperability research and development and to comply with CJCSI 6230.2 date 30 April 05.

Army Behavioral Health Integrated Data Environment (ABHIDE) will be the U.S. Army Center for Health Promotion and Preventive Medicine (CHPPM) Suicide Registry. Data relating to suicides and suicide attempts are collected and stored in disparate, non-related databases that cross the domains of medical, personnel and law enforcement. ABHIDE will provide the capability of integrating the non-related and dispersed data from the separate sources into a single comprehensive database to support both retrospective and predictive analysis. The information obtained will be used to conduct epidemiological surveillance, identify trends in behavior patterns and identify potential indicators for suicidal tendencies supporting the mitigation of future suicide attempts across all phases of Army service.

ISM Core funding is essential for supporting demands to research and develop improved systems to provide for soldier safety and inventory reduction without risking readiness. Funding supports research and development to comply with Dept of Defense Instruction 8320.4 Serialized Item Management. Applications to use commercial off the shelf wireless bar code equipment to ensure inventory accuracy throughout 154 warehouses in worldwide locations potentially reduces operating costs by $500.0 million.

Funding for CWID will continue to facilitate Coalition Force interoperability research and development. Funding for ABHIDE will continue development of the system.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Independent Verification and Validation (IV&V) Testing	0.067	0.031	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** 184 / *Installation Support Modules*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Description: Independent Verification and Validation (IV&V) Testing ***FY 2014 Accomplishments:*** Required Independent Verification and Validation (IV&V) Testing ***FY 2015 Plans:*** Required Independent Verification and Validation (IV&V) Testing.			
Title: Post-Deployment Software Support (PDSS) - Engineering Change Packages (ECPs)/System Change Packages (SCPs) ***Description:*** Post-Deployment Software Support (PDSS) - Engineering Change Packages (ECPs)/System Change Packages (SCPs): Develop or enhance software to meet the requirements of the soldier and installation. ***FY 2014 Accomplishments:*** Planned: apply commercial off the shelf e-Signature software to existing applications to reduce soldier wait time for processing signatures from 30 minutes per transaction to under one minute. Funds are also intended to upgrade core systems hardware to improve overall efficiency. Current equipment was installed in 2002 and is inadequate for forcasted workloads. ***FY 2015 Plans:*** Planned: testing of commercial off the shelf software for best fit to improve the use of wireless bar code equipment in Central Issue Facility warehouses. Current total inventory is over $9,000.000 million; estimated savings by reducing the possibility of excess purchases is $500.000 million.	0.313	0.155	-
Title: Army Behavioral Health Integrated Data Environment ***Description:*** Army Behavioral Health Integrated Data Environment (ABHIDE) will be the U.S. Army Center for Health Promotion and Preventive Medicine (CHPPM) Suicide Registry. ***FY 2014 Accomplishments:*** Army Behavioral Health Integrated Data Environment (ABHIDE) will be the U.S. Army Center for Health Promotion and Preventive Medicine (CHPPM) Suicide Registry. Data relating to suicides and suicides attempts are collected and stored in a in disparate, non-related databases that cross the domains of medical, personnel and law enforcement. ABHIDE will provide the capability of integrating the non-related and dispersed data from the separate sources into a single comprehensive database to support both retrospective and predictive analysis. The information obtained will be used to conduct epidemiological surveillance, identify trends in behavior patterns and identify potential indicators for suicidal tendencies supporting the mitigation of future suicide attempts across all phases of Army service. ***FY 2015 Plans:***	0.900	0.578	0.907

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** 184 / *Installation Support Modules*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Army Behavioral Health Integrated Data Environment (ABHIDE) will be the U.S. Army Center for Health Promotion and Preventive Medicine (CHPPM) Suicide Registry. Data relating to suicides and suicide attempts are collected and stored in disparate, non-related databases that cross the domains of medical, personnel and law enforcement. ABHIDE will provide the capability of integrating the non-related and dispersed data from the separate sources into a single comprehensive database to support both retrospective and predictive analysis. The information obtained will be used to conduct epidemiological surveillance, identify trends in behavior patterns and identify potential indicators for suicidal tendencies supporting the mitigation of future suicide attempts across all phases of Army service. ***FY 2016 Plans:*** Army Behavioral Health Integrated Data Environment (ABHIDE) will be the U.S. Army Center for Health Promotion and Preventive Medicine (CHPPM) Suicide Registry. Data relating to suicides and suicides attempts are collected and stored in a in disparate, non-related databases that cross the domains of medical, personnel and law enforcement. ABHIDE will provide the capability of integrating the non-related and dispersed data from the separate sources into a single comprehensive database to support both retrospective and predictive analysis. The information obtained will be used to conduct epidemiological surveillance, identify trends in behavior patterns and identify potential indicators for suicidal tendencies supporting the mitigation of future suicide attempts across all phases of Army service.			
Accomplishments/Planned Programs Subtotals	1.280	0.764	0.907

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• BE4162: *MACOM AUTOMATION SYSTEMS (BE4162)*	66.773	45.954	23.467	-	23.467	33.570	46.806	61.700	73.834	Continuing	Continuing

Remarks

D. Acquisition Strategy

Installation Support Modules is in Post Deployment Software Support (PDSS). The present concept calls for the use of full and open competition to implement enhancements as defined by the Functional Proponent, Army Chief Information Officer (CIO)/G-6. Current emphasis is to bring the ISM systems to functional readiness for transfer to an Army Data Center and virtualize the ISM systems.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605013A / *Information Technology Development*	Project (Number/Name) 184 / *Installation Support Modules*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Army Behavioral Health Integrated Data Environment	C/TBD	various : various	3.195	0.967		0.578		0.907		-		0.907	Continuing	Continuing	-
Post-Deployment Solfware Support (PDSS)	C/FFP	various : various	5.562	0.313		0.186		-		-		-	-	6.061	-
Coalition Warfighter Interoperability Demonstration (CWID)	C/TBD	various : various	0.091	-		-		-		-		-	-	0.091	-
		Subtotal	8.848	1.280		0.764		0.907		-		0.907	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Independent Verification and Validation (IVV) Testing	C/T&M	GDIT Corp : various	2.111	-		-		-		-		-	-	2.111	-
		Subtotal	2.111	-		-		-		-		-	-	2.111	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	10.959	1.280		0.764		0.907		-		0.907	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** 184 / *Installation Support Modules*

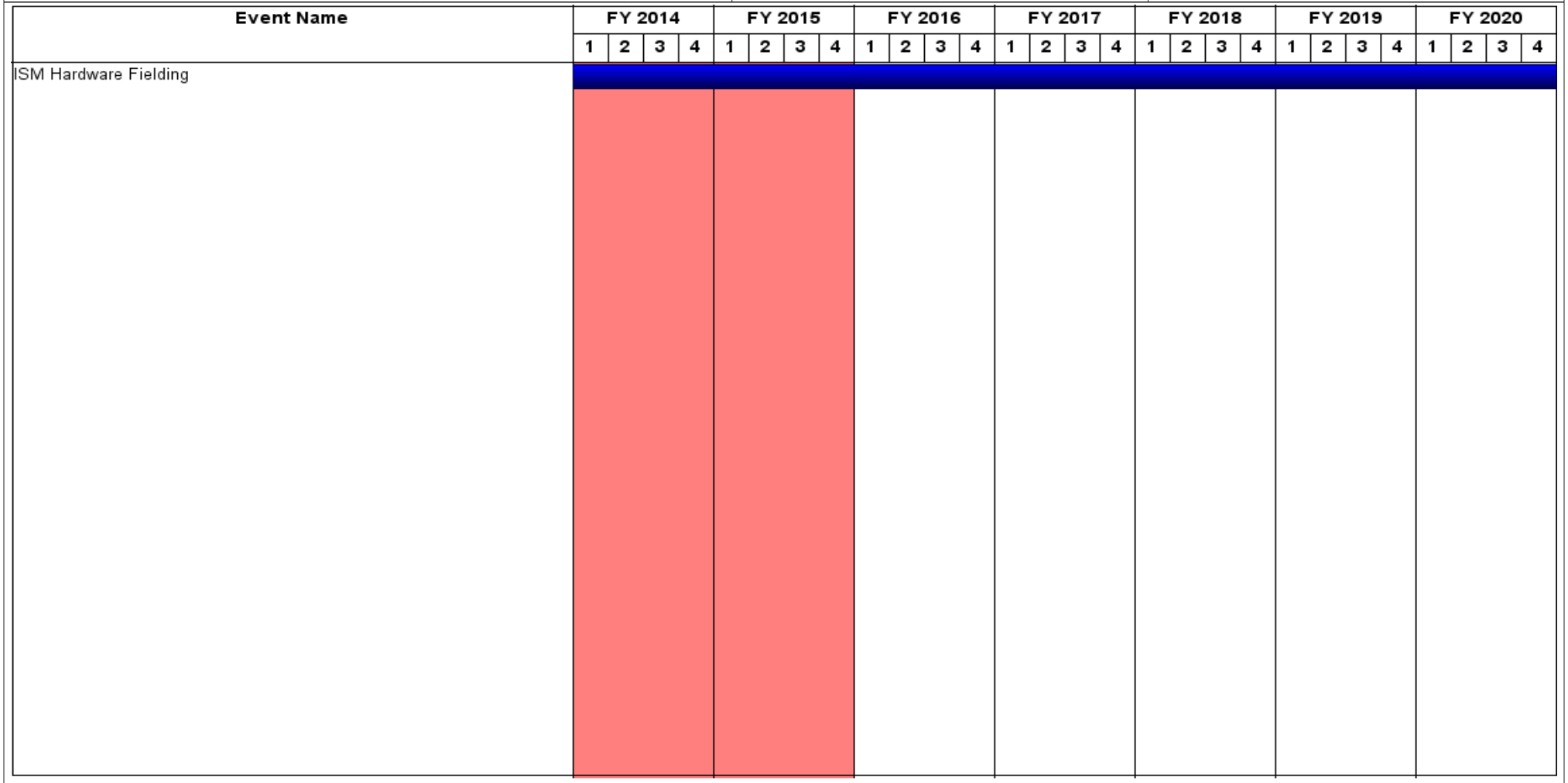

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** 184 / *Installation Support Modules*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
ISM Hardware Fielding	4	2003	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605013A / *Information Technology Development*	Project (Number/Name) 193 / *Medical Communications For Combat Casualty*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
193: *Medical Communications For Combat Casualty*	-	6.279	1.465	4.611	-	4.611	1.224	0.390	-	-	-	13.969
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Medical Communications for Combat Casualty Care (MC4) System provides multipliers to the medical force structure through the acquisition of information technology solutions for the deployable medical forces. The MC4 System fulfills the requirements highlighted in United States Code: Title 10, Subtitle A, Part II, Chapter 55, Section 1074f, mandating the proper documentation of deployed service members' medical treatment to include pre- and post-deployment screening and its associated medical surveillance. The MC4 System interfaces Force Health Protection and medical surveillance information with Army Mission Command information technology systems. The MC4 System supports other soldier protection initiatives by providing data for analyses which can be used for identification and development of critical soldier support systems such as body armor, improved helmets, traumatic brain injury protection and trauma reduction. Current MC4 Program efforts are focused on system engineering, testing, integration, and fielding automation infrastructure for Army users of the Theater Medical Information Program-Joint (TMIP-J) suite of software. Effort has also been initiated to integrate MC4 with the Army CIO Network 2020 and Common Operating Environment (COE) and as a program of record in the Mobile/Handheld Computing Environment Working Group. Funding provides engineering, developmental testing, and integration of information management/information technology to support Force Health Protection in accordance with the Army Equipment Modernization Plan.

FY 2016 Base funding in the amount of $4.611 million will be used for the engineering effort required to provide the Defense Health Clinical Systems (DHCS) TMIP-J software on the Army platform, as well as the engineering effort for other Army unique capability. Activities include:
--Integration testing of DHCS/TMIP releases, other software systems on the MC4 baseline
--All other testing to include operational, security, acceptance of TMIP and other software products
--Research of technologies to integrate software into Army future information infrastructure, such as exploration of virtualization for MC4; and Remote Desktop Services applications
--Evaluation of hardware technology obsolescence and solutions
--Interfaces with other systems, e.g. Nett Warrior

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Engineering and Technical Support	3.978	0.574	2.526
Description: Engineering and Technical Support for Preplanned Program Improvements and System Upgrades, Systems Integration, Software Support and other new initiatives to improve system performance and effectiveness.			
FY 2014 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** 193 / *Medical Communications For Combat Casualty*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Engineering and Technical Support for Planned Upgrades and System Updates, Systems Integration, and Software Support. Continued evaluation and development of virtualization, interface/integration with Common Operating Environment and Mobile Handheld NETT Warrior (PEO Soldier). Preliminary evaluation of Remote Desktop Services, Distributed Learning System, and Android handheld device for engineering architecture changes. Evaluate Health Applications Light Operations (HALO) for use on handheld device. Monitored Information Assurance (IA)/ Cybersecurity requirements, evaluated hardware/software changes resulting from IA/Cybersecurity changes, reviewed architecture to comply with requirements, recommended changes. ***FY 2015 Plans:*** Continued evaluation and development of virtualization, interface/integration with Common Operating Environment. ***FY 2016 Plans:*** Continued evaluation and development of virtualization, interface/integration with Common Operating Environment. Evaluation of Army standard mobile handheld device as hardware solution for MC4 mobile system requirement. Development of mobile handheld software application for MC4 application. [Effort shifted to FY17 and FY18 -- Initial engineering effort for architecture configuration in preparation for transition of efforts to NETCOM and CECOM.]			
Title: PMO Testing Support ***Description:*** Test augmentation by outside agencies to include test efforts for DHCS/TMIP-J and other Army unique software capabilities ***FY 2014 Accomplishments:*** Test augmentation to include DHCS/TMIP-J and other Army unique software capabilities by outside agencies. Testing will include next planned upgrades and development of test plans for next major test event (DHCS/TMIP-J software release). ***FY 2016 Plans:*** Test augmentation for DHCS/TMIP-J and MC4 Operational Test and Evaluation by outside agencies, in support of TMIP Increment 2 Release 3 software version. Also outside agency support for documentation of testing results required for fielding decision	0.151	-	0.200
Title: MC4/TMIP Integration and Testing ***Description:*** Development testing of DHCS/TMIP-J Increment 2 (all releases)a nd Increment 3; Lab site studies with technology and scenarios; Integration testing of software systems on the MC4 baseline system; test and evaluation of new capabilities for combat theater functionality. ***FY 2014 Accomplishments:***	2.150	0.891	1.885

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** 193 / *Medical Communications For Combat Casualty*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Integrate and complete testing of DHCS/TMIP-J Increment 2 Release 2 (TMIP-J I2R2) on the MC4 baseline system; support development testing of DHCS/TMIP-J Increment 2 Release 3 (TMIP-J I2R3). ***FY 2015 Plans:*** Integrate and test DHIMS/TMIP-J Increment 2 Release 3 (TMIP-J I2R3) on the MC4 baseline system; Lab site studies with technology and scenarios. ***FY 2016 Plans:*** Complete integrate and test DHCS/TMIP-J Increment 2 Release 3 (TMIP-J I2R3) on the MC4 baseline system; integration and test of system updates for both I2R2 and any future updates for I2R3.			
Accomplishments/Planned Programs Subtotals	6.279	1.465	4.611

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPA SSN MA8046: *OPA*	19.367	22.614	24.388	-	24.388	24.054	21.578	22.464	22.885	Continuing	Continuing
• OMA PE 432612: *OMA*	8.500	6.177	3.427	-	3.427	3.485	3.484	2.379	2.427	Continuing	Continuing

Remarks

D. Acquisition Strategy

The MC4 Program supports a number of Army Medical Information Technology/Communications initiatives. The near and mid-term focus of the MC4 program is to engineer, design, integrate, test, acquire and field the Army automation infrastructure capabilities supporting fielding of the Theater Medical Information Program-Joint (TMIP-J) integrated software application suite and other Army requirements. The MC4 hardware is procured as Commercial-off-the-Shelf (COTS) components. Since TMIP software is a major component of the MC4 System being developed in increments, the MC4 Program will deliver capabilities in increments, recognizing the need for future system updates and planned upgrades. The MC4 Program continues to work with the user community to continually define and refine additional requirements and match them with available technologies to provide the user enhanced capabilities. These enhanced capabilities will be provided to the user at the earliest possible date. This approach yields the most operationally useful and supportable capability in the shortest time possible with Cost As an Independent Variable. Moreover, this approach provides an initial capability with the explicit intent of delivering improved and updated capability in subsequent updates and planned upgrades. This evolutionary development approach will be accomplished through a rapid prototyping process that will progress the system from its current functional capabilities to fully integrated objective capabilities. Appropriate commercial technology enhancements (e.g. advances in operating systems, voice activated technology, etc) will be incorporated into MC4 products and systems as they become available. Each MC4 System component will undergo a full range of developmental testing to include software unit testing, integration testing, interoperability testing and software qualification testing. The MC4 system updates and planned upgrades will continue to undergo follow-on testing.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** 193 / *Medical Communications For Combat Casualty*

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605013A / *Information Technology Development*	Project (Number/Name) 193 / *Medical Communications For Combat Casualty*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prog Mgmt Operations	Various	PMO : various	8.405	-		-		-		-		-	-	8.405	-
		Subtotal	8.405	-		-		-		-		-	-	8.405	-

Remarks

Funding (Prior Years) in Program Management Operations includes direct pay of PMO government employees, TDY, training, supplies, etc. in direct support of RDTE effort. At Milestone C, Program Management Operations efforts were moved to another appropriation.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering & Tech Spt/ Information Assurance (old contract)	Various	L3 (was Titan) : various	9.390	-		-		-		-		-	-	9.390	-
Engineering & Tech Spt/ Information Assurance (new contract)	Various	L3 : Various	0.000	3.978	Feb 2014	0.574		2.526	Jan 2016	-		2.526	Continuing	Continuing	-
Information Assurance	Various	ISEC Support : AZ	1.783	-		-		-		-		-	-	1.783	-
		Subtotal	11.173	3.978		0.574		2.526		-		2.526	-	-	-

Remarks

Information Assurance activities moved from ISEC to L3 in FY12, IA activities moved to another appropriation FY13; FY14 new competitive contract award; FY16 new competitive award contract planned.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMO Testing Spt	MIPR	ATEC/AMEDD Board/JTIC : various	6.385	0.151		-		0.200		-		0.200	Continuing	Continuing	Continuing
MC4/TMIP System Engineering	C/T&M	L3 Communications : Frederick MD	7.889	-		-		-		-		-	-	7.889	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605013A / *Information Technology Development*	Project (Number/Name) 193 / *Medical Communications For Combat Casualty*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MC4/TMIP System Engineering	Various	John Hopkins University (JHU) Applied Physics Lab : MD	32.124	-		-		-		-		-	-	32.124	-
MC4/TMIP System Engineering (new contract)	C/T&M	L3 Communications : Frederick MD	0.000	2.150	Feb 2014	0.891	Feb 2015	1.885	Jan 2016	-		1.885	Continuing	Continuing	-
		Subtotal	46.398	2.301		0.891		2.085		-		2.085	-	-	-

Remarks

4QFY13 new competitive contract was awarded (base with option years). PMO Testing Spt is provided by other Government agencies.

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	65.976	6.279		1.465		4.611		-		4.611	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** 193 / *Medical Communications For Combat Casualty*

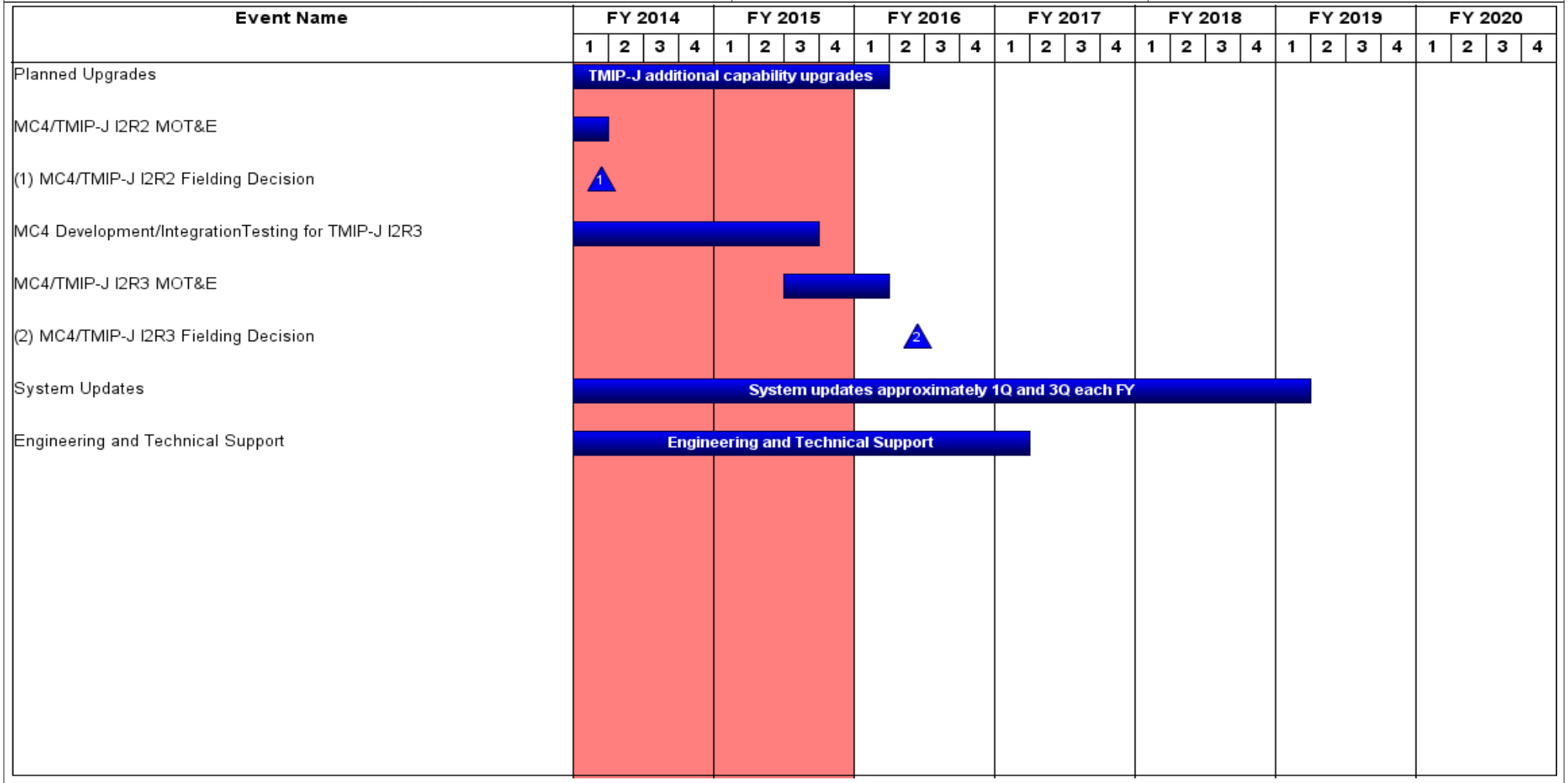

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** 193 / *Medical Communications For Combat Casualty*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Planned Upgrades	1	2007	1	2016
MC4/TMIP-J I2R2 MOT&E	3	2013	1	2014
MC4/TMIP-J I2R2 Fielding Decision	1	2014	1	2014
MC4 Development/IntegrationTesting for TMIP-J I2R3	1	2014	3	2015
MC4/TMIP-J I2R3 MOT&E	3	2015	1	2016
MC4/TMIP-J I2R3 Fielding Decision	2	2016	2	2016
System Updates	1	2007	1	2019
Engineering and Technical Support	1	2007	1	2017

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605013A / *Information Technology Development*	Project (Number/Name) 738 / *AcqBiz*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
738: *AcqBiz*	-	12.398	8.671	10.454	-	10.454	13.058	12.036	22.540	11.631	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

PM AcqBusiness establishes and sustains consistent, efficient, and effective information technology (IT) solutions for all levels of the Army Acquisition Domain to enable powerful decisions using trusted and authoritative data. Whenever possible, PM AcqBusiness provides access to external enterprise tools and services from other business domains, Army, OSD and DISA and does not duplicate those capabilities. PM AcqBusiness provides Army Acquisition practitioners with a consistent set of unique business tools, web services, and decision support tools integrated through a common architecture, which provide visibility of authoritative data, consistency in business process, and more timely support to acquisition decisions. The enterprise tools provided via PM AcqBusiness enable the reduction and eventual elimination of stovepipe and redundant tools that exist in the domain today. PM AcqBusiness provides an environment that enables centralized, role-based access to trusted and authoritative data from disparate Acquisition Domain data sources. In addition, PM AcqBusiness provides a framework for information providers to publish their data and provide their services to authorized users.

The program also resources development requirements for the U.S. Army Accessioning Integrated Automation Architecture which provides the Information Technology solution necessary to accomplish the Army's Accessioning mission.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Program Management	1.731	1.214	1.582
Description: This effort provides program management in support of the AcqBusiness Portfolio. ***FY 2014 Accomplishments:*** Program Management ***FY 2015 Plans:*** Program Management ***FY 2016 Plans:*** Program Management			
Title: Design, Development, and Test	10.667	7.457	8.872
Description: This effort supports the ultimate integration of the AcqBusiness Portfolio.			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** 738 / *AcqBiz*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
FY 2014 Accomplishments: Analysis and Design, Development, Test and Integration of AcqBusiness Portfolio. ***FY 2015 Plans:*** Analysis and Design, Development, Test and Integration of AcqBusiness Portfolio. ***FY 2016 Plans:*** Analysis and Design, Development, Test and Integration of AcqBusiness Portfolio.			
Accomplishments/Planned Programs Subtotals	12.398	8.671	10.454

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OMA: *OMA APE 432615*	8.141	10.676	10.889	-	10.889	10.579	10.609	16.196	11.482	Continuing	Continuing

Remarks

D. Acquisition Strategy

PM AcqBusiness was established to acquire a centrally managed and funded suite of standard net-centric business capabilities to provide Army acquisition practitioners the data visibility necessary to optimize the acquisition of supplies, services, and materiel for the Warfighter. PM AcqBusiness is using an evolutionary acquisition strategy, incorporating the use of COTS hardware and software, along with custom-developed software, in order to realize benefits early and reduce risk. The AcqBusiness acquisition approach embraces the tenets of Subtitle III of Title 40, U.S.C. (formerly the Clinger-Cohen Act of 1996).

PM AcqBusiness leverages existing DoD and Army enterprise capabilities to fulfill Acquisition Domain business needs whenever possible. When no Army enterprise systems satisfy approved requirements, priority is given to existing acquisition business systems or services where they are scalable and in conformance with technical architecture standards. In the event neither of these options is available to satisfy a business need, capabilities are acquired as commercial off-the-shelf (COTS) products. PM AcqBusiness maximizes use of COTS technology by implementing an architecture and infrastructure based on services and virtualization. If there are no available COTS solutions, PM AcqBusiness will develop the capability, leveraging an incremental approach to enable: (1) consistent and phased definition of requirements, (2) mature technologies, and (3) collaboration among user, tester and developer.

As such, PM AcqBusiness is:

- collaborating with the ASA(ALT) community to facilitate Business Process Reengineering in advance of development of AcqBusiness capabilities.

- encouraging the purchase of commercial products and innovations from private industry.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** 738 / *AcqBiz*

- involving potential suppliers early in the requirements generation process.

- employing outsourcing wherever possible, and

- acquiring AcqBusiness capabilities in interoperable modules, minimizing the time required to deliver new capabilities to users.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605013A / *Information Technology Development*	Project (Number/Name) 738 / *AcqBiz*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	Various	Government : various	10.966	1.767		1.211		1.582		-		1.582	Continuing	Continuing	Continuing
		Subtotal	10.966	1.767		1.211		1.582		-		1.582	-	-	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Analysis and Design, Development, Integration	Various	Booz, Allen and Hamilton : Springfield	61.105	10.631		7.460		8.872		-		8.872	Continuing	Continuing	Continuing
		Subtotal	61.105	10.631		7.460		8.872		-		8.872	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	72.071	12.398		8.671		10.454		-		10.454	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** 738 / *AcqBiz*

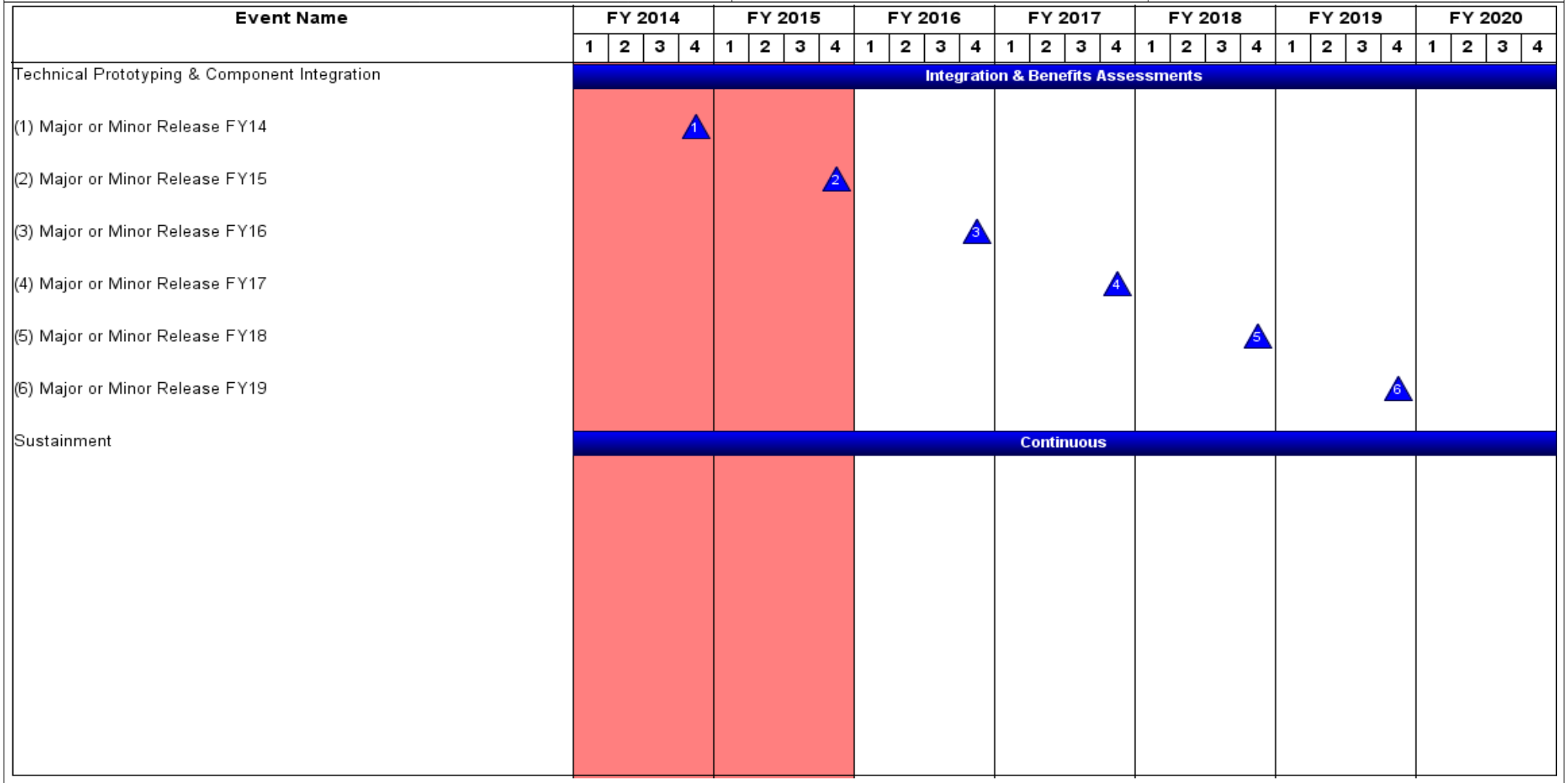

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** 738 / *AcqBiz*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Technical Prototyping & Component Integration	1	2006	4	2020
Major or Minor Release FY14	4	2014	4	2014
Major or Minor Release FY15	4	2015	4	2015
Major or Minor Release FY16	4	2016	4	2016
Major or Minor Release FY17	4	2017	4	2017
Major or Minor Release FY18	4	2018	4	2018
Major or Minor Release FY19	4	2019	4	2019
Sustainment	1	2006	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605013A / *Information Technology Development*	Project (Number/Name) M05 / *Enterprise Army Workload & Performance Sys*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
M05: *Enterprise Army Workload & Performance Sys*	-	0.678	-	-	-	-	-	-	-	-	-	0.678
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The General Fund Business Enterprise System (GFEBS) is a Major Automated Information System program and is currently in the sustainment phase. It followed the DoD Business Enterprise Architecture which is aligned to the mandated Federal Enterprise Architecture. GFEBS was implemented to fulfill the needs and comply with the Federal Financial Management Improvement Act, The Chief Financial Officers Act of 1990, the Government Performance and Results Act of 1993, the Government Management Reform Act of 1994, and the Clinger-Cohen Act of 1996 and to fulfill the stated mission of the Assistant Secretary of the Army for Financial Management and Comptroller. GFEBS replaced, in full or in part, financial systems operating in excess of 40 years including the Standard Finance Systems and other costly feeder systems which do not allow the Department of Defense or the U.S. government to achieve an unqualified audit opinion on its financial statements. GFEBS is used to administer the Army's General Fund. GFEBS was developed using a commercial off-the-shelf Enterprise Resource Planning system that is certified by the Chief, Financial Officer Council and provides six core financial functions. GFEBS allows tactical commanders to make informed decisions on a virtually real time system.

On 1 October 2008, GFEBS deployed to Wave 1 end users at Fort Jackson Garrison, Defense Finance Accounting Service (DFAS) Indianapolis, Indiana and several other organizations. On 1 April 2009, GFEBS deployed to Wave 2 users at Fort Benning, Fort Stewart, DFAS Rome and several other organizations. Wave 3 deployed in October FY10, Wave 4 in January of FY11, Wave 5 in April 2011, Wave 6 in July 2011, Wave 7 in October 2011, Wave 8A in April 2012 and the final Wave 8B in July 2012. GFEBS is fielded to 53,000 trained end users. Each fielded release subsumes the previous release keeping all deployed sites executing under the same GFEBS release. The Full Deployment Decision was received by the Milestone Decision Authority on 24 June 2011 and Full Deployment was achieved on 1 July 2012. Information Technology Development Project M05 provided GFEBS the ability to develop and build reports to meet auditability mandates and to accomplish efforts which enhance the GFEBS system with new reports and interfaces requiring technology development. It provided RDT&E funding to support evolutionary delivery of emerging capabilities.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: System Development	0.678	-	-
Description: Software and architecture development			
FY 2014 Accomplishments: Product Software and Architecture Development			
Accomplishments/Planned Programs Subtotals	0.678	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** M05 / *Enterprise Army Workload & Performance Sys*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605013A / *Information Technology Development*	Project (Number/Name) M05 / *Enterprise Army Workload & Performance Sys*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
System Development	TBD	Solfware and architecture development : TBD	0.000	0.678		-		-		-		-	-	0.678	-
		Subtotal	0.000	0.678		-		-		-		-	-	0.678	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
various	Various	various : various	0.733	-		-		-		-		-	-	0.733	-
		Subtotal	0.733	-		-		-		-		-	-	0.733	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.733	0.678		-		-		-		-	-	1.411	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** M05 / *Enterprise Army Workload & Performance Sys*

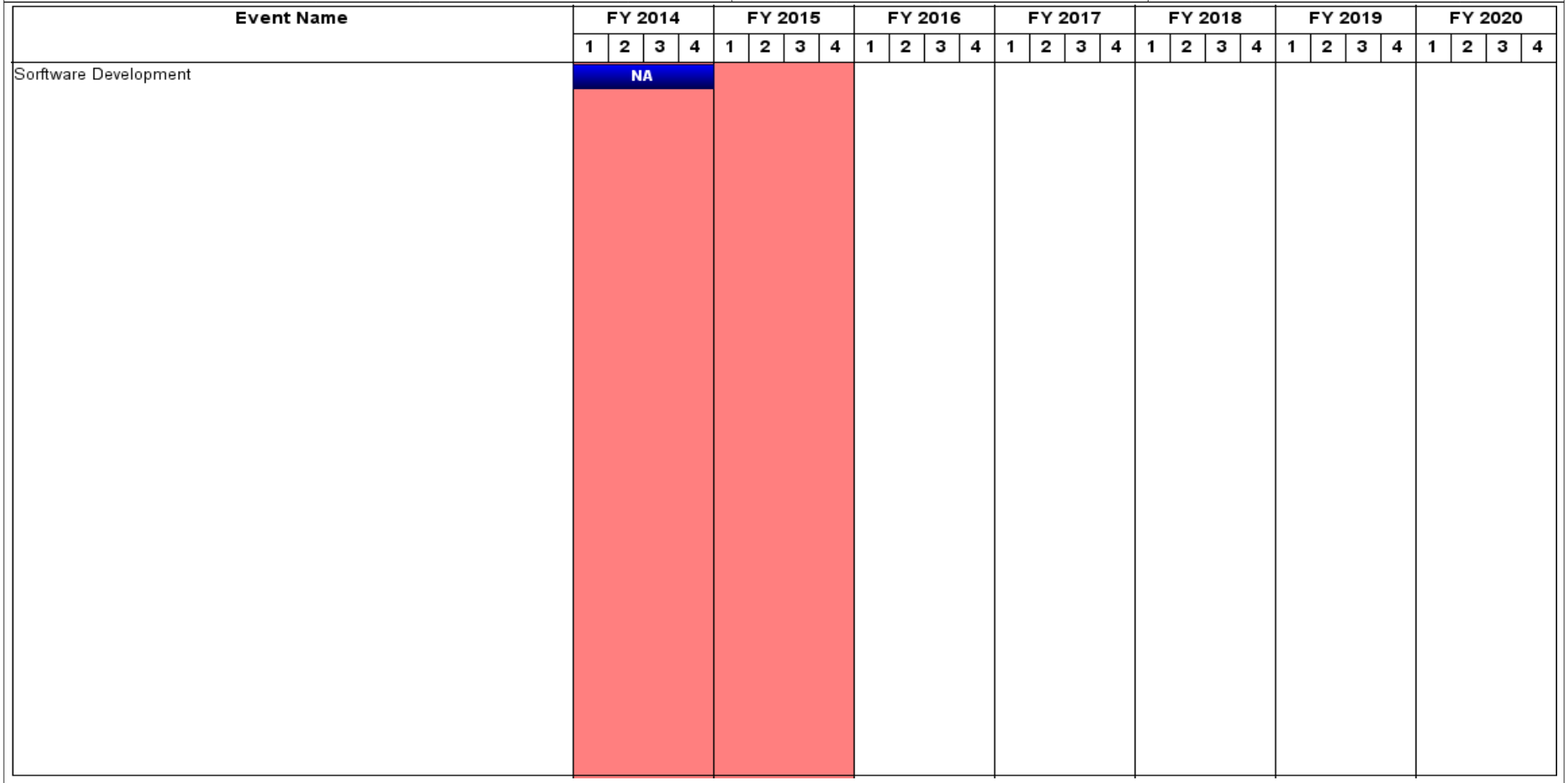

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** M05 / *Enterprise Army Workload & Performance Sys*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Sorftware Development	1	2014	4	2014

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605013A / *Information Technology Development*	Project (Number/Name) T04 / *USMEPCOM TRANSFORMTION - IT MODERNIZATION*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
T04: *USMEPCOM TRANSFORMTION - IT MODERNIZATION*	-	-	15.426	20.847	-	20.847	22.829	19.850	9.927	4.964	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

US Military Entrance Processing Command Integrated Resource System (MIRS) provides automation and communications capability to meet peacetime, mobilization and wartime military manpower accession mission for the Armed Services. MIRS interfaces with recruiting capabilities for the services, incorporating the concept of electronic data sharing using standard DoD data elements between USMEPCOM and all Armed Services recruiting commands. This project includes Computerized Adaptive Testing-Armed Services Vocational Aptitude Battery (CAT-ASVAB), automated Armed Services Vocational Aptitude Battery is given to determine applicants' mental abilities. Data Services mission consists of automatic data processing in support of USMEPCOM, the Selective Service System (SSS) and other external agencies for both peacetime and mobilization requirements. MIRS directly supports mobilization in the event of a military draft, through electronic links with the SSS and its ability to process and ship. USMEPCOM/MIRS is the only DoD organization legally authorized to collect civilian, medical and testing data for purposes of processing into military services and is the only DoD joint support system used to enforce congressional, DoD and Armed Forces qualification criteria for enlistment. USMEPCOM has established interfaces with US Citizenship and Immigration Services to verify citizenship status for applicants of military service to screen out undesired or security threat and Federal Bureau of Investigation for background screening using digital fingerprints to eliminate people with criminal records from entering military service. USMEPCOM's IT sustainment effort will maintain MIRS and the associated network certification and accreditation until the end of system lifecycle. MIRS was scheduled to be replaced by the Virtual Interactive Processing System (VIPS). VIPS program cancellation has placed USMEPCOMs legacy IT infrastructure at high risk. The resultant system leaves a non-compliant and non-networthy accession system with processing gaps that need to be addressed for secure, compliant, sustainable, and reliable capabilities to meet DoD and Service requirements. USMEPCOM must continue toward security and data integrity regulatory/security compliance (PII and HIPAA) or lose Authority to Operate.

Customers/beneficiaries of this investment include the Accessions Community of Interest (ACOI) including components of the Army, Navy, Air Force, Marines, Coast Guard, USMEPCOM and OSD (P&R).

Stakeholders include: All Uniformed Services, Asst Sec of Defense (Health Affairs), Defense Transportation Mgmt Office, USD P&R, USD Intel, Defense Manpower Data Center and Department of Veterans Affairs.

Requested funding mitigates inefficient system sustainability and scalability through an update of the applications underlying database, operating system and middleware software. The current legacy system requires time consuming and expensive efforts to make operational changes (even minor ones) to military accessions processing to meet DoD and individual Services requirements. MIRS operational processes exist in a system where business rules and workflow are hard coded throughout the system. Any changes require extensive review and analysis of the code to see what is impacted before a change can be made, then extensive testing afterwards to make sure it works correctly throughout the accession process. Currently there are over 600 Problem Reports (PR) and System Change Requests (SCRs) pending.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** T04 / *USMEPCOM TRANSFORMTION - IT MODERNIZATION*

Requested funding also provides for a follow-on acquisition plan that will be informed by the recent DCMO initiated Technical Demonstration. The acquisition will provide future enhancements and additional capabilities like those to be proven through the currently evolving Tech Demo. These efforts will culminate in new USMEPCOM business process vision of an anytime, anywhere accession processing capability.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Phase 3 Application update ***Description:*** Initiate update of MIRS and associated Applicant Processing applications to secure applicant data ***FY 2015 Plans:*** Initiate update of MIRS and associated Applicant Processing applications to secure applicant data ***FY 2016 Plans:*** Initiate update of MIRS and associated Applicant Processing applications to secure applicant data.	-	8.952	12.027
Title: Project Support ***Description:*** Funding will support Information Technology ***FY 2015 Plans:*** Update of MIRS and associated Applicant Processing Applications to facilitate DoDAF 2.0 and BEA compliant architecture. ***FY 2016 Plans:*** Update of MIRS and associated Applicant Processing Applications to facilitate DoDAF 2.0 and BEA compliant architecture.	-	6.474	8.820
Accomplishments/Planned Programs Subtotals	-	15.426	20.847

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605013A / *Information Technology Development*	Project (Number/Name) T04 / *USMEPCOM TRANSFORMTION - IT MODERNIZATION*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor PM Support	Various	TBD : TBD	0.000	-		15.426		-		-		-	-	15.426	-
		Subtotal	0.000	-		15.426		-		-		-	-	15.426	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MEPCOM Jnt Comp Ctr(JCC) & Integ Resource Sys(IRR)	C/IDIQ	various : various	0.000	-		-		20.847	Nov 2015	-		20.847	Continuing	Continuing	-
		Subtotal	0.000	-		-		20.847		-		20.847	-	-	-

Remarks

MEPCOM Jnt Comp Ctr(JCC) & Integ Resource Sys(IRR). This RDT&E will be used by USMEPCOM for continued project transformation support of VIPS.

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	-		15.426		20.847		-		20.847	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** T04 / *USMEPCOM TRANSFORMTION - IT MODERNIZATION*

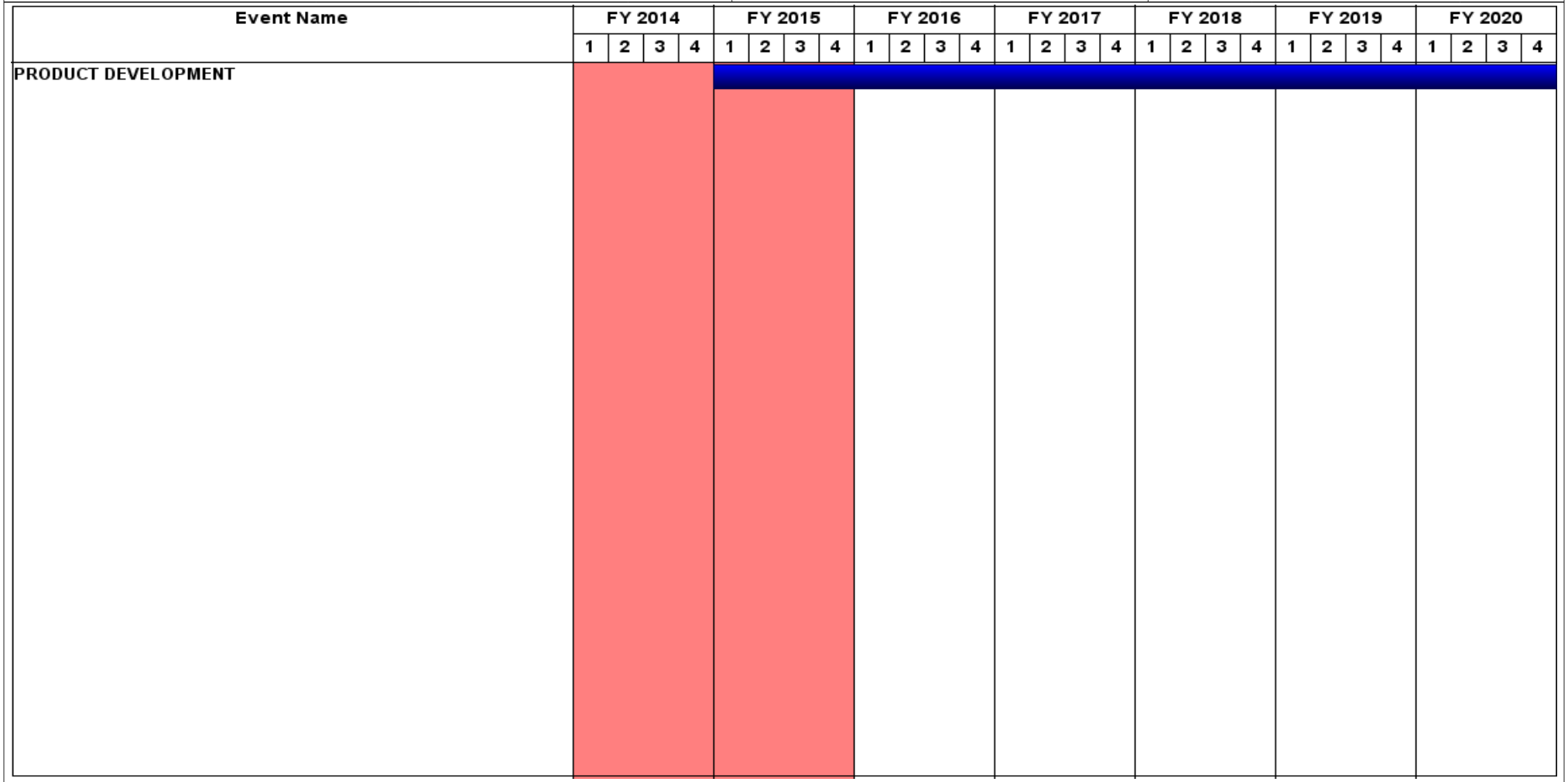

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** T04 / *USMEPCOM TRANSFORMTION - IT MODERNIZATION*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
PRODUCT DEVELOPMENT	1	2015	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605013A / *Information Technology Development*				Project (Number/Name) T05 / *Army Business System Modernization Initiatives*			
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
T05: *Army Business System Modernization Initiatives*	-	33.839	41.933	30.250	-	30.250	66.783	63.037	40.200	27.495	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Army Contract Writing System (ACWS) is the Army's strategy for a single enterprise-wide contract writing and management solution that will meet the Army current critical functional contract writing requirements and expand to meet future functional needs. The Army's goal is to streamline Acquisition, Technology and Logistics (AT&L) end-to-end business processes; reduce operating, maintenance and support costs; minimize the number interfaces; support financial auditability; and promote and improve efficiencies when integrating with existing Enterprise Resource Planning (ERPs) solutions. This is consistent with Undersecretary of Defense, Acquisition, Technology and Logistics Memorandum; Department of Defense (DoD) Functional Contract Writing and Administration, dated 21 October 2011, which directed the Services to develop a new contract writing system. Accordingly, Army received an OSD Deputy Chief Management Officer (DCMO) validated problem statement and the Army Acquisition Executive approved the ACWS Materiel Development Decision (MDD) on 29 Oct 2014. Funds are to perform all requisite activities to concurrently develop pre-Milestone A documentation and perform pre-solicitation/source selection activities expected of an ACAT III program.

Commander's Risk Reduction Dashboard (CRRD) will consolidate information from multiple Army databases and present to commanders a concise report about which Soldiers in their unit have been involved with at-risk behaviors, some of which may be associated with suicide, and when those instances occurred. The dashboard will be able to generate multiple reports, including one that highlights just Soldiers with risk factors within a certain time period; another that focuses only on newly assigned Soldiers; and another that allows commanders to look at a specific Soldier's history with at-risk behaviors

The Army Safety and Health Management System (ASHMS) initiative provides a framework of people, processes and technology to synchronize, integrate and optimize Army Safety and Occupational Health (SOH) capabilities to preserve war fighting capabilities and enhance the force by providing a safe and healthy environment for Soldiers, Families, Civilians, and contractors. An analysis of Army SOH Doctrine, Organization, Training, Materiel, Leadership and education, Personnel, Facilities and Policies (DOTMLPF-P) determined that the Army Safety Management Information System – Revised (ASMIS-R), a Defense Business System, is currently not able to satisfy current and emerging ASHMS capability requirements without modernization to resolve these capability gaps. Changes in requirements for the Army Safety and Health Management System (Programmatic) related to DoDI 6055.01, AR 385-10, Information Assurance requirements and direct feedback from the Safety professionals within the DoD and the Army have resulted in the need for changes in associated business processes. Additionally, a business gap analysis performed by the DASA(ESOH) revealed a deficiency in the system's requirements that would support Army Commands in identifying hazards in the work place, determining hazard mitigation strategies and controls, employing these strategies and controls, and measuring their potential for reducing mishaps. Addressing these problems will have an immediate and direct impact on meeting regulatory requirements, improving data integrity, improving information assurance posture (compliance), increasing the Army's ability to reduce mishaps across the force structure, and promoting Army Force Generation (ARFORGEN) capabilities.

Design, development, acquisition, integration and fielding of an enterprise Army Training Information System (ATIS) that provides a common operational picture (COP) of the training environment through integrated, interoperable training development, management, scheduling, and delivery capabilities. Existing training information

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** T05 / *Army Business System Modernization Initiatives*

systems do not provide Commanders, leaders, Soldiers, and civilians a centralized COP of the training environment that enables persistent, consistent access to the Training and Education information and products necessary to support readiness to meet emerging threats. Without ATIS, Army organizations will continue to develop and maintain a multitude of TIS that are not part of an enterprise, thus inhibiting visualization, understanding, and informed decision making.

The Program Planning Budget (PPB)- Business Operating System (BOS) will standardize and better integrate the transactional automated information systems used in the HQDA level programming and budgeting processes. These systems are core to the PPBE business processes of the HQ for gathering programmatic requirements, balancing resources and delivering the Army's program budget to OSD. This project is streamlining programming and budgeting processes and significantly improving strategic analysis capabilities. The project is architecting, reengineering, streamlining and consolidating HQDA systems, feeder data base systems, and streamlining the associated processes. These improvements will improve capability, eliminate redundancies and reduce overall cost of operations. The PPB BOS project is complementary to the Army's General Fund Enterprise Business System (GFEBS) program.

Army Career Tracker (ACT) is a leader development tool created to change significantly the way training, education, and experiential learning support is provided to Army enlisted, officers, civilians, and their leaders/supervisors. Users can search multiple education and training resources, monitor career development, and receive advice from their leadership. ACT provides single-site, easy access, and offers a complete and personalized career picture not available until now. ACT allows users tmanage career objectives and monitor progress towards career requirements and goals. ACT provides an integrated approach to supporting military and civilian personnel's personal and professional development which capitalizes on the mutual (personnel and Army) need for life-long learning. The unique inter- relationship between the user's personal growth and development, and the Army's need for Soldiers to be continuously developing, building and cultivating a culture of life-long learning is critical for the Soldier's and the Army's success. ACT comprises over 780,000 users with an adoption rate of 4,000 users per week. HQDA EXORD 054-12 ISO Army Transition mandates that leaders utilize roles in ACT to promote life-long learning and development opportunities throughout the Soldier's lifecycle of service (hire to retire).

The Army Human Resources Command (HRC) has RDTE for core automation support and to upgrade those systems not being subsumed by IPPS-A, to inlcude the Civilian Personnel Online - Portal (CPOL-Portal), Fully Automated System for Classification (FASCLASS) and Overseas Entitlement Tracker (OET).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Army Contract Writing System (ACWS)	13.316	24.065	5.570
Description: ACWS is the Army strategy for a single enterprise-wide contract writing and management solution that will meet the Army's current critical functional contract writing requirement and can expand to meet future functional needs. The Army's goal is to streamline Acquistion, Technology and Logistics (AL&T) end-to-end business processes; reduce operating, maintenance and support costs; decrease, and where applicable, mitigate the number of existing and future interfaces.			
FY 2014 Accomplishments: FY14 funds used to plan risk reduction activities, solicitation preparation and Milestone A documentation.			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** T05 / *Army Business System Modernization Initiatives*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
FY15 funds will be used to develop Army Contract Writing System capabilities, perform development efforts and system integration. ***FY 2016 Plans:*** FY16 funds will be used to continue development activities, focus on performing fit-gap analysis, blueprinting and business process reengineering activities, analysis of cyber security risks, interface designs with 14 unique key system partners and stakeholders.			
Title: Army Training Information System (ATIS) ***Description:*** Army Training Information System (ATIS) is an enterprise system that will provide a common operational picture (COP) of the training environment through integrated, interoperable training development, management, scheduling, and delivery capabilities. These capabilities will enable Commanders, leaders, Soldiers, and civilians to better understand, visualize, describe, direct, lead, and assess training requirements so they can more effectively plan, prepare, execute, and assess training. End result is an ATIS that enables Soldiers to train as they will fight, so they can effectively fight as they have trained. ***FY 2016 Plans:*** RDTE funding will be used to complete the Army Cost Estimate, Complete Capability Development Document and enter the Engineering, Manufacturing & Development phase of development of ATIS.	-	-	11.035
Title: Commanders Risk Reduction Dashboard (CRRD) ***Description:*** CRRD will consolidate information from multiple Army databases and present to commanders a concise report about which Soldiers in their unit have been involved with at-risk behaviors, some of which may be associated with suicide, and when those instances occurred. ***FY 2016 Plans:*** Develop database and system capabilities, perform design efforts and preparatory development.	-	-	1.000
Title: The Army Safety and Health Management System (ASHMS) ***Description:*** The Army Safety and Health Management System (ASHMS) initiative provides a framework of people, processes and technology to synchronize, integrate and optimize Army Safety and Occupational Health (SOH) capabilities to preserve war fighting capabilities and enhance the force by providing a safe and healthy environment for Soldiers, Families, Civilians, and contractors. An analysis of Army SOH Doctrine, Organization, Training, Materiel, Leadership and education, Personnel, Facilities and Policies (DOTMLPF-P) determined that the Army Safety Management Information System – Revised (ASMIS-R), a Defense Business System, is currently not able to satisfy current and emerging ASHMS capability requirements without modernization to resolve these capability gaps. Changes in requirements for the Army Safety and Health Management System	-	-	4.825

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** T05 / *Army Business System Modernization Initiatives*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
(Programmatic) related to DoDI 6055.01, AR 385-10, Information Assurance requirements and direct feedback from the Safety professionals within the DoD and the Army have resulted in the need for changes in associated business processes. Additionally, a business gap analysis performed by the DASA(ESOH) revealed a deficiency in the system's requirements that would support Army Commands in identifying hazards in the work place, determining hazard mitigation strategies and controls, employing these strategies and controls, and measuring their potential for reducing mishaps. Addressing these problems will have an immediate and direct impact on meeting regulatory requirements, improving data integrity, improving information assurance posture (compliance), increasing the Army's ability to reduce mishaps across the force structure, and promoting Army Force Generation (ARFORGEN) capabilities. . ***FY 2016 Plans:*** FY16 funds are being used to continue development of products and tools to modernize mishap reporting through the addition of an Initial Notification capability for Commanders, offline capability for mishap reporting in low/no bandwidth areas, and mobile application capabilities as well as Human Factors risk management.			
Title: Army Career Tracker (ACT) ***Description:*** Provide competency management tool to manage leader attributes characteristics of the individual that shape the motivations for actions and bearing, and how thinking affects decisions and interactions with others; enhancement of counseling capabilities linked to the Individual Development Plan and current Counselor functions to provide greater functions and access to specific information by various counselors in support of Army Transition; enhance sponsorship functions to provide ease of execution and enhanced workflow between the many sponsorship Stakeholders ***FY 2016 Plans:*** Provide competency management tool to manage leader attributes characteristics of the individual that shape the motivations for actions and bearing, and how thinking affects decisions and interactions with others; enhancement of counseling capabilities linked to the Individual Development Plan and current Counselor functions to provide greater functions and access to specific information by various counselors in support of Army Transition; enhance sponsorship functions to provide ease of execution and enhanced workflow between the many sponsorship Stakeholders.	-	-	0.802
Title: Army Business System Modernization Initiatives, CPOL & iPERMS ***Description:*** Modernization requirements will add new capabilities to legacy IT systems that support human resource functions such as organization and position management, training, and employment. The PPB BOS system standardize and integrate the transactional information systems used in the Headquarters Department of Army (HQDA) Programming and Budgeting processes. The program is streamlining programming and budgeting business processes and significantly improving strategic analysis capabilities. The PPB BOS architecture reengineers, streamlines, and consolidates HQDA systems and financial feeder	20.523	17.868	7.018

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** T05 / *Army Business System Modernization Initiatives*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016

systems; aligns to the DoD Business Enterprise Architecture (BEA); implements powerful business intelligence analytical tools to support strategic planning, programming, and budgeting within HQDA; and provides access to GFEBS funds management and execution data through system interfaces with required SFIS compliancy integral to the PPB BOS data model. The LEAP program will provide criminal intelligence querying and reporting capabilities in compliance with regulatory and policy standards for Army Law Enforcement regarding investigation of felony crimes. LEAP captures criminal case investigative information regarding incidents, location descriptors, entities (name, social security number, rank, title, physical characteristics, sex, birth place, and date), agent assignment, crime description and identifiers, statements, property data, laboratory tests; verifies and stores this data for criminal intelligence purposes: and reports this information to the proper authorities from the Division Commanding Officer to the United States Grand Jury. The system will extract necessary data for consolidation and input to Defense Incident-Based Reporting System (DIBRS) monthly reports, National Incident-Based Reporting System (NIBRS) monthly reports and the Defense Clearance and Investigations Index (DCII) daily updates. The LIMS system will automate business processes that support the forensic examiners. These processes include, but are not limited to, analytics, materials management, management reporting, Freedom of Information Act requests (FOIA), legal discovery request, court preparation and outsource processing.

Civilian Personnel Online - Portal (CPOL-Portal) is a one stop secure site which provides Army civilian employees and HR specialists access to a private portal with a complete set of employment related resources, links and web based applications that require single sign-on access - Army Regional Tools (ART). CPOL-Portal will provide an Integrated Management System (IMS) in support of Civilian Workforce Transformation (CWT). It will support Civilian human capital decision making and allow leaders and employees to perform their roles more efficiently in support of Army goals and missions. CPOL Portal will provide the full spectrum of IT application support and access to Acquire, Develop, Distribute and Sustain components of the Army Civilian HCM Life-Cycle and link to G3 'Structure' IT Enterprise Applications.

The Fully Automated System for Classification (FASCLASS) is a centralized, web-based system that maintains civilian position descriptions and position related information across Department of the Army. It provides classifiers and managers capability to create, edit, and verify position descriptions. Also it offers robust search, report generation, and lookup & support capabilities.

The Overseas Entitlement Tracker (OET) provides the capability to accurately track Living Quarters Allowance (LQA). LQA is provided to reimburse employees for suitable, adequate living quarters at posts where the U.S. Government does not provide quarters. OET also tracks these other overseas entitlements for employees: Advance Pay, Danger Pay, Imminent Danger Pay, Foreign Differential, Home Leave, Post Allowance, Separation Maintenance Allowance, and Temporary Quarters Subsistence Allowance.

FY 2014 Accomplishments:

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** T05 / *Army Business System Modernization Initiatives*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Modernization requirements will add new capabilities to legacy IT systems that support human resource functions such as organization and position management, training, and employment. Will continue deployment and final fielding of the enterprise-level PPB BOS application throughout HQDA and the transfer of budget data to the Army's financial enterprise resource system, the General Fund Enterprise Business System. Will field the full operating capability of the Army Mapper system, which is the Army Geospatial data base of record and the HQDA repository for all Installation & Environment related geo-spatial data systems. ***FY 2015 Plans:*** Modernization requirements will add new capabilities to legacy IT systems that support human resource functions such as organization and position management, training, and employment. Will continue deployment and final fielding of the enterprise-level PPB BOS application throughout HQDA and the transfer of budget data to the Army's financial enterprise resource system, the General Fund Enterprise Business System. Will field the full operating capability of the Army Mapper system, which is the Army Geospatial data base of record and the HQDA repository for all Installation & Environment related geo-spatial data systems. ***FY 2016 Plans:*** Modernization requirements will add new capabilities to legacy IT systems that support human resource functions such as organization and position management, training, and employment. Will develop technologies for Army Installation Support, PM Personnel Employee Records Management System, HRC Core Automation Support, Records Management and Army Civilian Personnel Operations. Army Civilian Human Resources Agency will deliver additional capability increments of OET in FY 2016, through FY 2019. The FY 2016 increment consists of the initial set of Civilian Employee Interface functions. The FY 2017 increment delivers enhancements to the Civilian Employee Interface. The FY 2018 and FY 2019 increments include electronic files in place of paper, embed additional calculations, auto-generate additional notifications, online document review, and automate flow of data to Defense Civilian Personnel Data System.			
Accomplishments/Planned Programs Subtotals	33.839	41.933	30.250

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• SSN BE4162: *MACOM AUTOMATION: Army Contract Writing System (ACWS)*	-	3.654	-	-	-	1.000	5.002	9.027	5.927	-	24.610

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** T05 / *Army Business System Modernization Initiatives*

D. Acquisition Strategy

Modernize IT legacy systems across Army IT domains by adapting/improving government off the shelf (GOTS), commercial off the shelf (COTS), and new software development to perform various tasks in a networked environment. These efforts include Soldier Management System (SMS), Commander's Risk Reduction Dashboard, the Army Strategic Readiness Update (ASRU), Law Enforcement Advisory Program (LEAP), the Laboratory Information Management System (LIMS), Program Planning Budget Execution (PPBE) - Business Operating System (BOS), Automated Orders and Resources System (AORS), Army Selection Board System (ASBS), Data Base Administration Suite of System (DBA), Enlisted Distribution and Assignment system (EDAS), Enlisted Promotion Model (EPM), Enterprise Service Bus (ESB), Human Resource Command Identity Management System (HIMS), Integrated Total Army Personnel Database (ITAPDB), Officer Selection Support System (OSSS), Reserve Statistics Accounting System/Reserve Component Common Personnel Data System (RSAS/RCCPDS), Senior Enlisted Promotions Model (SEPM), Single Evaluation Processing System (SEPS), Soldier Management System Webified Suite of System (SMSWEB), Total Army Personnel Data Base - Active Enlisted (TAPDB-AE), Total Army Personnel Data Base - Active Officer (TAPDB-AO), Total Army Personnel Data Base -Active Reserve (TAPDB-AR), Total Officer Personnel Management Information System (TOPMIS), Total Officer Personnel Management Information System II (TOPMIS II), KEYSTONE Retain System, Army Contract Writing System (ACWS), Army Mapper, and the Interactive Personnel Electronic Records Management System (iPERMS).

ACWS strategy is to perform all requisite activities to concurrently develop pre-milestone A/B documentation and perform pre-solicitation/source selection activities to meet the USD AT&L timelines for building a contract writing system to replace legacy contract systems to include the Standard Procurement System (SPS).

ASMIS-R is comprised of legacy modules (applications) that require modernization to maintain their relevancy to the Army in support of mishap reduction. As stated above, these are primarily related to meeting minimum DoD regulatory requirements related to the collection of mishap information, safety information storage, and resolving inefficiencies in data quality control and information flow.

Additionally, advances in technology allow for improvements in performance and data integrity that currently are deficiencies in the system. ASMIS-R, in its current state, does not provide any IT (material solution) to the business requirements identified above. The Command has utilized a FFP contract to execute specific Task Orders to develop the tools and products through mid-year FY15. The CRC will be competing a new contract vehicle to support the development of products and tools from midyear FY15 through FY19.

HQDA AG-1 Civilian Personnel (CP) Systems' Acquisition Strategy – The HQDA AG-1 Civilian Personnel (CP) office, Civilian Information Services Division (CISD) Chief and Program Managers will manage these modernization efforts and will utilize the HQDA AG-1 CP's Configuration Control Committee (CCC), Configuration Control Board (CCB), and Integrated Product Teams (IPT) to ensure the appropriate functionality is implemented into OET, CPOL Portal, and FASCLASS. Development tasks will be performed by AG-1 CP's contractor staff, whose performance is monitored according to the Quality Assurance Surveillance Program. In addition, unit testing and operational testing will be implemented to ensure the new functionality performs as required. This work will be performed on a firm- fixed- price contract vehicle.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** T05 / *Army Business System Modernization Initiatives*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT FOR KEYSTONE RETAIN SYSTEM, i-PERMS PRODUCT DEVELOPMENT	MIPR	M&RA/G-1 : ARLINGTON, VA	16.570	-		-		-		-		-	-	16.570	-
PPBOS PRODUCT DEVELOPMENT	MIPR	OAA : FORT BELVOIR, VA	5.680	17.550		15.651		-		-		-	-	38.881	-
Product Development for ACWS	C/IDIQ	Development : Alexandria, VA	0.000	16.289		26.282		5.570	Mar 2016	-		5.570	Continuing	Continuing	Continuing
ATIS	C/IDIQ	tbd : TBD	0.000	-		-		11.035	Nov 2015	-		11.035	Continuing	Continuing	-
CRRD	C/IDIQ	TBD : TBD	0.000	-		-		1.000	Nov 2015	-		1.000	Continuing	Continuing	-
The Army Safety and Health Management System	C/IDIQ	TBD : TBD	0.000	-		-		4.825	Nov 2015	-		4.825	Continuing	Continuing	-
Army Career Tracker	C/FFP	TBD : TBD	0.000	-		-		0.802	Nov 2015	-		0.802	Continuing	Continuing	-
Army Business System Modernization Initiatives	C/IDIQ	TBD : TBD	0.000	-		-		7.018	Oct 2015	-		7.018	Continuing	Continuing	-
		Subtotal	22.250	33.839		41.933		30.250		-		30.250	-	-	-

Remarks

Army Contract Writing System: The Under Secretary of Defense, Acquisition, Technology and Logistics directed that the Standard Procurement System (SPS) be decommissioned by FY17. In order for the Army to meet appropriate legislative mandates, the new capability will provide improved functionality in general contract writing and contract administration while seamlessly operating in the NIPR, SIPR, CONUS, OCONUS, and in low/no bandwidth environments. In addition, the replacement capability will produce data that is trackable and auditable by the Army designated finance account system(s) and will be in compliance with the Secretary of Defense's mandate for implementing internal controls to facilitate full financial audit readiness and accountability.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
IPPS-A SUPPORT COSTS	MIPR	HRC : FORT KNOX, KY	15.357	-		-		-		-		-	-	15.357	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605013A / *Information Technology Development*	Project (Number/Name) T05 / *Army Business System Modernization Initiatives*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
HRC SYSTEMS KEYSTONE, IPERMS	MIPR	HRC : FORT KNOX, KY	0.385	-		-		-		-		-	-	0.385	-
Law Enforcement Advisory Program(LEAP)	MIPR	ACC/NCR : Quantico, VA	2.677	-		-		-		-		-	Continuing	Continuing	-
ARMY MAPPER	C/T&M	TBD : TBD	0.220	-		-		-		-		-	-	0.220	-
		Subtotal	18.639	-		-		-		-		-	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	40.889	33.839		41.933		30.250		-		30.250	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** T05 / *Army Business System Modernization Initiatives*

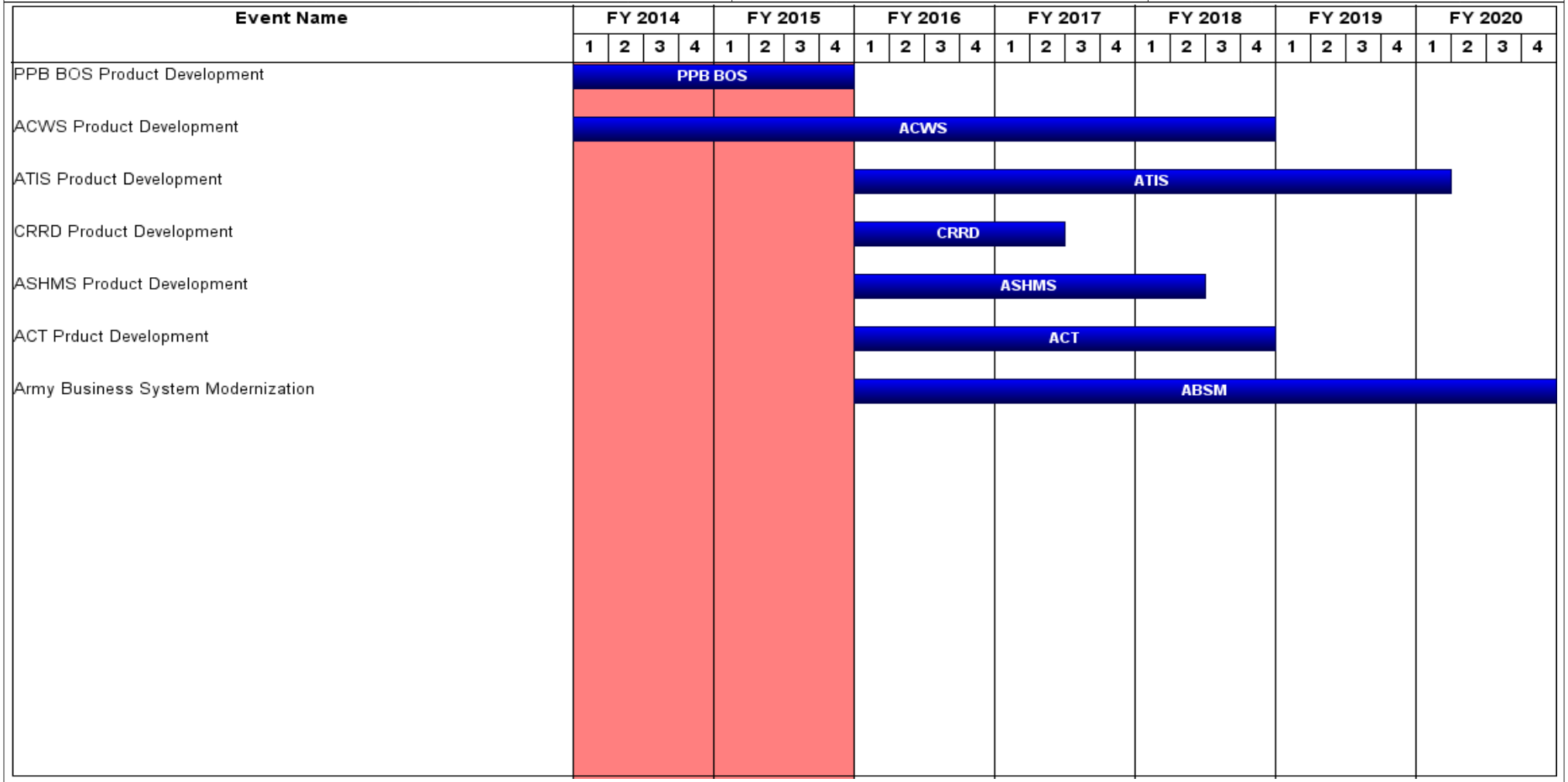

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** T05 / *Army Business System Modernization Initiatives*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
PPB BOS Product Development	1	2014	4	2015
ACWS Product Development	1	2014	4	2018
ATIS Product Development	1	2016	1	2020
CRRD Product Development	1	2016	2	2017
ASHMS Product Development	1	2016	2	2018
ACT Prduct Development	1	2016	4	2018
Army Business System Modernization	1	2016	4	2020

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0605018A *I Integrated Personnel and Pay System-Army (IPPS-A)*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	-	34.400	68.434	136.011	-	136.011	174.749	142.774	111.706	36.344	Continuing	Continuing
ED9: *Integrated Personnel and Pay System - Army Inc 2*	-	-	68.434	136.011	-	136.011	174.749	142.774	111.706	36.344	Continuing	Continuing
HR5: *Integrated Personnel And Pay System - Army Inc 1*	-	34.400	-	-	-	-	-	-	-	-	Continuing	Continuing

Note

The name of this PE has changed from Army Integrated Military Human Resources System (A-IMHRS) to Integrated Personnel and Pay System - Army (IPPS-A). IPPS-A more accurately identifies the program as the military personnel and pay solution for the Army.

The FY 2016 adjustment is due to IPPS-A Increment II obtaining a Milestone B decision requiring Army to fund the program to the the Army Cost Position.

A. Mission Description and Budget Item Justification

IPPS-A Increment I (Project HR5) and Increment II (Project ED9) are both designated Major Automated Information System (MAIS) programs.

The Integrated Personnel and Pay System - Army (IPPS-A) provides the Army with an integrated, multi-Component, personnel and pay system which streamlines Army Human Resources (HR), enhances the efficiency and accuracy of Army personnel and pay procedures, and supports Soldiers and their families. IPPS-A will subsume approximately 50 Army legacy systems across the Army, Army Reserve, and National Guard, into an integrated system. IPPS-A will be a web-based tool, available 24 hours a day, accessible to HR professionals, combatant commanders, personnel and pay managers, and other authorized users throughout the Army. IPPS-A addresses major deficiencies in the delivery of military personnel and pay services and also provides internal controls and audit procedures that prevent erroneous payments and loss of funds.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army					Date: February 2015
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*			R-1 Program Element (Number/Name) PE 0605018A / *Integrated Personnel and Pay System-Army (IPPS-A)*		
B. Program Change Summary ($ in Millions)	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**
Previous President's Budget	69.253	138.465	141.521	-	141.521
Current President's Budget	34.400	68.434	136.011	-	136.011
Total Adjustments	-34.853	-70.031	-5.510	-	-5.510
• Congressional General Reductions	-	-0.031			
• Congressional Directed Reductions	-	-70.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-34.853	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 1	-	-	-5.510	-	-5.510

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605018A / *Integrated Personnel and Pay System-Army (IPPS-A)*	Project (Number/Name) ED9 / *Integrated Personnel and Pay System - Army Inc 2*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
ED9: *Integrated Personnel and Pay System - Army Inc 2*	-	-	68.434	136.011	-	136.011	174.749	142.774	111.706	36.344	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

IPPS-A Increment II is a designated Major Automation Information System (MAIS).

A. Mission Description and Budget Item Justification

The Integrated Personnel and Pay System - Army (IPPS-A) Increment II will deliver fully integrated personnel and pay services for all Army Components, building on the trusted database delivered by the IPPS-A Increment I program. Increment II will be able to link the personnel and pay functions for all Army personnel, eliminating duplicate data entry, reducing complex system maintenance, and minimizing pay discrepancies. IPPS-A Increment II will account for status changes between Active, Reserve, and National Guard components to ensure accurate service time minimizing impact on individual pay, credit for service, and other benefits as well as enable disciplined human resource management.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Analysis and Design, Development, and Integration of IPPS-A Increment II	-	68.434	136.011
Description: Funding is provided for the following efforts: ***FY 2015 Plans:*** IPPS-A obtained a Milestone B Decision on 19 December 2014, and authority to award Engineering, Manufacturing and Development contract for System Integration support. IPPS-A will begin System Requirements Review, System Functional Review and Integrated Baseline Review with the System Integrator to begin Preliminary Design Review for Increment II. Major activities will include Integrated Baseline Review and continue blueprinting efforts including determination of Authoritative Data Sources, preparation activities for the DISA migration, further Business Process Re-engineering (BPR) activities to take advantage of known capabilities within PeopleSoft Human Capital Management (HCM) 9.2, support for the MilPay transition, continue legacy system analysis with the Functional Proponent and system owners, define a more robust integrated development environment, develop PeopleSoft Training, and evaluating the Risk Management Framework. ***FY 2016 Plans:*** IPPS-A will complete the Primary Design Review and Critical Design Review for the entire Increment and begin the design, development, integration, and testing activities for Release 2.0. Release 2.0 activities include data call from legacy systems, data analysis, data cleansing, and data conversion; design and build out the system technical architecture for IPPS-A; and configure the Enterprise Resource Planning system against functional personnel specifications. IPPS-A will also initiate critical activities			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605018A / *Integrated Personnel and Pay System-Army (IPPS-A)*	**Project (Number/Name)** ED9 / *Integrated Personnel and Pay System - Army Inc 2*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
to support an Integrated Progress Review (IPR) with the Milestone Decision Authority (MDA) for Releases 3.0 and begin the Preliminary Design Review (PDR).			
Accomplishments/Planned Programs Subtotals	-	68.434	136.011

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• Sustainment and Support: *OMA - Army Integrated Personnel and Pay System - Army (IPPS-A)*	-	-	-	-	-	-	42.061	56.574	84.507	1,077.691	1,260.833
• System Implementation/Fielding: *OPA - Army Integrated Personnel and Pay System - Army (IPPS-A)*	-	16.970	4.446	-	4.446	4.246	16.140	46.359	9.504	3.500	101.165

Remarks

0308610A (OMA): Funding will be used for the operations and maintenance support of IPPS-A which includes civilian salaries, program office contractor support, travel and training for program office personnel, software license renewal, and Help Desk support.

B66706000 (OPA): Funding will be used for initial system implementation and fielding of IPPS-A, to include New Equipment Training (NET) as well as procurement of hardware and software which is required to build out the infrastructure of IPPS-A Data Centers.

D. Acquisition Strategy

On September 8, 2009, the USD(AT&L) issued an Acquisition Decision Memorandum (ADM) directing the Services to develop Service-specific integrated personnel and pay systems (IPPSs). The ADM also directed the Services to use the DIMHRS IT Investment to the maximum extent practical to develop their IPPS system from a DoD program to a Service-specific program. As a result of this decision, on October 1, 2009, the DoD Business Transformation Agency (BTA) began to transition the work done on DIMHRS to the Services. The Army G-1 and Program Executive Office Enterprise Information Systems (PEO EIS) are partnered to develop the Integrated Personnel and Pay System - Army (IPPS-A), leveraging the IT investment to the maximum extent practical. This direction will ensure the system meets Army specific requirements while also feeding a planned DoD Enterprise Data Warehouse to satisfy joint Services and Office of the Secretary of Defense (OSD) information requirements. The Army will address personnel and pay management requirements by implementing a COTS Enterprise Resource Planning (ERP) product using the Oracle PeopleSoft software and building on the DIMHRS solution delivered by BTA.

The Army will employ a hybrid solution using ERP software and Agile Development to deliver integrated personnel and pay capabilities, capitalizing on the PeopleSoft product delivered by BTA as part of the DIMHRS program. The Army plans to use current Army upgraded PeopleSoft 9.2 ERP and Oracle 12c database capabilities, along with Application Technologies outside of the core ERP to meet user requirements.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605018A / *Integrated Personnel and Pay System-Army (IPPS-A)*	**Project (Number/Name)** ED9 / *Integrated Personnel and Pay System - Army Inc 2*

IPPS-A Increment II will be developed in accordance with DoDI 5000.02, Enclosure 12 requirements and will deliver full integrated personnel and pay services for all Army Components (Active, National Guard, and Reserve), building on the trusted database delivered by the IPPS-A Increment I program. IPPS-A Increment II will consist of four releases (Releases 2.0-5.0). Each release will build upon the previous release, providing pre-defined personnel and/or pay capabilities. IPPS-A will pursue a single MS B decision at the start of Increment II and a separate Authorization to Proceed (ATP) at the start of each subsequent release. Each release will also hold separate Preliminary and Critical Design Reviews prior to the start of development and test activities. The Increment II Full Deployment Decision is anticipated at the conclusion of Release 4.0 when the system will provide integrated personnel and pay capabilities.

Release 2.0 - SIDPERS Functionality Only - Release 2.0, begins in FY15 and delivers capability in FY18, building upon Increment I capabilities and provide the functionality from Peoplesoft necessary to subsume the SIDPERS system for all ARNG locations. End-to-end Business Process development considerations will be evaluated to support various HR activities to include, but not be limited to, promotions/demotions, training requirements, member benefits, duty status, and unit level manning.

Release 3.0 - Accountability and Essential Personnel Services - Release 3.0, begins in FY16 and delivers capability in FY19, supporting accountability and essential personnel services necessary to subsume numerous legacy field systems including eMILPO and TAPDB-R. IPPS-A will establish a consolidated system that provides accountability of Soldiers and tracking of all personnel to include deployed Soldiers. It will allow Commanders in the field to access timely, accurate, and standardized personnel data for Soldiers in all components and provide a basic means to identify Soldiers who should be on the payroll. In addition to delivering most of the functions required to establish an Army-wide HR system, Release 3.0 will bring HR payroll drivers on board to enhance accuracy of pay, credit for service, and benefits. IPPS-A will serve as the authoritative data source for all personnel within the system.

Release 4.0 - Pay Services - Release 4.0, begins in FY17 and delivers capability in FY19, focusing on pay services and building upon Releases 2.0 and 3.0 to provide the basis for the fully integrated personnel and pay system. IPPS-A will incorporate pay functionality to include, but not be limited to, base pay, taxes, allowances, bonuses, allotments and leave. At deployment, Release 4.0 will serve as the authoritative data source for all personnel and pay transactions within IPPS-A and will be able to produce initial data in support of the Army's audit readiness goals.

Release 5.0 - Personnel Services - Release 5.0, begins in FY18 and delivers capability in FY20, focusing on the personnel services not yet addressed by the previous releases. Specifically, it will incorporate remaining functions related to record evaluation and retention management, along with some predominant manual activities.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605018A / *Integrated Personnel and Pay System-Army (IPPS-A)*	Project (Number/Name) ED9 / *Integrated Personnel and Pay System - Army Inc 2*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	C/CPIF	TBD : TBD	0.000	-		2.749		1.991		-		1.991	Continuing	Continuing	Continuing
In-house Government Management Support	Allot	Program oversight, resource justification, budget and programming, milestone and schedule tracking : Alexandria, VA	0.000	-		2.993		5.089		-		5.089	Continuing	Continuing	Continuing
		Subtotal	0.000	-		5.742		7.080		-		7.080	-	-	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Licenses - All Others	C/FFP	Various : Various	0.000	-		2.720		2.802		-		2.802	Continuing	Continuing	Continuing
Software Licenses - IBM	C/FFP	Immixtechnology, INC. : Mclean, VA	0.000	-		1.100		0.417		-		0.417	Continuing	Continuing	Continuing
Software Lincenses - GRC	C/FFP	Mythics : Virginia Beach, VA	0.000	-		0.906		0.769		-		0.769	Continuing	Continuing	Continuing
Software License Ab Initio	C/FFP	Various : Various	0.000	-		-		3.000		-		3.000	-	3.000	-
Software Licenses - PeopleSoft Enterprise Licenses	SS/FFP	Oracle America, INC : Reston, VA	0.000	-		2.348		2.419		-		2.419	Continuing	Continuing	Continuing
Software Licenses - CA	SS/FFP	ImmixTechnology : McLean, VA	0.000	-		0.829		0.854		-		0.854	Continuing	Continuing	Continuing
Software Licenses - Actuate eReport/BIRT	SS/FFP	Actuate Corp : San Mateo, CA	0.000	-		0.585		0.602		-		0.602	Continuing	Continuing	Continuing
Software Product Level SME Consulting Service	SS/FFP	TBD : TBD	0.000	-		2.158		2.580		-		2.580	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605018A / *Integrated Personnel and Pay System-Army (IPPS-A)*	Project (Number/Name) ED9 / *Integrated Personnel and Pay System - Army Inc 2*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
In-house contract support of system development	C/CPFF	TBD : TBD	0.000	-		10.675		14.812		-		14.812	Continuing	Continuing	Continuing
Functional In-house contract support of system development - Army National Guard/Army Reserve/FMD	MIPR	Various : Various	0.000	-		5.000		-		-		-	Continuing	Continuing	Continuing
Design, Development, and Integration - Increment II	C/CPIF	CACI, : Chantilly, VA	0.000	-		13.204		53.982		-		53.982	Continuing	Continuing	Continuing
Network Support/ Production Hosting Services/Hardware Leasing	MIPR	DEFENSE INFORMATION SYSTEMS AGENCY (DISA) DEFENSE ENTERPRISE COMPUTING CENTER (DECC) : Various	0.000	-		16.071		30.025		-		30.025	-	46.096	-
System Interface	MIPR	Various : Various	0.000	-		-		7.183		-		7.183	-	7.183	-
Peoplesoft V9.2 Talent Management Capability Support	MIPR	TBD : TBD	0.000	-		-		1.636		-		1.636	-	1.636	-
		Subtotal	0.000	-		55.596		121.081		-		121.081	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Facilities/Lease/Rents	MIPR	Facilities/Lease/ Rents : Various	0.000	-		3.128		3.222		-		3.222	Continuing	Continuing	Continuing
Equipment and Supplies, MISC	Various	Various : Various	0.000	-		2.987		0.500		-		0.500	Continuing	Continuing	Continuing
		Subtotal	0.000	-		6.115		3.722		-		3.722	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605018A / *Integrated Personnel and Pay System-Army (IPPS-A)*	Project (Number/Name) ED9 / *Integrated Personnel and Pay System - Army Inc 2*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Increment II - Government Acceptance Testing/ Operational Test and Evaluation	MIPR	Various Government Agencies : Various	0.000	-		-		1.761		-		1.761	64.037	65.798	Continuing
Increment II - Capability Acceptance Testing (CAT)/ DT	Various	Government & Support Contractors : Various	0.000	-		0.981		2.367		-		2.367	-	3.348	Continuing
		Subtotal	0.000	-		0.981		4.128		-		4.128	64.037	69.146	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	-		68.434		136.011		-		136.011	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605018A / *Integrated Personnel and Pay System-Army (IPPS-A)*	**Project (Number/Name)** ED9 / *Integrated Personnel and Pay System - Army Inc 2*

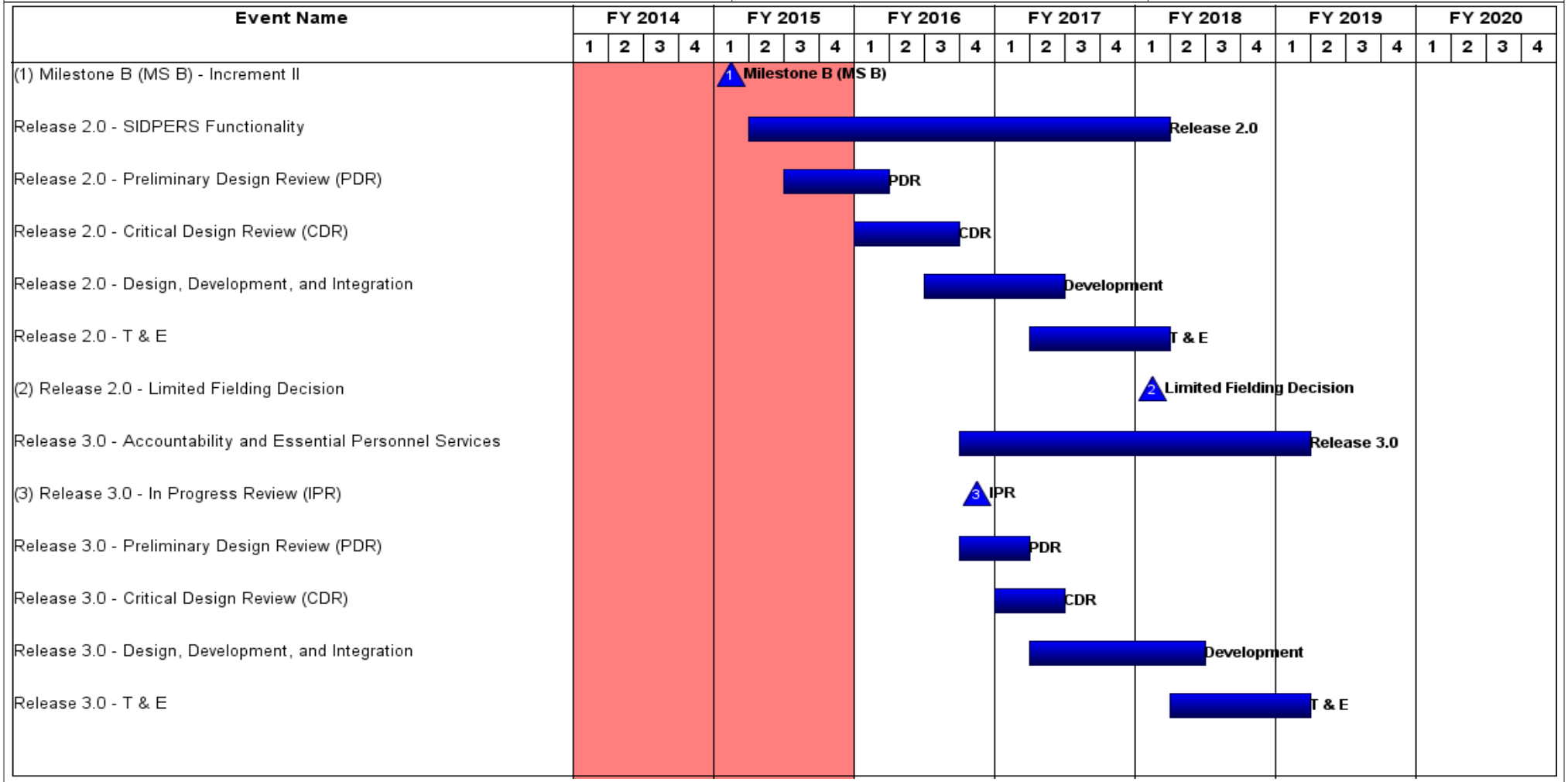

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605018A / *Integrated Personnel and Pay System-Army (IPPS-A)*	**Project (Number/Name)** ED9 / *Integrated Personnel and Pay System - Army Inc 2*

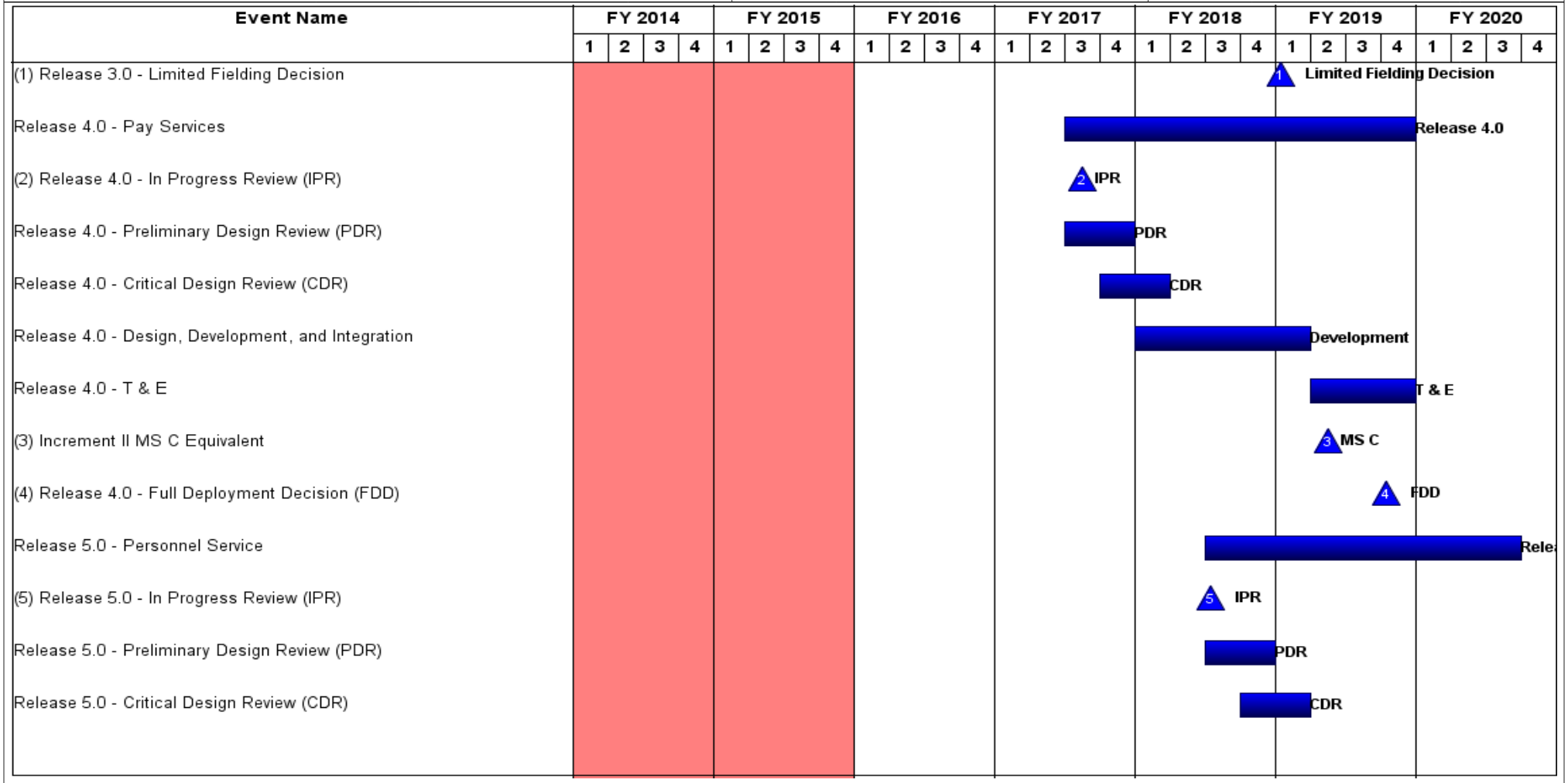

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605018A / *Integrated Personnel and Pay System-Army (IPPS-A)*	**Project (Number/Name)** ED9 / *Integrated Personnel and Pay System - Army Inc 2*

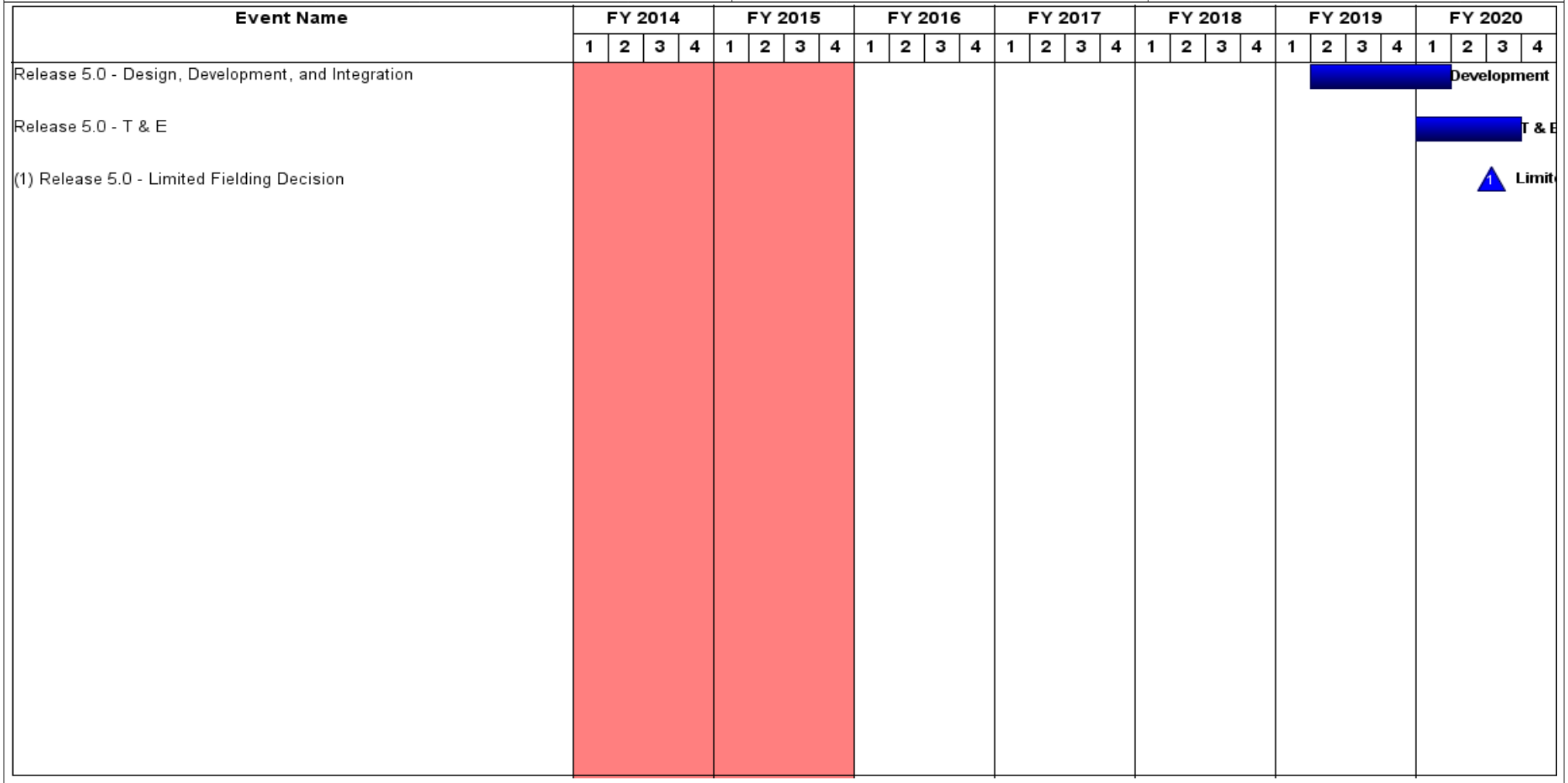

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605018A / *Integrated Personnel and Pay System-Army (IPPS-A)*	**Project (Number/Name)** ED9 / *Integrated Personnel and Pay System - Army Inc 2*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Milestone B (MS B) - Increment II	1	2015	1	2015
Release 2.0 - SIDPERS Functionality	2	2015	1	2018
Release 2.0 - Preliminary Design Review (PDR)	3	2015	1	2016
Release 2.0 - Critical Design Review (CDR)	1	2016	3	2016
Release 2.0 - Design, Development, and Integration	3	2016	2	2017
Release 2.0 - T & E	2	2017	1	2018
Release 2.0 - Limited Fielding Decision	1	2018	1	2018
Release 3.0 - Accountability and Essential Personnel Services	4	2016	1	2019
Release 3.0 - In Progress Review (IPR)	4	2016	4	2016
Release 3.0 - Preliminary Design Review (PDR)	4	2016	1	2017
Release 3.0 - Critical Design Review (CDR)	1	2017	2	2017
Release 3.0 - Design, Development, and Integration	2	2017	2	2018
Release 3.0 - T & E	2	2018	1	2019
Release 3.0 - Limited Fielding Decision	1	2019	1	2019
Release 4.0 - Pay Services	3	2017	4	2019
Release 4.0 - In Progress Review (IPR)	3	2017	3	2017
Release 4.0 - Preliminary Design Review (PDR)	3	2017	4	2017
Release 4.0 - Critical Design Review (CDR)	4	2017	1	2018
Release 4.0 - Design, Development, and Integration	1	2018	1	2019
Release 4.0 - T & E	2	2019	4	2019
Increment II MS C Equivalent	2	2019	2	2019
Release 4.0 - Full Deployment Decision (FDD)	4	2019	4	2019

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605018A / *Integrated Personnel and Pay System-Army (IPPS-A)*	**Project (Number/Name)** ED9 / *Integrated Personnel and Pay System - Army Inc 2*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Release 5.0 - Personnel Service	3	2018	3	2020
Release 5.0 - In Progress Review (IPR)	3	2018	3	2018
Release 5.0 - Preliminary Design Review (PDR)	3	2018	4	2018
Release 5.0 - Critical Design Review (CDR)	4	2018	1	2019
Release 5.0 - Design, Development, and Integration	2	2019	1	2020
Release 5.0 - T & E	1	2020	3	2020
Release 5.0 - Limited Fielding Decision	3	2020	3	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605018A / *Integrated Personnel and Pay System-Army (IPPS-A)*	Project (Number/Name) HR5 / *Integrated Personnel And Pay System - Army Inc 1*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
HR5: *Integrated Personnel And Pay System - Army Inc 1*	-	34.400	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

IPPS-A Increment I is a designated Major Automation Information System (MAIS).

A. Mission Description and Budget Item Justification

The Integrated Personnel and Pay System - Army (IPPS-A) Increment I will provide a single, multi-Component trusted database with a single record for all Army Soldiers, and serve as a trusted data source for personnel and human resources data for the entire Army. Increment I will provide Soldiers with 24/7, web-based access to their personnel data from a single source, enabling them to better manage their careers and ensure accuracy of information through generation of new multi-Component reports, including a Soldier Record Brief. Overall, IPPS-A Increment I will provide three capabilities not currently available within the Army: consolidation of personnel data from all Components into a single, trusted source, enhanced visibility of personnel across all Components, and a Soldier Record Brief for all Army Component Soldiers (Active, Guard and Reserve).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Analysis and Design, Development, and Integration of IPPS-A	34.400	-	-
Description: No RDT&E Funding is requested for Increment I FY16. IPPS-A is expected to achieve official Full Deployment during FY15 and start sustainment. ***FY 2014 Accomplishments:*** IPPS-A Obtained a MS C in Feb 2014 and a Full Deployment Decision in April 2014. IPPS-A Increment I critical activities include loading and testing all Army Components (Active, National Guard, and Reserve) data in three waves and meets the established Full Deployment Decision exit criteria for full deployment, which is anticipated in Q2 FY2015. IPPS-A is also working the Increment II blueprinting and acquisition documentation requirements supporting a MS B decision. Major activities include: development of regulatory and statutory acquisition documentation to support Increment II Milestone B Decision; award the Increment II System Development and Integration Services contract; continue blueprinting efforts including determination of Authoritative Data Sources, preparation activities for the DISA migration, further Business Process Re-engineering (BPR) activities to take advantage of known capabilities within PeopleSoft Human Capital Management (HCM) 9.2, support for the MilPay transition, continue legacy system analysis with the Functional Proponent and system owners, define a more robust integrated development environment, develop PeopleSoft Training, and evaluating the Risk Management Framework.			
Accomplishments/Planned Programs Subtotals	34.400	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605018A / *Integrated Personnel and Pay System-Army (IPPS-A)*	**Project (Number/Name)** HR5 / *Integrated Personnel And Pay System - Army Inc 1*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• Sustainment and Support: *OMA - Army Integrated Personnel and Pay System - Army (IPPS-A)*	0.537	12.245	18.213	-	18.213	16.381	15.044	13.815	14.694	80.309	171.238

Remarks

0308610A (OMA): Funding will be used for the operations and maintenance support of IPPS-A which includes civilian salaries, program office contractor support, travel and training for program office personnel, hosting service for primary and secondary data center, software license renewal, and Help Desk support.

D. Acquisition Strategy

On September 8, 2009, the USD(AT&L) issued an Acquisition Decision Memorandum (ADM) directing the Services to develop Service-specific integrated personnel and pay systems (IPPSs). The ADM also directed the Services to use the DIMHRS IT Investment to the maximum extent practical to develop their IPPS system from a DoD program to a Service-specific program. As a result of this decision, on October 1, 2009, the DoD Business Transformation Agency (BTA) began to transition the work done on DIMHRS to the Services. The Army G-1 and Program Executive Office Enterprise Information Systems (PEO EIS) are partnered to develop the Integrated Personnel and Pay System - Army (IPPS-A), leveraging the IT investment to the maximum extent practical. This new direction for the program will ensure the system meets Army specific requirements while also feeding a planned DoD Enterprise Data Warehouse to satisfy joint Services and Office of the Secretary of Defense (OSD) information requirements. The Army will address personnel and pay management requirements by implementing a COTS Enterprise Resource Planning (ERP) product using the Oracle PeopleSoft software and building on the DIMHRS solution delivered by BTA.

The Army will employ a hybrid solution using ERP software and Agile Development to deliver integrated personnel and pay capabilities, capitalizing on the PeopleSoft product delivered by BTA as part of the DIMHRS program. The Army plans to use current Army upgraded PeopleSoft 9.1 ERP and Oracle 11g database capabilities, along with Application Technologies outside of the core ERP to meet user requirements.

IPPS-A will be developed in two Increments with multiple releases. The Army will follow the new DoDI 5000.02 Defense Acquisition Program Model 3 dated 26 Nov 2013 to develop each release with the goal of fielding capabilities every year. Increment I will provide a multi-component Trusted Database with single record for all Army Soldiers. Fielding of Increment I will lay the foundation for the authoritative database in Increment II and will allow for development of Increment II functionalities. Increment I will build out the infrastructure to provide Increment II with the ability to support all three Army components with accurate and timely data needed to track the movement of Active, Reserve, and National Guard personnel from location to location in support of operational requirements. On July 29, 2011, the Deputy Chief Management Officer (DCMO) granted an ADM for IPPS-A Increment I to enter the Engineering and Manufacturing Development (EMD) phase of the acquisition life-cycle.

Increment I will deliver a Trusted Database with reporting capabilities. The Army Obtained a MS C in Feb 2014 and a Full Deployment Decision (FDD) in April 2014 and is on-track to achieve Full Deployment (FD) in Q2 FY2015.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605018A / *Integrated Personnel and Pay System-Army (IPPS-A)*	**Project (Number/Name)** HR5 / *Integrated Personnel And Pay System - Army Inc 1*

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605018A / *Integrated Personnel and Pay System-Army (IPPS-A)*	Project (Number/Name) HR5 / *Integrated Personnel And Pay System - Army Inc 1*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Contract Support	C/T&M	Booz Allen Hamilton INC. : Mclean, VA	8.340	0.592		-		-		-		-	-	8.932	-
Independent Verification and Validation (IV&V)	C/T&M	Capgemini Government Solutions LLC : Herndon, VA	2.634	-		-		-		-		-	-	2.634	-
In-house Government Management Support	Various	Program oversight, resource justification, budget and programming, milestone and schedule tracking : Alexandria, VA	10.568	0.329		-		-		-		-	-	10.897	-
		Subtotal	21.542	0.921		-		-		-		-	-	22.463	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Licenses - All Others	SS/FP	Various : Various	23.664	0.526		-		-		-		-	-	24.190	-
Software Licenses - IBM	SS/FFP	Immixtechnology, INC. : Mclean, VA	7.607	0.270		-		-		-		-	-	7.877	-
Software Lincenses - GRC	C/FFP	Mythics : Virginia Beach, VA	5.891	-		-		-		-		-	-	5.891	-
Software Licenses - PeopleSoft Enterprise Licenses	SS/FFP	Oracle America, INC : Reston, VA	6.981	-		-		-		-		-	-	6.981	-
Software Licenses - CA	SS/FFP	ImmixTechnology : McLean, VA	2.803	0.030		-		-		-		-	-	2.833	-
Software Licenses - Actuate eReport/BIRT	SS/FFP	Actuate Corp : San Mateo, CA	1.623	-		-		-		-		-	-	1.623	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605018A / *Integrated Personnel and Pay System-Army (IPPS-A)*	Project (Number/Name) HR5 / *Integrated Personnel And Pay System - Army Inc 1*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
In-house contract support of system development	C/T&M	Booz Allen Hamilton INC : Mclean, VA	38.322	2.527		-		-		-		-	-	40.849	-
Functional In-house contract support of system development - Army National Guard/Army Reserve/FMD	MIPR	Various : Various	8.961	1.085		-		-		-		-	-	10.046	-
Design, Development, and Integration - Increment I	C/CPIF	EDC Consulting, LLC : Washington, DC	29.066	3.398		-		-		-		-	-	32.464	27.849
Design, Development, and Integration of Increment II	C/CPIF	CACI : Chantilly VA	52.084	16.213		-		-		-		-	-	68.297	-
Design, Development, and Integration	C/CPAF	Northrop Grumman Information Technology : Mclean, VA	16.070	-		-		-		-		-	-	16.070	16.070
Network Support/ Production Hosting Services/Hardware Leasing	MIPR	Defense Information Systems Agency (DISA) Defense Enterprise Computing Center (DECC) : Various	21.384	4.074		-		-		-		-	-	25.458	-
		Subtotal	214.456	28.123		-		-		-		-	-	242.579	43.919

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Facilities/Lease/Rents	MIPR	Facilities/Lease/ Rents : Various	6.810	-		-		-		-		-	-	6.810	-
Equipment and Supplies, MISC	Various	Various : Various	0.600	-		-		-		-		-	-	0.600	-
		Subtotal	7.410	-		-		-		-		-	-	7.410	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605018A / *Integrated Personnel and Pay System-Army (IPPS-A)*	**Project (Number/Name)** HR5 / *Integrated Personnel And Pay System - Army Inc 1*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Increment I - Government Acceptance Testing/ Operational Test and Evaluation	MIPR	Various Government Agencies : Various	2.110	4.297		-		-		-		-	-	6.407	-
Increment I - Capability Acceptance Testing (CAT)	C/T&M	Booz Allen Hamilton INC : Mclean, VA	1.610	1.059		-		-		-		-	-	2.669	Continuing
		Subtotal	3.720	5.356		-		-		-		-	-	9.076	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	247.128	34.400		-		-		-		-	-	281.528	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605018A / *Integrated Personnel and Pay System-Army (IPPS-A)*	**Project (Number/Name)** HR5 / *Integrated Personnel And Pay System - Army Inc 1*

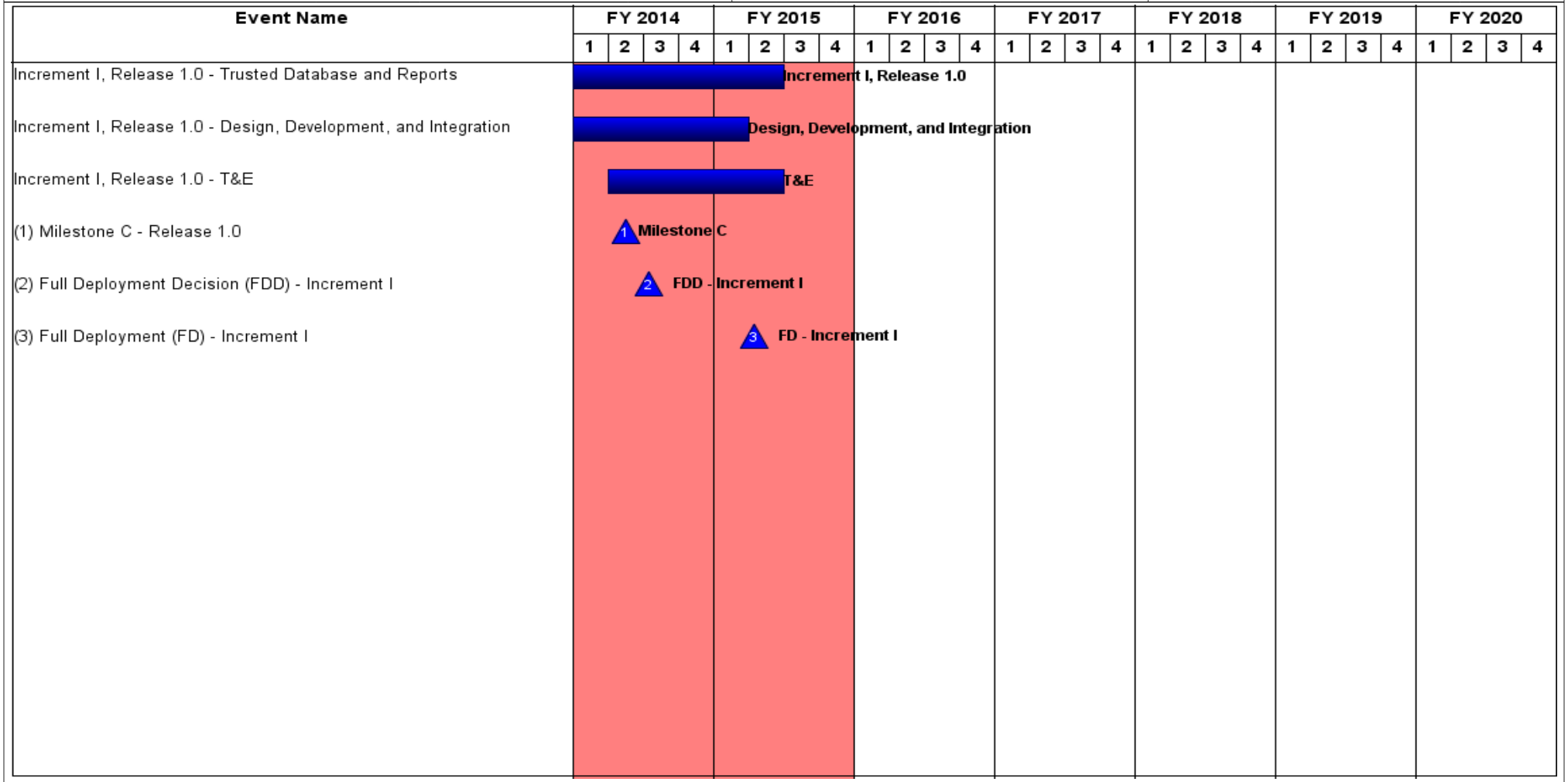

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605018A / *Integrated Personnel and Pay System-Army (IPPS-A)*	**Project (Number/Name)** HR5 / *Integrated Personnel And Pay System - Army Inc 1*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Increment I, Release 1.0 - Trusted Database and Reports	2	2012	2	2015
Increment I, Release 1.0 - Design, Development, and Integration	2	2012	1	2015
Increment I, Release 1.0 - T&E	2	2014	2	2015
Milestone C - Release 1.0	2	2014	2	2014
Full Deployment Decision (FDD) - Increment I	3	2014	3	2014
Full Deployment (FD) - Increment I	2	2015	1	2016

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0605028A / *Armored Multi-Purpose Vehicle (AMPV)*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	-	27.345	92.309	230.210	-	230.210	185.505	199.501	123.494	95.397	95.401	1,049.162
EB5: *Armored Multi-Purpose Vehicle*	-	27.345	92.309	230.210	-	230.210	185.505	199.501	123.494	95.397	95.401	1,049.162

Note

The Armored Multi Purpose Vehicle Program was 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 current program element is 0605028A, Project EB5, Armored Multi Purpose Vehicle (AMPV).

A. Mission Description and Budget Item Justification

The Armored Multi-Purpose Vehicle (AMPV) is the materiel solution for replacement of the Army's Armored Personnel Carrier (M113) Family of Vehicles (FoV) within the Armored Brigade Combat Team (ABCT). It will mitigate current and future capability gaps in force protection, mobility, reliability, and interoperability across the Spectrum of Conflict. The AMPV will replace five mission roles currently performed by the M113 FoV by transferring the current M113 Mission Equipment Packages (MEP) to a new Military Vehicle Derivative (MVD) platform. In total, the AMPV FOV will account for approximately 30% of the ABCT's tracked fleet and consists of the following five variants:

1. Mission Command (MCmd) Vehicle: This platform enables effective mission command planning and execution for both the Tactical Operations Center (TOC) and Tactical Command Vehicle (TAC) versions of the MCmd. It will host current Battle Command Systems, future replacements, and upgrades of hardware and software.
2. Medical Treatment (MT) Vehicle: This platform will provide a protected surgical environment, with adequate lighting and accessible medical equipment. It will provide a capability for immediate medical care for one patient by a medical crew of four.
3. Medical Evacuation (ME) Vehicle: This platform will conduct ambulance type activities and provide casualty evacuation for up to four litter or six ambulatory patients, with a crew of three medical attendants.
4. General Purpose (GP) Vehicle: This platform will operate throughout the battle space by conducting re-supply, maintenance, casualty evacuation, and other tasks within the formation.
5. Mortar Carrier (MC) Vehicle: This platform will provide immediate responsive fire support to conduct fast-paced offensive operations.

The AMPV program has been initiated on the basis of a Capabilities Development Document (CDD) that was approved 21 June 2013. The CDD reflects a set of stable, technologically achievable requirements. A Milestone B (MS B) Defense Acquisition Board (DAB) was held 9 December 2014 and it was followed by an Acquisition Decision Memorandum (ADM) that was signed on 22 December 2014. The ADM approved MS B for the AMPV program and entry into the Engineering and Manufacturing Development (EMD) phase. In addition, the ADM authorized the Army to proceed with award of the EMD prime contract, which occurred 23 December 2014 to BAE Systems Land & Armaments, L.P. (BAE). The FY2014 Accomplishments described below largely reflect the lead-up to the MS B and award of the EMD contract. Included are efforts that are related to the preparation of MS B documents and efforts that are related to evaluation of EMD prime contract proposals. The FY2015 and FY2016 Planned Program are related to contractor efforts specific to the EMD prime contract and to Government efforts that provide oversight of the program and of the contract.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army					Date: February 2015
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*			R-1 Program Element (Number/Name) PE 0605028A / *Armored Multi-Purpose Vehicle (AMPV)*		
B. Program Change Summary ($ in Millions)	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**
Previous President's Budget	28.285	92.353	234.119	-	234.119
Current President's Budget	27.345	92.309	230.210	-	230.210
Total Adjustments	-0.940	-0.044	-3.909	-	-3.909
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-0.044			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.940	-			
• Adjustments to Budget Years	-	-	-3.909	-	-3.909

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army										Date: February 2015		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605028A / *Armored Multi-Purpose Vehicle (AMPV)*				Project (Number/Name) EB5 / *Armored Multi-Purpose Vehicle*			
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
EB5: *Armored Multi-Purpose Vehicle*	-	27.345	92.309	230.210	-	230.210	185.505	199.501	123.494	95.397	95.401	1,049.162
Quantity of RDT&E Articles	-	-	-	-	-	-	-	10	-	-		

Note

The previous program element was 0203735A, Project DS5, Combat Vehicle Improvement Program. FY2014 Presidents Budget established the new program element, 0605028A, Project EB5, Armored Multi Purpose Vehicle (AMPV).

A. Mission Description and Budget Item Justification

The Armored Multi-Purpose Vehicle (AMPV) is the materiel solution for replacement of the Army's Armored Personnel Carrier (M113) Family of Vehicles (FoV) within the Armored Brigade Combat Team (ABCT). It will mitigate current and future capability gaps in force protection, mobility, reliability, and interoperability across the Spectrum of Conflict. The AMPV will replace five mission roles currently performed by the M113 FoV by transferring the current M113 Mission Equipment Packages (MEP) to a new Military Vehicle Derivative (MVD) platform. In total, the AMPV FOV will account for approximately 30% of the ABCT's tracked fleet and consists of the following five variants:

1. Mission Command (MCmd) Vehicle: This platform enables effective mission command planning and execution for both the Tactical Operations Center (TOC) and Tactical Command Vehicle (TAC) versions of the MCmd. It will host current Battle Command Systems, future replacements, and upgrades of hardware and software.
2. Medical Treatment (MT) Vehicle: This platform will provide a protected surgical environment, with adequate lighting and accessible medical equipment. It will provide a capability for immediate medical care for one patient by a medical crew of four.
3. Medical Evacuation (ME) Vehicle: This platform will conduct ambulance type activities and provide casualty evacuation for up to four litter or six ambulatory patients, with a crew of three medical attendants.
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5. Mortar Carrier (MC) Vehicle: This platform will provide immediate responsive fire support to conduct fast-paced offensive operations.

The AMPV program has been initiated on the basis of a Capabilities Development Document (CDD) that was approved 21 June 2013. The CDD reflects a set of stable, technologically achievable requirements. A Milestone B (MS B) Defense Acquisition Board (DAB) was held 9 December 2014 and it was followed by an Acquisition Decision Memorandum (ADM) that was signed on 22 December 2014. The ADM approved MS B for the AMPV program and entry into the Engineering and Manufacturing Development (EMD) phase. In addition, the ADM authorized the Army to proceed with award of the EMD prime contract, which occurred 23 December 2014 to BAE Systems Land & Armaments, L.P. (BAE). The FY2014 Accomplishments described below largely reflect the lead-up to the MS B and award of the EMD contract. Included are efforts that are related to the preparation of MS B documents and efforts that are related to evaluation of EMD prime contract proposals. The FY2015 and FY2016 Planned Program are related to contractor efforts specific to the EMD prime contract and to Government efforts that provide oversight of the program and of the contract.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605028A / *Armored Multi-Purpose Vehicle (AMPV)*	**Project (Number/Name)** EB5 / *Armored Multi-Purpose Vehicle*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Armored Multi-Purpose Vehicle (AMPV) Product Development	-	70.492	192.146

Description: AMPV Product Development costs include all efforts provided under the AMPV EMD prime contract along with Government Furnished Material (GFM). Significant examples of prime contract effort include: development engineering, system engineering/program management, prototype hardware procurement, prototype system level fabrication and integration, software development, support to the government test program, and oversight of subcontractors/suppliers. Also included are all efforts performed by subcontractors/suppliers who are under contract to the AMPV EMD prime contractor.

FY 2015 Plans:
Following award of the AMPV EMD contract in 1QFY2015, the prime contractor will initiate and complete detailed planning efforts that will culminate in a Performance Measurement Baseline (PMB) and related Integrated Master Plan (IMP) and Integrated Master Schedule (IMS). These will be validated through a government led Integrated Baseline Review (IBR) 3QFY2015. The prime contractor and key subcontractors will support the IBR. It is expected that the AMPV EMD prime contractor will award key subsystem and component level provider contracts early 2QFY2015. A formal start-of-work meeting will take place 2QFY2015 and work will commence on vehicle design. A Preliminary Design Review (PDR) is planned for 3QFY2015. Approximately 30 artifacts will be generated and delivered in support of PDR. The AMPV EMD prime contractor will operate in an Integrated Product Team (IPT) environment and will use tools such as Earned Value Management and Technical Performance Measures to evaluate and report cost, schedule, and technical status.

FY 2016 Plans:
The AMPV EMD prime contractor will continue to operate in an Integrated Product Team (IPT) environment consisting of eight unique teams. The contractor will support team meetings and reviews and will report program progress through the use of Earned Value Management (EVM) and Technical Performance Measures (TPMs). Activities will transition to detailed design of components and subsystems in FY2016 based on the PDR. These detailed design efforts will be focused on integration of existing components into the AMPV chassis, which will be tailored to the five mission roles. Final prototype designs and related drawings will be completed early in FY2016. In addition, as nearly all of the subsystems that will be integrated into the prototype structures will be existing designs, most of the hardware at a component level is expected to be ordered in 1QFY2016. Integration of these components into subsystems will commence 2QFY2016 and will be mostly complete by 4QFY2016. Prototype final integration, assembly, and checkout will be conducted to allow full vehicle prototypes to begin to be delivered late 1QFY2017. In addition to prototype development and fabrication, the engineering work will conclude with the Critical Design Review (CDR) in 3QFY2016. All artifacts that support CDR will be developed and delivered to the government 60 days prior to the review. Approximately 50 artifacts are expected to be delivered in support of CDR. Government Furnished Material for the system

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605028A / *Armored Multi-Purpose Vehicle (AMPV)*	**Project (Number/Name)** EB5 / *Armored Multi-Purpose Vehicle*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
prototypes, mainly consisting of Mission Equipment Packages and communication hardware, will be procured by 2QFY2016. Final builds for armor coupons and ballistic hull test articles will be completed to support live fire/survivability testing in FY17.			
Title: AMPV Government Program Management Costs	27.345	21.817	31.113
Description: AMPV Government Program Management costs include efforts to provide Government oversight of the AMPV program. This includes Systems Engineering and Program Management. Government and support Contractor salaries are included, as well as travel and other support costs that are required to effectively manage the program. Costs in this category do not include Government Furnished Material or efforts that are specific and unique to end item testing that is performed at Government test locations. ***FY 2014 Accomplishments:*** Product Manager (PM) AMPV released the Request for Proposal (RFP) on 26 November 2013 as a full and open competition. Proposals were received on 28 May 2014. Initial buys for Government Furnished Equipment and Materiel (GFE/M) began as well. PM AMPV conducted a Source Selection Evaluation Board (SSEB) beginning 29 May 2014 to select a single vendor to integrate and build the AMPV. FY 2014 funding was used to support the following: preparation of Milestone B Documentation, Source Selection activities, and activities for development and purchasing of Mission Equipment Packages for integration. ***FY 2015 Plans:*** Following award of the AMPV EMD prime contract, the AMPV Project Management Office (PMO) will initiate United States Code (USC) Title 10 oversight to the EMD contractor. Integrated Product Teams (IPTs) will begin oversight of the development efforts of the EMD contractor in order to monitor and track technical progress. This includes review and acceptance of all formal contract deliverables. Of note will be the conduct of the Systems Requirements Review and the review of approximately 30 deliverables in support of the Preliminary Design Review (PDR) planned for 3QFY2015. In addition, the Government management team will also lead the Integrated Baseline Review (IBR), which will be conducted 3QFY2015. ***FY 2016 Plans:*** Provide integrated program management for all development activities, to include providing United States Code (USC) Title 10 oversight to the Engineering Manufacturing and Development (EMD) contractor. Eight AMPV Integrated Product Teams (Program Management; Business Management; Engineering; Product Assurance and Test; Reliability, Availability, Maintainability (RAM) Product Support; Product Support Management; Manpower and Personnel Integration; and Government Furnished Material) will continue to oversee the technical development efforts of the EMD contractor in order to monitor and track technical progress related to the development of the various subsystems. This includes review and acceptance of all formal contract deliverables. The AMPV Earned Value Management (EVM) team will continue to evaluate cost and schedule performance against the			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605028A / *Armored Multi-Purpose Vehicle (AMPV)*	**Project (Number/Name)** EB5 / *Armored Multi-Purpose Vehicle*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
established Performance Measurement Baseline (PMB) and Integrated Master Schedule (IMS). An emphasis for the Government team in FY2016 will be on supporting the contractor's Critical Design Review (CDR), currently planned for 3QFY2016.			
Title: Government Test Costs ***Description:*** Government Test costs are for efforts required to perform and validate system-related tests. This element includes costs of the detailed planning, conduct, support, data reduction, and reports from such testing. Also included are costs necessary to acquire data during the conduct of the Government tests. The actual test articles (i.e., functionally configured systems) are excluded from this element. Also excluded are prime contractor costs incurred in support of the Government system level test. ***FY 2016 Plans:*** Acquire Government Furnished Material (GFM) and construct/integrate three base stations for use at Government test sites. Base stations consist of radios, displays, input devices and other related hardware necessary to monitor tests and to collect data. GFM must be on-hand by 3QFY2016 and base stations must be available at test sites by 4QFY2016 so that tests can commence January, 2017.	-	-	6.951
Accomplishments/Planned Programs Subtotals	27.345	92.309	230.210

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• Armored Multi Purpose Vehicle(AMPV): *Armored Multi Purpose Vehicle(AMPV) G80819*	-	-	-	-	-	-	193.410	396.877	495.292	11,785.385	12,870.964

Remarks

D. Acquisition Strategy

The Armored Multi-Purpose Vehicle (AMPV) program entered the acquisition process at Milestone B. This was accomplished via an Acquisition Decision Memorandum (ADM) that was signed 22 December 2014. The ADM also authorized the Army to proceed with award of the Engineering and Manufacturing Development (EMD) prime contract with three Low Rate Initial Production (LRIP) options. The contract was awarded on 23 December 2014 to BAE Systems Land & Armaments, L.P. (BAE). The award was on a competitive basis following formal Source Selection Evaluation Board (SSEB).

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605028A / *Armored Multi-Purpose Vehicle (AMPV)*	Project (Number/Name) EB5 / *Armored Multi-Purpose Vehicle*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Development Engineering	C/CPIF	BAE : Sterling Heights, MI	0.000	-		70.492	Dec 2014	39.323	Dec 2015	-		39.323	66.200	176.015	-
Prototype Material Contractor	C/CPIF	BAE : Sterling Heights, MI	0.000	-		-		75.766	Dec 2015	-		75.766	63.845	139.611	-
Prototype Material Government Furnished	Various	Various : .	0.000	-		-		29.691	Dec 2015	-		29.691	3.954	33.645	-
Contractor System Engineering, Data and Program Management	C/CPIF	BAE : Sterling Heights, MI	0.000	-		-		47.366	Dec 2015	-		47.366	302.499	349.865	-
		Subtotal	0.000	-		70.492		192.146		-		192.146	436.498	699.136	-

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	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	MIPR	PMO : Warren, MI	0.000	27.345	Dec 2013	21.817	Dec 2014	31.113	Dec 2015	-		31.113	96.115	176.390	-
		Subtotal	0.000	27.345		21.817		31.113		-		31.113	96.115	176.390	-

Remarks

Armored Multi Purpose Vehicle Support Costs.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government System Testing	MIPR	Various : .	0.000	-		-		6.951	Dec 2015	-		6.951	166.685	173.636	-
		Subtotal	0.000	-		-		6.951		-		6.951	166.685	173.636	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605028A / *Armored Multi-Purpose Vehicle (AMPV)*	Project (Number/Name) EB5 / *Armored Multi-Purpose Vehicle*	

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	27.345		92.309		230.210		-		230.210	699.298	1,049.162	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605028A / *Armored Multi-Purpose Vehicle (AMPV)*	**Project (Number/Name)** EB5 / *Armored Multi-Purpose Vehicle*

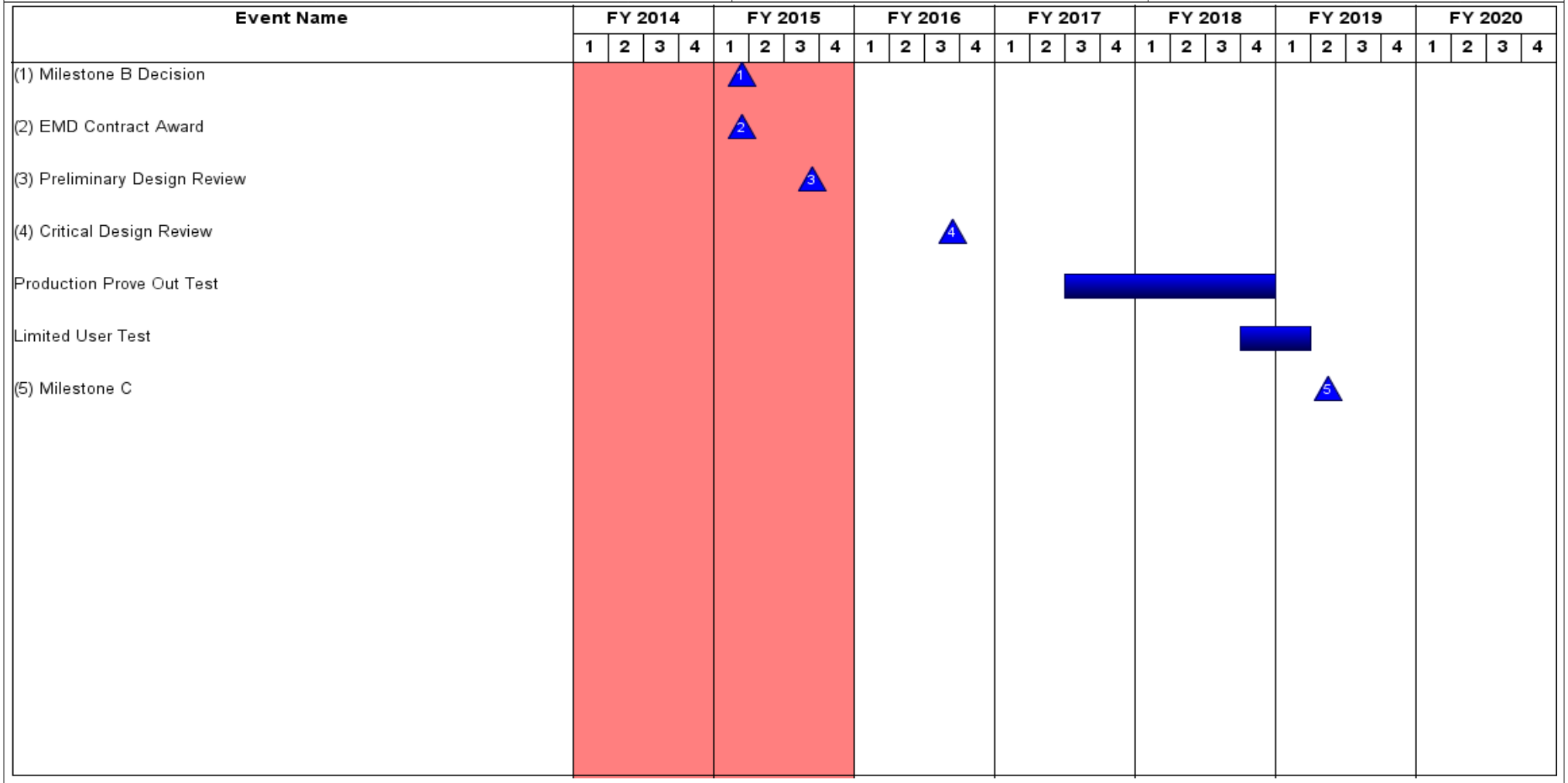

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605028A / *Armored Multi-Purpose Vehicle (AMPV)*	**Project (Number/Name)** EB5 / *Armored Multi-Purpose Vehicle*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Milestone B Decision	1	2015	1	2015
EMD Contract Award	1	2015	1	2015
Preliminary Design Review	3	2015	3	2015
Critical Design Review	3	2016	3	2016
Production Prove Out Test	3	2017	4	2018
Limited User Test	4	2018	1	2019
Milestone C	2	2019	2	2019

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0605030A / *Joint Tactical Network Center (JTNC)*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	-	65.849	8.436	13.357	-	13.357	5.201	5.300	5.405	5.404	Continuing	Continuing
EA8: *Joint Tactical Network Center (JNTC)*	-	65.849	8.436	13.357	-	13.357	5.201	5.300	5.405	5.404	Continuing	Continuing

Note

In accordance with the ADM and Charter dated 20 January 2014, the JTNC Program will remain under a joint budget strategy funded by the three MILDEPs (funding is in Army PE 0605030A, Navy PE 0605030N, shared line, and Air Force PE 0605030F, shared line). As part of the joint program budget strategy, each MILDEP budgets for approximately one-third of the total program RDT&E funds. Prior to the year of execution, the JTNC funding is consolidated in Army PE 0605030A for execution. FY14 funding is shared between JTNC and JTN. In FY15 and out, JTN funding will be executed out of Army PE 0605031A.

A. Mission Description and Budget Item Justification

The Joint Tactical Networking Center (JTNC) is responsible for (1) Establishment of a jointly funded Department of Defense (DoD) Waveform Information Repository (IR); (2) Evolution of the Software Communications Architecture, Application Program Interfaces, and wireless communications standards; (3) Conducting technical assessments of waveforms, software, associated artifacts and recommending designation of such products as compliant or certified with regard to DoD applicable policies; and, (4) Providing technical advice on software defined wireless communications technology to the JTNC Board of Directors (BoD).

This mission is executed in conjunction with other government agencies to include the National Security Agency (NSA), the Joint Interoperability Test Command (JITC), and the National Telecommunication and Information Administration (NTIA), as well as the Services. Particular attention is paid to ensuring that interagency work is collaborative and eliminates duplicative capability.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	68.112	8.440	21.460	-	21.460
Current President's Budget	65.849	8.436	13.357	-	13.357
Total Adjustments	-2.263	-0.004	-8.103	-	-8.103
• Congressional General Reductions	-	-0.004			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-2.263	-			
• Other Adjustments 1	-	-	-8.103	-	-8.103

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605030A / *Joint Tactical Network Center (JTNC)*				Project (Number/Name) EA8 / *Joint Tactical Network Center (JNTC)*			
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
EA8: *Joint Tactical Network Center (JNTC)*	-	65.849	8.436	13.357	-	13.357	5.201	5.300	5.405	5.404	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

In FY 2013, the Joint Tactical Networking Center (JTNC) was funded in the Navy Program Element (PE) 0604280N Project No. 3076 formally known as JTRS Network Enterprise Domain (JNED). In FY 2014 funding that resides in Army PE 0605030A represents the total JTNC and Joint Tactical Networks (JTN) Budget. For FY2015 and out, funding in PE 0605030A represents funding solely for the JTNC organization.

In accordance with the Joint Tactical Networking Center Acquisition Decision Memorandum and Charter dated 20 January 2014, the JTNC will remain under a joint budget strategy funded by the three MILDEPs (Army PE 0605030A, Navy PE 0605030N, and Air Force PE 0605030F). As part of the joint program budget strategy, each MILDEP budgets for approximately one-third of the total program RDT&E funds. Prior to the year of execution, the JTNC funding is consolidated in Army PE 0605030A.

A. Mission Description and Budget Item Justification

The Joint Tactical Networking Center (JTNC) is responsible for (1) Establishment of a jointly funded Department of Defense (DoD) Waveform Information Repository (IR); (2) Evolution of the Software Communications Architecture (SCA), Application Program Interfaces (API), and wireless communications standards; (3) Conducting technical assessments of waveforms, software, associated artifacts and recommending designation of such products as compliant or certified with regard to DoD applicable policies; and, (4) Providing technical advice on software defined wireless communications technology to the JTNC Board of Directors (BoD).

This mission is executed in conjunction with other government agencies to include the National Security Agency (NSA), the Joint Interoperability Test Command (JITC), and the National Telecommunication and Information Administration (NTIA), as well as the Services. Particular attention is paid to ensuring that interagency work is collaborative and eliminates duplicative capability. The DoD Waveform IR ensures that the government has ownership of the software in which the DoD has invested.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: JTNC Engineering and Program Management Support	8.050	8.436	13.357
Description: Joint Tactical Networking Center (JTNC) will achieve alignment with the JTNC BoD, USD(AT&L), DoD CIO, Joint Staff, the Services, and other key stakeholders for those JTNC chartered processes and resources that support interoperable, secure, and affordable wireless communications. Facilitate the reuse of wireless communications products and foster wireless communications product capability improvements by making government owned wireless communications products available to developers. Provide open architecture DoD Waveform Standards in support of service, multi-service, and coalition forces. Provide certification recommendations on wireless communications products in support of service, multi-service, and coalition			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605030A / *Joint Tactical Network Center (JTNC)*	**Project (Number/Name)** EA8 / *Joint Tactical Network Center (JNTC)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
forces. Foster a culture of continuous improvement through the application of techniques such as Lean Six Sigma, efficiency recommendations, and use of common processes, to achieve efficiencies on behalf of JTNC customers and to facilitate organizational efficiency and effectiveness. ***FY 2014 Accomplishments:*** Validated the end to end capabilities for Waveform assessment and inclusion into the DoD Waveform Information Repository (IR); and continued refining standards and provided assessments of various software defined radio (SDR) products. Established the functional processes for the DoD Waveform Information Repository (IR) and the guidelines to be used by Waveform sponsors. Initiated the software assessment process pilot on the Soldier Radio Waveform (SRW) through testing for interoperability and security, in-processed Waveform artifacts, and verified the content and suitability of the Waveform documentation. Coordinated with NSA to establish a refined Commercial Communications Security Evaluation Program process to facilitate the Non-Developmental Item (NDI) marketplace and lower overall cost of radio procurements for DoD. Sponsored the Software Communications Architecture (SCA) through the Enterprise Architecture Steering Board for inclusion into the DoD Information Technology Standards Registry (DISR) as a DoD standard. ***FY 2015 Plans:*** Complete and certify the Soldier Radio Waveform (SRW) Software process pilot, will in-process and assess a modified version of the SRW and the latest version of the Wideband Networking Waveform (WNW), Mobile User Objective System (MUOS) Waveform and Single Channel Ground and Airborne Radio System (SINCGARS) Waveform. Continue development of the DoD Waveform Information Repository (IR) and development of test scripts for SCA and Application Program Interfaces (API) certifications. ***FY 2016 Plans:*** Assess and certify various waveforms in accordance with the FY16 management plan. JTNC will continue development of the DoD Waveform Information Repository (IR), provide assessments of SDR products and mature standards.			
Title: Wideband Networking Waveform (WNW) ***Description:*** Wideband Networking Waveform (WNW) is a high data rate Mobile Adhoc NETworking (MANET) waveform application that provides the mid tier tactical Internet backbone and connects tactical forces across the battle sphere. WNW is currently ported on 8 platforms with 8 different vendors. PM JTN manages WNW and it is reported in PE 0605031A in FY15 and out. ***FY 2014 Accomplishments:***	3.045	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605030A / *Joint Tactical Network Center (JTNC)*	**Project (Number/Name)** EA8 / *Joint Tactical Network Center (JNTC)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Maintained test facility to conduct WNW test and evaluation. Developed test plans and procedures for full WNW Waveform Conformance for WNW 4.0.7. Continued enhancements, software modifications and software version drops (v4.0.8).			
Title: Soldier Radio Waveform (SRW) ***Description:*** Soldier Radio Waveform (SRW) will operate on tactical radio sets to provide a networked battlefield communications capability for power disadvantaged users engaged in land combat operations and will support voice, data, and video communications on the immediate battlefield. SRW is currently ported on 20 different platforms with 13 different vendors. PM JTN manages SRW and it is reported in PE 0605031A in FY15 and out. ***FY 2014 Accomplishments:*** Continued Information Assurance (IA) assessments, developed test plans and procedures for full SRW waveform conformance, enhancement to SRW v1.2 and software version drop (v1.2E).	1.071	-	-
Title: Mobile User Objective System (MUOS) Waveform ***Description:*** Mobile User Objective System (MUOS) Waveform will enable MUOS satellites to provide worldwide communication satellite coverage for DoD requirements. MUOS is currently being ported by 7 vendors on 7 different platforms. PM JTN manages MUOS and it is reported in PE 0605031A for FY15. The effort will be managed by the Navy in FY16 and out. ***FY 2014 Accomplishments:*** Continued software testing, upgrades, enhancements, software modifications and software version drop (v3.1.2) to meet DoD requirements.	0.593	-	-
Title: JTRS Network Enterprise Services (JNES)/Joint Enterprise Net Manager (JENM) ***Description:*** Joint Enterprise Net Manager (JENM): Provides consolidated communications planning, network configuration, network activation, position reporting, fault management, security management, and network health and status reporting needed to establish and maintain a mobile wireless network comprised of JTN network waveforms. PM JTN manages JENM and it is reported in PE 0605031A in FY15 and out. ***FY 2014 Accomplishments:*** Continued Information Assurance (IA) assessments, enhancements, software modifications, upgrades with full capability to JENM v1 and JENM v2 and software version drops (v1.2.7, v1.2.8, v1.2.9, v1.2.11, v2.5.3, v2.6-2.8).	20.181	-	-
Title: Legacy Radio Waveforms/Program Management	32.909	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605030A / *Joint Tactical Network Center (JTNC)*	**Project (Number/Name)** EA8 / *Joint Tactical Network Center (JNTC)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Description: Legacy Radio Waveforms/Program Management: Includes the continued development, incremental upgrades, and software efficiencies of legacy software and other related activities to support the legacy waveform integration into hardware solutions in the field. This effort is managed by PM JTN and it is reported in PE 0605031A in FY15 and out. ***FY 2014 Accomplishments:*** Continued to support waveform integration, test and evaluation to include hardware and software waveform Certification Process to meet program requirements. Continued Joint Tactical Networks (JTN) program management office support.			
Accomplishments/Planned Programs Subtotals	65.849	8.436	13.357

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• 0605030N: *0605030N: JTNC, RDTE,N*	-	-	-	-	-	2.926	2.734	10.168	10.295	Continuing	Continuing
• 0605030F: *0605030F: JTNC, RDTE,F*	-	-	-	-	-	5.514	5.624	5.737	5.852	Continuing	Continuing

Remarks

In FY 2013, the Joint Tactical Networking Center (JTNC) was funded in the Navy Program Element (PE) 0604280N, Project No. 3076 formally known as JTRS Network Enterprise Domain (JNED). This was a shared line with Joint Tactical Networks (JTN). In FY 2014 funding that resides in Army PE 0605030A represents the total JTNC and JTN Budget. FY 2015 PE 0605030A represents only the JTNC funding.

Other Funding: 0605030N represents Navy allocated funding for JTNC from FY2017-2020. 0605030F represents Air Force allocated funding for JTNC from FY2017-2020. FY2014-FY2016 amounts become zero due to Joint Funding Strategy. Prior to the year of execution, the JTNC funding is consolidated in Army PE 0605030A for execution

In accordance with the Joint Tactical Networking Center Acquisition Decision Memorandum and Charter dated 20 January 2014, the JTNC will remain under a Joint Budget Strategy funded by the three MILDEPs. FY2014 funding is shared between JTNC and JTN. FY15 and out funding for the JTNC is in Army PE 0605030A, Navy PE 0605030N (shared), and Air Force PE 0605030F (shared). As part of the Joint Program Budget Strategy, each MILDEP budgets for approximately one-third of the total program RDT&E funds. JTN funding is executed out of Army PE 0605031A starting in FY2015. JTN and JTNC funding allocation was separated based on the Tri Military Department Resourcing Plan, approved by all services in Q1FY2015.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605030A / *Joint Tactical Network Center (JTNC)*	**Project (Number/Name)** EA8 / *Joint Tactical Network Center (JNTC)*

D. Acquisition Strategy

Joint Tactical Networking Center core functions as defined in the JTNC Acquisition Decision Memorandum and Charter signed on 20 January 2014 include: Department of Defense (DoD) Waveform Standards and Software Communications Architecture (SCA), technical assessments of DoD Waveform Information Repository (IR) products, DoD Waveform IR Management and Configuration Control. The services derived from these core functions reinforce an acquisition environment where wireless communications products are interoperable, secure, and affordable.

JTNC is classified as a Joint Support Program to Acquisition, Technology & Logistics (AT&L), DoD Chief Information Officer (CIO), and the Services.

The FY 2016 Budget supports continued development of the DoD Waveform Information Repository, maturing standards for developers, providing assessments, and providing export evaluations for the software and artifacts.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605030A / *Joint Tactical Network Center (JTNC)*	Project (Number/Name) EA8 / *Joint Tactical Network Center (JNTC)*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	Various	Various: : Various	0.000	5.898	Mar 2014	0.365	Jan 2015	0.376	Jan 2016	-		0.376	Continuing	Continuing	Continuing
Program Management Support	C/CPFF	G2 Software Systems : San Diego, CA	0.000	-		0.732	Nov 2014	0.754	Nov 2015	-		0.754	Continuing	Continuing	Continuing
Program Management Support	Allot	Aberdeen Proving Grounds : Aberdeen. MD	0.000	-		0.219	Oct 2014	0.279	Oct 2015	-		0.279	Continuing	Continuing	Continuing
Program Management Support	MIPR	SSC PAC : San Diego, CA	0.000	-		0.110	Nov 2014	0.113	Nov 2015	-		0.113	Continuing	Continuing	Continuing
		Subtotal	0.000	5.898		1.426		1.522		-		1.522	-	-	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JTNC Product Development	MIPR	SSC PAC : San Diego, CA	0.000	-		0.614	Oct 2014	1.072	Oct 2015	-		1.072	Continuing	Continuing	Continuing
JTNC Product Development Support	C/CPFF	Booz Allen Hamilton : San Diego, CA	0.000	-		1.103	Nov 2014	1.845	Oct 2015	-		1.845	Continuing	Continuing	Continuing
JTNC Product Development Support	C/CPFF	G2 Software Systems : San Diego, CA	0.000	-		0.545	Oct 2014	0.913	Nov 2015	-		0.913	Continuing	Continuing	Continuing
JTNC Product Development - Other	Allot	Aberdeen Proving Grounds : Aberdeen, MD	0.000	-		0.392	Nov 2014	0.620	Nov 2015	-		0.620	Continuing	Continuing	Continuing
Certification (Interim SCA Compliance Testing)	MIPR	NSA: : Ft. Meade, MD	0.000	0.421	Mar 2014	-		-		-		-	-	0.421	0.421
Network Enterprise Services Development	C/CPIF	Boeing: : Huntington Beach, CA	0.000	14.860	Apr 2014	-		-		-		-	-	14.860	14.860

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605030A / *Joint Tactical Network Center (JTNC)*	**Project (Number/Name)** EA8 / *Joint Tactical Network Center (JNTC)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Post Formal Qualification Testing- LINK 16	C/CPIF	BAE: : Wayne, NJ	0.000	3.045	Mar 2014	-		-		-		-	-	3.045	3.045
Product Development WNW	C/CPIF	General Dynamics : Scottsdale, AZ	0.000	2.079	Apr 2014	-		-		-		-	-	2.079	2.079
Post Formal Qualification Testing- JENM	C/CPIF	Boeing: : Huntington Beach, CA	0.000	0.796	Mar 2014	-		-		-		-	-	0.796	0.796
Product Development SRW	C/CPIF	Harris Corp : Rochester, NY	0.000	1.070	Mar 2014	-		-		-		-	-	1.070	1.070
Post Formal Qualification Testing- MUOS	C/CPIF	Lockheed Martin Corp : Sunnyvale, CA	0.000	0.593	Mar 2014	-		-		-		-	-	0.593	0.593
Post Formal Qualification Testing- WNW	C/CPIF	General Dynamics: : Scottsdale, AZ	0.000	0.967	Mar 2014	-		-		-		-	-	0.967	0.967
Post Formal Qualification Testing: JENM	C/CPFF	Exelis Inc. : Alexandria, VA	0.000	4.525	Apr 2014	-		-		-		-	-	4.525	4.525
Post FQT / Software Sustainment	MIPR	SSC PAC: : San Diego, CA	0.000	9.805	Feb 2014	-		-		-		-	-	9.805	9.805
Post FQT/ software Sustainment	MIPR	SSC LANT : Charleston, SC	0.000	5.200	Feb 2014	-		-		-		-	-	5.200	5.200
Post FQT/ Software Sustainment	MIPR	CERDEC : APG, MD	0.000	1.397	Feb 2014	-		-		-		-	-	1.397	1.397
		Subtotal	0.000	44.758		2.654		4.450		-		4.450	-	-	-

Remarks

Joint Tactical Networking Center (JTNC) will achieve alignment with the JTNC BoD, USD(AT&L), DoD CIO, Joint Staff, the Services, and other key stakeholders for those JTNC chartered processes and resources that support interoperable, secure, and affordable wireless communications. JTNC facilitates the reuse of wireless communications products and fosters wireless communications product capability improvements by making government owned wireless communications products available to developers. JTNC provides open architecture DoD Waveform Standards in support of service, multi-service, and coalition forces. The program also provides certification recommendations on wireless communications products in support of service, multi-service, and coalition forces.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605030A / *Joint Tactical Network Center (JTNC)*	Project (Number/Name) EA8 / *Joint Tactical Network Center (JNTC)*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JTNC Engineering/ Technical Support	C/CPFF	G2 Software Systems : San Diego, CA	0.000	-		1.072	Nov 2014	1.763	Nov 2015	-		1.763	Continuing	Continuing	Continuing
Engineering Support	FFRDC	MITRE Corporation : McLean, VA	0.000	0.228	Feb 2014	0.116	Dec 2014	0.244	Nov 2015	-		0.244	Continuing	Continuing	Continuing
JTNC Engineering/ Technical Support	MIPR	Aberdeen Proving Grounds : Aberdeen, MD	0.000	-		0.256	Nov 2014	0.490	Nov 2015	-		0.490	Continuing	Continuing	Continuing
JTN Engineering/Technical Support	C/CPFF	Various: : Various	0.000	14.965	Mar 2014	-		-		-		-	-	14.965	14.965
		Subtotal	0.000	15.193		1.444		2.497		-		2.497	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development/Test & Evaluation	C/CPFF	Booz Allen Hamilton : San Diego, CA	0.000	-		1.129	Nov 2014	1.887	Nov 2015	-		1.887	Continuing	Continuing	Continuing
Development/Test & Evaluation	MIPR	SSC PAC : San Diego, CA	0.000	-		1.164	Nov 2014	1.941	Oct 2015	-		1.941	Continuing	Continuing	Continuing
Development/Test & Evaluation	C/CPFF	G2 Software Systems : San Diego, CA	0.000	-		0.398	Nov 2014	0.685	Nov 2015	-		0.685	Continuing	Continuing	Continuing
Development/Test & Evaluation	C/CPFF	SAIC : San Diego, CA	0.000	-		0.221	Dec 2014	0.375	Oct 2015	-		0.375	Continuing	Continuing	Continuing
		Subtotal	0.000	-		2.912		4.888		-		4.888	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	65.849		8.436		13.357		-		13.357	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605030A / *Joint Tactical Network Center (JTNC)*	Project (Number/Name) EA8 / *Joint Tactical Network Center (JNTC)*	

	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605030A / *Joint Tactical Network Center (JTNC)*	**Project (Number/Name)** EA8 / *Joint Tactical Network Center (JNTC)*

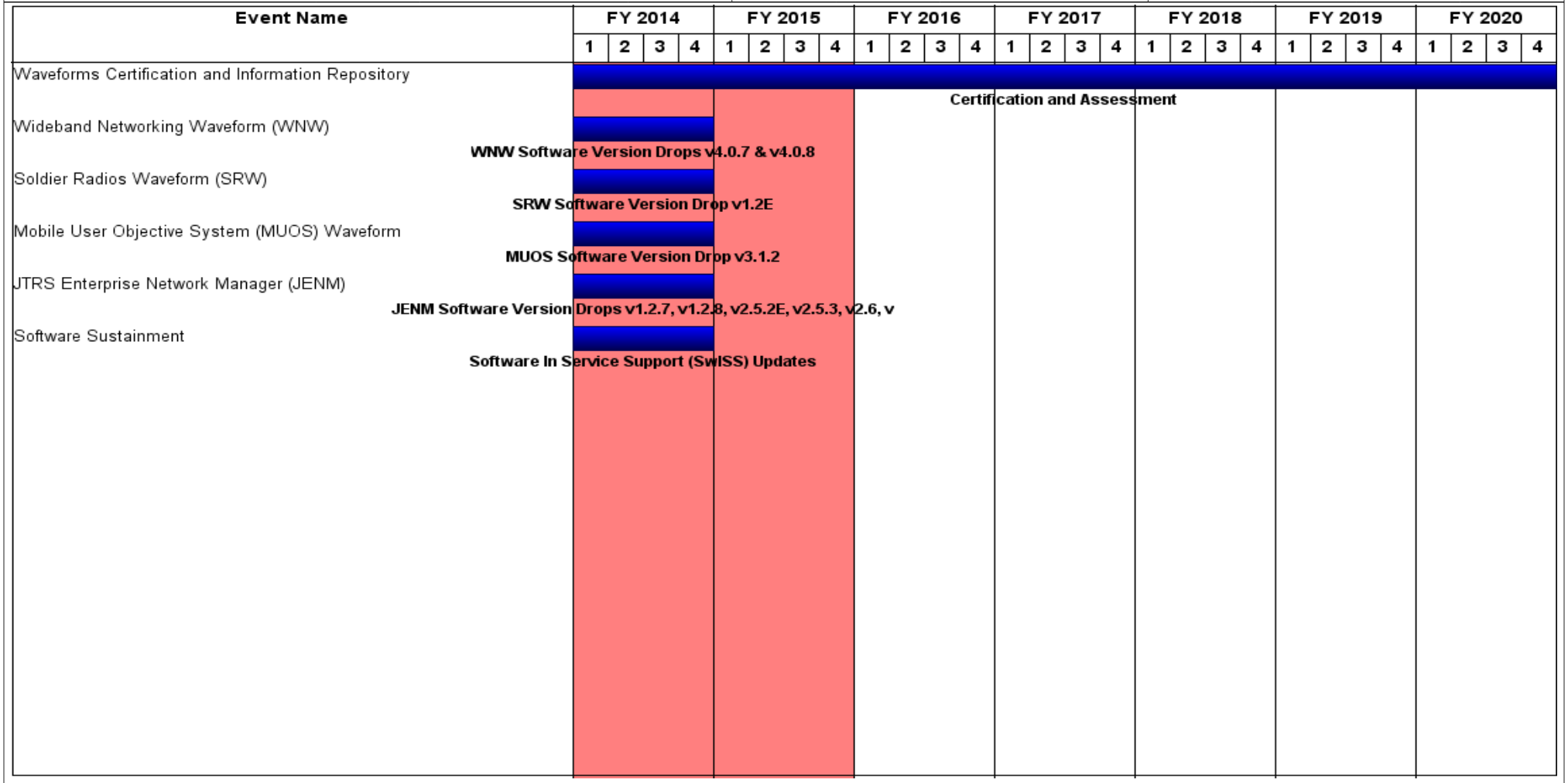

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605030A / *Joint Tactical Network Center (JTNC)*	**Project (Number/Name)** EA8 / *Joint Tactical Network Center (JNTC)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Waveforms Certification and Information Repository	1	2014	4	2021
Wideband Networking Waveform (WNW)	1	2014	4	2014
Soldier Radios Waveform (SRW)	1	2014	4	2014
Mobile User Objective System (MUOS) Waveform	1	2014	4	2014
JTRS Enterprise Network Manager (JENM)	1	2014	4	2014
Software Sustainment	1	2014	4	2014

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0605031A / *Joint Tactical Network (JTN)*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	-	-	17.999	18.055	-	18.055	21.580	21.754	22.207	22.488	Continuing	Continuing
EF5: *Joint Tactical Network (JTN)*	-	-	17.999	18.055	-	18.055	21.580	21.754	22.207	22.488	Continuing	Continuing

Note

In accordance with the signed Joint Tactical Networking Center Acquisition Decision Memorandum and Charter dated 20 January 2014, PE 0605031A was established to execute JTN requirement in PB2015 with FY 2015 the only year initially aligned. The Army has aligned their Service share of JTN funding fully within the JTN PE for PB 2016. The Navy and Air Force funding for the JTN joint requirements remains in Navy PE 0605030N (shared) and Air Force PE 0605030F (shared). As part of the joint program budget strategy, each Military Department (MILDEP) budgets for approximately one-third of the total program RDT&E funds for joint efforts. Prior to the year of execution, the funding is consolidated in the Army PEs for execution.

A. Mission Description and Budget Item Justification

Joint Tactical Networks (JTN) is responsible for the portable, interoperable, mobile ad hoc networking waveforms and network enterprise services to enhance tactical warfighting capabilities. JTN applications are: (1) Interoperable – among all Services, capable of operating in a variety of hardware items, for both Program of Record and commercial Non-Developmental Item (NDI) radios; (2) Secure – meet all DoD and US Government information assurance requirements; (3) Operationally Relevant – quickly and effectively meet evolving network mission requirements of Combatant Commanders and the Services; (4) Affordable – drive down procurement and support costs via a robust, competitive Non-Developmental Item (NDI) market which adheres to open government standards.

In accordance with the Joint Tactical Networking Center Acquisition Decision Memorandum (ADM) and Charter dated 20 January, 2014, the JTN is to actively manage and fund the Soldier Radio Waveform (SRW), the Wideband Networking Waveform (WNW) and the Joint Enterprise Network Manager (JENM). Due to the JTN's extensive knowledge and expertise, the JTN will also enhance, update, and sustain the following Legacy Waveforms on a reimbursable basis: the High Frequency (HF) waveform, the merged HAVE QUICK II (HQII) and Very High Frequency (VHF)/Ultra High Frequency (UHF) Line of Sight (VULOS) waveforms, the JTRS Bowman waveform (JBW), the SINCGARS waveform and the UHF Satellite Communications (SATCOM) waveform. Prior to FY 2016 JTN is responsible for the development of the Mobile User Objective System (MUOS) and the Link-16 waveforms which will transition to Navy in FY 2016, in accordance with the ADM dated 20 Jan 2014.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army					Date: February 2015
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*		R-1 Program Element (Number/Name) PE 0605031A / *Joint Tactical Network (JTN)*			
B. Program Change Summary ($ in Millions)	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**
Previous President's Budget	-	17.999	-	-	-
Current President's Budget	-	17.999	18.055	-	18.055
Total Adjustments	-	-	18.055	-	18.055
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	18.055	-	18.055

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605031A / *Joint Tactical Network (JTN)*	Project (Number/Name) EF5 / *Joint Tactical Network (JTN)*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
EF5: *Joint Tactical Network (JTN)*	-	-	17.999	18.055	-	18.055	21.580	21.754	22.207	22.488	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

In FY 2013, Joint Tactical Networks (JTN) was funded in the Navy Program Element (PE) 0604280N (Joint Tactical Radio System (JTRS)), Project No.3076 (formally known as JTRS Network Enterprise Domain (JNED)) along with the Joint Tactical Networking Center (JTNC). JNED was renamed JTN and the Joint Executive Program Office (JPEO) JTRS transitioned to the JTNC in FY 2013 in accordance with the Acquisition Decision Memorandum (ADM) dated 11 July 2012. In FY 2014, the JTN program was funded in the Army PE 0605030A, shared with JTNC.

As per the Acquisition Decision Memorandum (ADM) dated 20 Jan 2014, JTN and JTNC became separate entities. For FY 2015 and FY 2016, PE 0605031 contains only the JTN RDT&E funding while JTNC remains funded in PE 0605030. For FY2017 and out, the continuing JTNC and JTN remain under separate joint budget strategies in Army PE 0605031A (JTN), Army PE 0605030A (JTNC), Navy PE 0605030N (shared), and Air Force PE 0605030F (shared). As part of the joint program budget strategy, each Military Department (MILDEP) budgets for approximately one-third of the total program RDT&E funds for joint efforts. Prior to the year of execution, the funding is consolidated in the Army PE for execution.

A. Mission Description and Budget Item Justification

Joint Tactical Networks (JTN) is responsible for the portable, interoperable, mobile ad hoc networking waveforms and network enterprise services to enhance tactical warfighting capabilities. JTN applications are: (1) Interoperable – among all Services, capable of operating in a variety of hardware items, for both Program of Record and commercial Non-Developmental Item (NDI) radios; (2) Secure – meet all DoD and US Govt information assurance requirements; (3) Operationally Relevant – quickly and effectively meet evolving network mission requirements of Combatant Commanders and the Services; (4) Affordable – drive down procurement and support costs via a robust, competitive NDI market which adheres to open government standards.

In accordance with the Joint Tactical Networking Center Acquisition Decision Memorandum (ADM) and Charter dated 20 January, 2014, the JTN is to actively manage and fund the Soldier Radio Waveform (SRW), the Wideband Networking Waveform (WNW) and the Joint Enterprise Network Manager (JENM). Due to the JTN's extensive knowledge and expertise, the JTN will also enhance, update, and sustain the following Legacy Waveforms on a reimbursable basis: the High Frequency (HF) waveform, the merged HAVE QUICK II (HQII) and Very High Frequency (VHF)/Ultra High Frequency (UHF) Line of Sight (VULOS) waveforms, the JTRS Bowman waveform (JBW), the SINCGARS waveform and the UHF Satellite Communications (SATCOM) waveform. Prior to FY 2016 JTN is responsible for the development of the Mobile User Objective System (MUOS) and Link-16 waveforms which will transition to Navy in FY 2016, in accordance with the ADM dated 20 Jan 2014.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Legacy Radio Waveforms/Program Office Support	-	10.493	5.562

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605031A / *Joint Tactical Network (JTN)*	**Project (Number/Name)** EF5 / *Joint Tactical Network (JTN)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Description: Legacy Radio Waveforms/Program Office Support: Includes the continued development, incremental upgrades, and software efficiencies of legacy software and other related activities to support the legacy waveform integration into hardware solutions in the field. ***FY 2015 Plans:*** Continue to support waveform integration, test and evaluation, and program office support. ***FY 2016 Plans:*** Continue to support waveform integration, test and evaluation to include hardware and software waveform Certification Process to meet program requirements. Continue JTN program office support.			
Title: Solder Radio Waveform (SRW) ***Description:*** Soldier Radio Waveform (SRW) will operate on tactical radio sets to provide a networked battlefield communications capability for power disadvantaged users engaged in land combat operations and will support voice, data, and video communications on the immediate battlefield. These forces include vehicles, rotary wing, dismounted soldiers, munitions, sensors, and unmanned air vehicles (UAV). Functional software applications will use SRW enabled JTR sets over Internet Protocol (IP) capable networks and sub-networks. SRW will be interoperable with higher throughput, IPbased network waveforms, such as Wideband Networking Waveform (WNW). As applicable, these IP-based networking waveforms will enable information exchanges through the GIG to the soldier and provide entirely new capabilities for battlefield communications and information sharing. SRW is currently ported on 23 different platforms with 11 different vendors. ***FY 2015 Plans:*** Continue to develop test plans and procedures for full SRW waveform conformance, enhancements to SRW v1.2.1 and v1.2.2. ***FY 2016 Plans:*** Continue Information Assurance (IA) assessments, develop test plans and procedures for full SRW waveform conformance, enhancement to SRW v2.X.	-	0.961	2.066
Title: Wideband Networking Waveform (WNW) ***Description:*** Wideband Networking Waveform (WNW) is a high data rate Mobile Adhoc NETworking (MANET) waveform application that provides the mid tier tactical Internet backbone and connects tactical forces across the battle sphere. WNW will provide high throughput, dynamically adaptable connectivity for the exchange of Internet Protocol (IP) based voice, data, and video traffic. WNW will feature two signals-in-space (SiS), which are the Orthogonal Frequency Division Multiplexing (OFDM) and Anti-Jam (AJ). WNW will support network nodes on mobile, airborne, and maritime platforms. WNW includes networking services, security, High Assurance IP Equipment (HAIPE) capabilities, red black switching, and internal routing of other WNW signals. WNW is currently ported on 9 platforms with 5 different vendors.	-	2.758	5.440

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605031A / *Joint Tactical Network (JTN)*	Project (Number/Name) EF5 / *Joint Tactical Network (JTN)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
FY 2015 Plans: Continue enhancements, software modifications and version drop. Maintain test facility to conduct WNW test and evaluation. Develop test plans and procedures for full WNW Waveform Conformance for WNW v4.1 and v5.0 ***FY 2016 Plans:*** Continue enhancements, software modifications and version drops. Maintain test facility to conduct WNW test and evaluation. Develop test plans and procedures for full WNW Waveform Conformance for WNW v6.X.			
Title: Mobile User Objective System (MUOS) Waveform ***Description:*** Mobile User Objective System (MUOS) Waveform will enable MUOS satellites to provide worldwide communication satellite coverage for DoD requirements. MUOS will provide functionality comparable to commercial mobile phone systems. MUOS offers secure streaming video, netted communications, and voice/data in real time to provide essential connectivity. The JTN program will modify this waveform, making it compatible and certifiable with DoD security requirements while enabling porting to tactical radio sets. MUOS is currently being ported by 8 vendors on 6 different platforms. ***FY 2015 Plans:*** Continue software testing, upgrades, enhancements, software modifications and software version drop v3.1.3 to meet DoD requirements.	-	0.871	-
Title: Joint Enterprise Net Manager (JENM) ***Description:*** JTRS Network Enterprise Services (JNES)/Joint Enterprise Net Manager (JENM): Prior to FY13, JTRS Network Enterprise Services (JNES) included the development and acquisition of JTRS WNW Network Manager (JWNM), Joint Enterprise Net Manager (JENM), Soldier Radio Waveform Network Manager (SRWNM), and Enterprise Network Services (ENS). In FY13 and out, JENM provides consolidated communications planning, network configuration, network activation, position reporting, fault management, security management, and network health and status reporting needed to establish and maintain a mobile wireless network comprised of JTN network waveforms. JENM can interface with other external network managers, mission planning systems, network planning systems, key management systems, and spectrum planning systems. JENM is considered a mission essential system. JENM is also considered a critical element within the J-TNT configuration management tool kit. ***FY 2015 Plans:*** Continue enhancements, software modifications, upgrades with full capabilities to JENM v1 and JENM v2 and software version drops (v1 and v3). ***FY 2016 Plans:***	-	2.916	4.987

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605031A / *Joint Tactical Network (JTN)*	**Project (Number/Name)** EF5 / *Joint Tactical Network (JTN)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Continue Information Assurance (IA) assessments, enhancements, software modifications, upgrades with full capabilities to JENM v4 and software version drops (v4.X).			
Accomplishments/Planned Programs Subtotals	-	17.999	18.055

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• 0605030A: *0605030A; JTNC, RDTE,A*	65.849	8.436	-	-	-	-	-	-	-	Continuing	Continuing
• 0605030F: *0605030F; JTNC, RDTE,F*	-	-	-	-	-	16.520	16.840	17.160	17.450	Continuing	Continuing
• 0605030N: *0605030N; JTNC, RDTE,N*	-	-	-	-	-	2.926	2.734	10.168	10.295	Continuing	Continuing
• 4326750A: *4326750A: JTN, O&M,A*	-	28.408	8.993	-	8.993	-	-	-	-	Continuing	Continuing

Remarks

In FY2014, the Joint Tactical Networks (JTN) was funded in the Army Program Element (PE) 0605030A. This was a shared line with JTNC.

In FY 2015 PE 0605031A contains only the JTN RDTE funding.

In accordance with the Acquisition Decision Memorandum (ADM) dated 11 July 2012, the JTRS Program of Records (PORs) transitioned to Military Department (MILDEP) managed programs. As part of the joint program budget strategy, each MILDEP budgets for approximately one-third of the total program RDT&E funds for joint efforts. Prior to the year of execution, the JTN funding is consolidated in the Army PE (0605031A) and software sustainment funds are realigned from RDT&E to O&M,A PE (4326750A) to support the JTN joint program acquisition strategy.

D. Acquisition Strategy

Joint Tactical Networks (JTN) is responsible for common core activities including developing and updating legacy and networking waveforms that operate on multiple hardware sets and in all operational environments that support network-centric operational warfare, as well as common networking services (interface standards, network managers, etc). Waveform developments (upgrading, developing, and maintaining) will generally be procured through full and open contract competitions. The JTN program is developing waveforms and Cryptographic Equipment Applications (CEAs) for use within the software-defined radio community.

The FY 2016 Budget supports continued development of waveforms/supporting software, testing support, and the National Security Agency (NSA) evaluation of software Information Assurance (IA) compliance. FY 2014 and FY 2015 development efforts were executed from Army PEs 0605030A and 0605031A, respectively.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605031A / *Joint Tactical Network (JTN)*	**Project (Number/Name)** EF5 / *Joint Tactical Network (JTN)*

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605031A / *Joint Tactical Network (JTN)*	Project (Number/Name) EF5 / *Joint Tactical Network (JTN)*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	C/CPFF	Booz Allen Hamilton : San Diego, CA	0.000	-		0.336	Dec 2014	0.337	Dec 2015	-		0.337	Continuing	Continuing	Continuing
Program Management	C/CPFF	G2 Software Systems : San Diego, CA	0.000	-		0.840	Nov 2014	0.843	Nov 2015	-		0.843	Continuing	Continuing	Continuing
		Subtotal	0.000	-		1.176		1.180		-		1.180	-	-	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Post Formal Qualification Testing-JENM	C/CPIF	Boeing : Huntington Beach, CA	0.000	-		2.095	Dec 2014	2.896	Nov 2015	-		2.896	Continuing	Continuing	Continuing
Post Formal Qualification Testing-WNW	C/CPIF	General Dynamics : Scottsdale, AZ	0.000	-		1.436	Nov 2014	1.540	Oct 2015	-		1.540	Continuing	Continuing	Continuing
Post Formal Qualification Testing-SRW	C/CPIF	Harris : Rochester, NY	0.000	-		1.225	Dec 2014	1.329	Nov 2015	-		1.329	Continuing	Continuing	Continuing
Software Communications Architecture (SCA) Compliance	MIPR	NSA : Fort Meade, MD	0.000	-		0.476	Oct 2014	0.477	Nov 2015	-		0.477	Continuing	Continuing	Continuing
Post FQT/Software Support	MIPR	SSC PAC : San Diego, CA	0.000	-		3.796	Dec 2014	3.808	Nov 2015	-		3.808	Continuing	Continuing	Continuing
Post FQT/Software Support	MIPR	CERDEC : APG, MD	0.000	-		0.305	Oct 2014	0.306	Oct 2015	-		0.306	Continuing	Continuing	Continuing
Post FQT/Software Support	MIPR	SSC LANT : Charleston, SC	0.000	-		2.610	Nov 2014	2.619	Oct 2015	-		2.619	Continuing	Continuing	Continuing
Post Formal Qualification Testing-MUOS	C/CPIF	Lockheed Martin Corp. : Sunnyvale, CA	0.000	-		0.660	Nov 2014	-		-		-	-	0.660	0.660
Post Formal Qualification Testing-Link 16	C/CPIF	BAE : Wayne, NJ	0.000	-		0.332	Nov 2014	-		-		-	-	0.332	0.332
		Subtotal	0.000	-		12.935		12.975		-		12.975	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605031A / *Joint Tactical Network (JTN)*	Project (Number/Name) EF5 / *Joint Tactical Network (JTN)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract

Remarks

FY 2015 & FY16 PE 0605031A represents the total JTN RDTE budget.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development/Engineering/ Technical Support	C/CPFF	Various : various	0.000	-		0.991	Jan 2015	0.994	Jan 2016	-		0.994	Continuing	Continuing	Continuing
		Subtotal	0.000	-		0.991		0.994		-		0.994	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JTN Test and Evaluation Support	C/CPFF	Booz Allen Hamilton : San Diego, CA	0.000	-		0.702	Dec 2014	0.704	Oct 2015	-		0.704	Continuing	Continuing	Continuing
JTN Test and Evaluation	FFRDC	MITRE : San Diego, CA	0.000	-		1.600	Dec 2014	1.605	Nov 2015	-		1.605	Continuing	Continuing	Continuing
JTN Test and Evaluation Support	C/CPFF	G2 Software Systems : San Diego, CA	0.000	-		0.595	Nov 2014	0.597	Oct 2015	-		0.597	Continuing	Continuing	Continuing
		Subtotal	0.000	-		2.897		2.906		-		2.906	-	-	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	-		17.999		18.055		-		18.055	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605031A / *Joint Tactical Network (JTN)*	**Project (Number/Name)** EF5 / *Joint Tactical Network (JTN)*

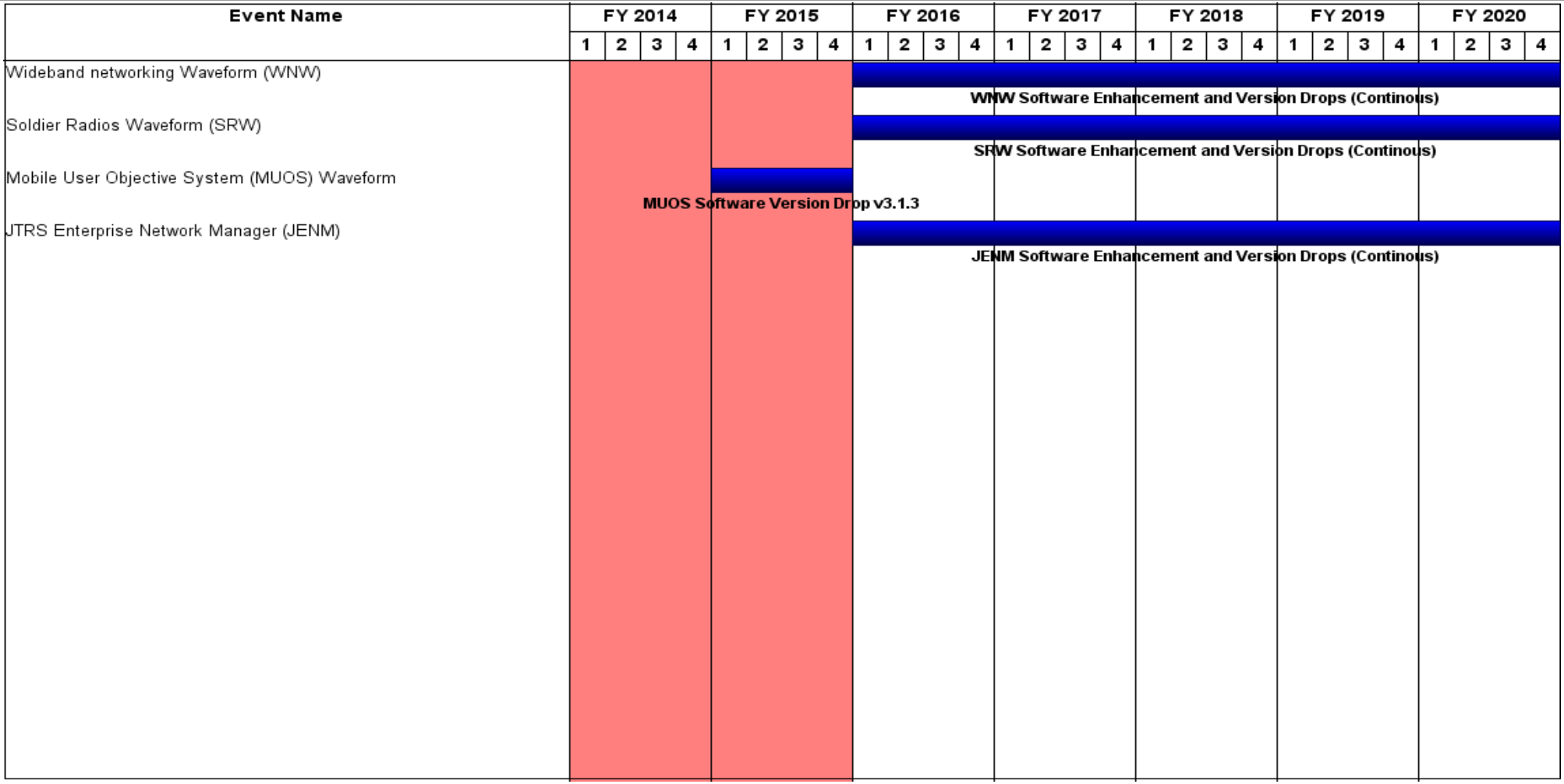

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605031A / *Joint Tactical Network (JTN)*	**Project (Number/Name)** EF5 / *Joint Tactical Network (JTN)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Wideband networking Waveform (WNW)	1	2016	4	2021
Soldier Radios Waveform (SRW)	1	2016	4	2021
Mobile User Objective System (MUOS) Waveform	1	2015	4	2015
JTRS Enterprise Network Manager (JENM)	1	2016	4	2021

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0605032A / *TRACTOR TIRE*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	-	-	-	5.677	-	5.677	6.192	6.034	6.116	6.516	-	30.535
ET3: *Tractor Trick*	-	-	-	5.677	-	5.677	6.192	6.034	6.116	6.516	-	30.535

Note

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

A. Mission Description and Budget Item Justification

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

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	-	-	-	-	-
Current President's Budget	-	-	5.677	-	5.677
Total Adjustments	-	-	5.677	-	5.677
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	5.677	-	5.677

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0605035A / *Common Infrared Countermeasures (CIRCM)*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	-	-	145.337	77.570	-	77.570	72.909	63.577	54.401	25.641	Continuing	Continuing
EB4: *CIRCM*	-	-	128.189	77.570	-	77.570	72.909	63.577	54.401	25.641	Continuing	Continuing
EE3: *A/C Surv Equip Dev*	-	-	14.838	-	-	-	-	-	-	-	Continuing	Continuing
EE4: *Common Missile Warning System (CMWS)*	-	-	2.310	-	-	-	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Aircraft Survivability Development budget line includes Common Missile Warning System (EE4), Aircraft Survivability Equipment Development (EE3), and Common IR Counter Measure (EB4).

EE3: FY16 funds have moved to ER7, PE 0605051A (Aircraft Survivability Development).
The objective of the Aircraft Survivability Equipment (ASE) Development project is to improve Radio Frequency (RF) ASE for Army aviation. The APR-39 Radar Warning Receiver (RWR) detects, categorizes, and prioritizes Radio Frequency (RF) emitters and provides a visual / aural alert to aircrew members warning them of targeting by RF-guided weapons. The Milestone Decision Authority (MDA) approved Phases 1 and 2 of a 3-phased path forward.

Phase 1 serves as an obsolescence / sustainment upgrade to the Processor Line Replaceable Unit (LRU) of the AN/APR-39A(V) Radar Warning Receiver (RWR) implemented to ensure that the currently fielded system remains viable until affordable improved RF ASE capability can be pursued in Phases 2 and 3.

Phase 2, RWR Modernization, adopts the ongoing United States Navy Class I RWR Engineering Change Proposal (ECP), commonly referred to as the APR-39D(V)2 system. APR-39D(V)2 will significantly improve the near-spherical RF threat coverage, automatic detection and identification of threat types, bearing, and lethality. Under Phase 2, the Army will develop enhancements to the APR-39D(V)2, including integrated suite control functionality, threat correlation and off-boarding capability, and hardware upgrades needed to keep the APR-39D(V)2 technically relevant and address emerging Low Probability Intercept (LPI) and frequency agile threats.

Phase 3 adds active Electronic Countermeasures (ECM) jamming capability for selected aircraft; Materiel Development Decision (MDD) for this ECM jamming capability phase is not expected until later in the Future Years Defense Program (FYDP).

EE4: FY16 funds have moved to ER8, PE 0605051A (Aircraft Survivability Development).
The US Army operational requirements concept for Aviation Infrared (IR) countermeasure systems is known as the Suite of Integrated Infrared Countermeasures (SIIRCM). SIIRCM is an integrated warning and countermeasure system to enhance aircraft survivability against IR-guided threat missile systems. The Common Missile

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army	Date: February 2015
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0605035A *I Common Infrared Countermeasures (CIRCM)*

Warning System (CMWS) is a core element of the SIIRCM concept. CMWS is an integrated ultraviolet (UV) missile warning system, with an Improved Countermeasure Dispenser (ICMD) serving as a subsystem to a host aircraft.

The CMWS program is a UV missile warning system that cues both flare and laser-based countermeasures to defeat incoming IR-seeking missiles and will alert aircrews to the presence of certain incoming unguided munitions. The B-Kit consists of the components which perform the missile detection and aircrew notification, unguided munitions detection and aircrew notification, false alarm rejection, and countermeasure employment/cueing functions of the system. The CMWS Electronic Control Unit (ECU) receives UV missile detection data from Electro-Optic Missile Sensors (EOMS) and sends a missile alert signal to warn aircrews via on-board avionics. Tier 1 threat missiles detected and tracked by the CMWS are subsequently defeated by a combination of missile seeker countermeasures, including decoy flares and IR Laser Jamming (currently ATIRCM-equipped CH-47 platform only). In addition, the CMWS ECU receives from the EOMS unguided munitions detection data which it also passes to the aircrew through aural and visual alerts. The aircrew then applies the appropriate Tactics, Techniques and Procedures (TTPs) to break contact or engage the enemy with own-ship ordnance. The CMWS Generation 3 (Gen 3) ECU in conjunction with ongoing software development efforts will address outstanding material release conditions to achieve a Full Material Release (FMR) for CMWS and ensure protection against emerging IR-guided missile threats.

The A-Kit for CMWS includes mounting hardware, wiring harnesses, cables, and other components necessary to install and interface the mission kit on host aircraft. The A-Kit ensures the mission kit is functionally and physically operational with a specific host aircraft type.

EB4:
The Common Infrared Countermeasure (CIRCM) is an infrared (IR) countermeasure system that interfaces with a Missile Warning System (MWS) to provide near spherical protection of the host platform in order to defeat IR threat missiles. The CIRCM will provide the sole acquisition of future laser-based IR countermeasure systems for all rotary-wing, tilt-rotor, and small fixed-wing aircraft across the Department of Defense. The US Army's concept of CIRCM is part of the Suite of Integrated Infrared Countermeasures (SIIRCM). The core components of the SIIRCM concept are: a Missile Warning System (MWS), IR expendables countermeasures (flares) and a laser-based IRCM. The SIIRCM detects, declares and initiates IRCM against IR-guided Surface-to-Air Missiles (SAM) or Air-to-Air Missiles (AAM). The CIRCM is the next generation of the laser-based IRCM component and will interface with both the Army's Common Missile Warning System (CMWS) and the Navy's future missile warning system. CIRCM was approved to be funded to the Director, Cost Assessment and Program Evaluation Independent Cost Estimate (CAPE ICE) through Milestone B (MS B) per Defense Acquisition Executive Acquisition Decision Memorandum (DAE) (ADM), December 28, 2011.

The A-Kit for CIRCM includes mounting hardware, wiring harnesses, cables, and other components necessary to install and interface the mission kit on host aircraft. The A-Kit ensures the mission kit is functionally and physically operational with a specific host aircraft type. The CIRCM B-Kit is the mission kit (laser, pointer tracker, and controller) required to achieve near spherical coverage for an aircraft.

EB4 justification:

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army	Date: February 2015
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0605035A / *Common Infrared Countermeasures (CIRCM)*

Fiscal Year 2016 Base RDT&E in the amount of $77.570 million supports the Engineering and Manufacturing Development (EMD) phase to include twelve A-Kit prototypes, platform integration, and integration with other Aircraft Survivability Equipment (ASE) systems.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	-	145.409	143.099	-	143.099
Current President's Budget	-	145.337	77.570	-	77.570
Total Adjustments	-	-0.072	-65.529	-	-65.529
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-0.072	-65.529	-	-65.529

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605035A / *Common Infrared Countermeasures (CIRCM)*	Project (Number/Name) EB4 / *CIRCM*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
EB4: *CIRCM*	-	-	128.189	77.570	-	77.570	72.909	63.577	54.401	25.641	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Funds in the program are a realignment of funds from program VU8, PE 0604270A (Electronic Warfare Development) for more efficient and effective program management.

A. Mission Description and Budget Item Justification

The Common Infrared Countermeasure (CIRCM) is an infrared (IR) countermeasure system that interfaces with a Missile Warning System (MWS) to provide near spherical protection of the host platform in order to defeat IR threat missiles. The CIRCM will provide the sole acquisition of future laser-based IR countermeasure systems for all rotary-wing, tilt-rotor, and small fixed-wing aircraft across the Department of Defense. The US Army's concept of CIRCM is part of the Suite of Integrated Infrared Countermeasures (SIIRCM). The core components of the SIIRCM concept are: a Missile Warning System (MWS), IR expendables countermeasures (flares) and a laser-based IRCM. The SIIRCM detects, declares and initiates IRCM against IR-guided Surface-to-Air Missiles (SAM) or Air-to-Air Missiles (AAM). The CIRCM is the next generation of the laser-based IRCM component and will interface with both the Army's Common Missile Warning System (CMWS) and the Navy's future missile warning system. CIRCM was approved to be funded to the Director, Cost Assessment and Program Evaluation Independent Cost Estimate (CAPE ICE) through Milestone B (MS B) per Defense Acquisition Executive Acquisition Decision Memorandum (DAE) (ADM), December 28, 2011.

The A-Kit for CIRCM includes mounting hardware, wiring harnesses, and other components necessary to install and interface the mission kit on host aircraft. The A-Kit ensures the mission kit is functionally and physically operational with a specific host aircraft type. The CIRCM B-Kit is the mission kit (laser, pointer tracker, and controller) required to achieve near spherical coverage for an aircraft.

Justification:
Fiscal Year 2016 Base RDT&E in the amount of $77.570 million supports the Engineering and Manufacturing Development (EMD) phase to include nine B-Kit prototypes, platform integration, and integration with other Aircraft Survivability Equipment (ASE) systems.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Development Efforts	-	128.189	77.570
Description: RDT&E dollars begin the design and development of the CIRCM system.			
FY 2015 Plans: RDT&E dollars support the CIRCM EMD phase, prototype manufacturing for twelve B-Kit prototypes, and platform integration.			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605035A / *Common Infrared Countermeasures (CIRCM)*	**Project (Number/Name)** EB4 / *CIRCM*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
"Other Testing" includes funds to acquire test threat assets. ***FY 2016 Plans:*** RDT&E dollars support the CIRCM EMD phase to include Critical Design Review (CDR), software testing, Airworthiness Release (AWR) testing, flight testing, Reliability Demonstration Testing (RDT), B-Kit ship set prototype deliveries, A-Kit integration, prototype A-Kit Modification Work Order (MWO) development, Training Support Plan (TSP) and Technical Manual (TM) development. "Other Testing" includes funds to acquire test threat assets.			
Accomplishments/Planned Programs Subtotals	-	128.189	77.570

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• .: *APA Funding:* *APA, BA 4, AZ3537*	-	-	-	-	-	64.942	104.858	166.201	216.127	Continuing	Continuing

Remarks

None

D. Acquisition Strategy

The December 28, 2011 DAE ADM authorized entry into the Technology Development (TD) phase, designated the program a pre-Major Defense Acquisition Program (MDAP), and approved the updated exit criteria. CIRCM will continue pre-MS B activities until MS B approval. Contract award to a single vendor is anticipated in the third quarter of FY15. The EMD contract will include priced options for Other Platform A-Kit Development, A-Kit Engineering Support, Low Rate Initial Production (LRIP) 1 and 2 Prototypes (Hardware and Installs), LRIP 1 and 2 Engineering and Test Support, Software Technical Data Package (TDP), Navy funded requirements, and Defense Exportability Features (DEF). Upon CIRCM MS C approval planned for the fourth quarter of FY17, the LRIP and Engineering Support options may be exercised and the program may immediately enter the Production & Deployment phase with First Unit Equipped (FUE) planned for third quarter of FY19, and a Full Rate Production Decision Review (FRPDR) planned for the third quarter of FY19.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605035A / *Common Infrared Countermeasures (CIRCM)*	Project (Number/Name) EB4 / *CIRCM*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
System Engineering Program Management	Various	Various : -	0.000	-		10.588		9.503		-		9.503	Continuing	Continuing	Continuing
		Subtotal	0.000	-		10.588		9.503		-		9.503	-	-	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Non-Recurring Engineering (NRE)	C/CPFF	Various : -	0.000	-		39.042	Jun 2015	34.626	Jan 2016	-		34.626	Continuing	Continuing	Continuing
Prototype Manufacturing	C/FPIF	Various : -	0.000	-		40.031	Jun 2015	13.890	Jan 2016	-		13.890	Continuing	Continuing	Continuing
Other R&D	Various	Various : -	0.000	-		5.290		5.167	Mar 2016	-		5.167	Continuing	Continuing	Continuing
Data	Various	Various : -	0.000	-		-		1.427	May 2016	-		1.427	Continuing	Continuing	Continuing
		Subtotal	0.000	-		84.363		55.110		-		55.110	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Support Equipment	Various	Various : -	0.000	-		0.700		1.500	Jul 2016	-		1.500	Continuing	Continuing	Continuing
		Subtotal	0.000	-		0.700		1.500		-		1.500	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government System Test and Evaluation	Various	Various : -	0.000	-		2.500		5.050	Apr 2016	-		5.050	Continuing	Continuing	Continuing
Other Testing	Various	Various : -	0.000	-		30.038		6.407	May 2016	-		6.407	Continuing	Continuing	Continuing
		Subtotal	0.000	-		32.538		11.457		-		11.457	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605035A / *Common Infrared Countermeasures (CIRCM)*	Project (Number/Name) EB4 / *CIRCM*	

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	-		128.189		77.570		-		77.570	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605035A / *Common Infrared Countermeasures (CIRCM)*	**Project (Number/Name)** EB4 / *CIRCM*

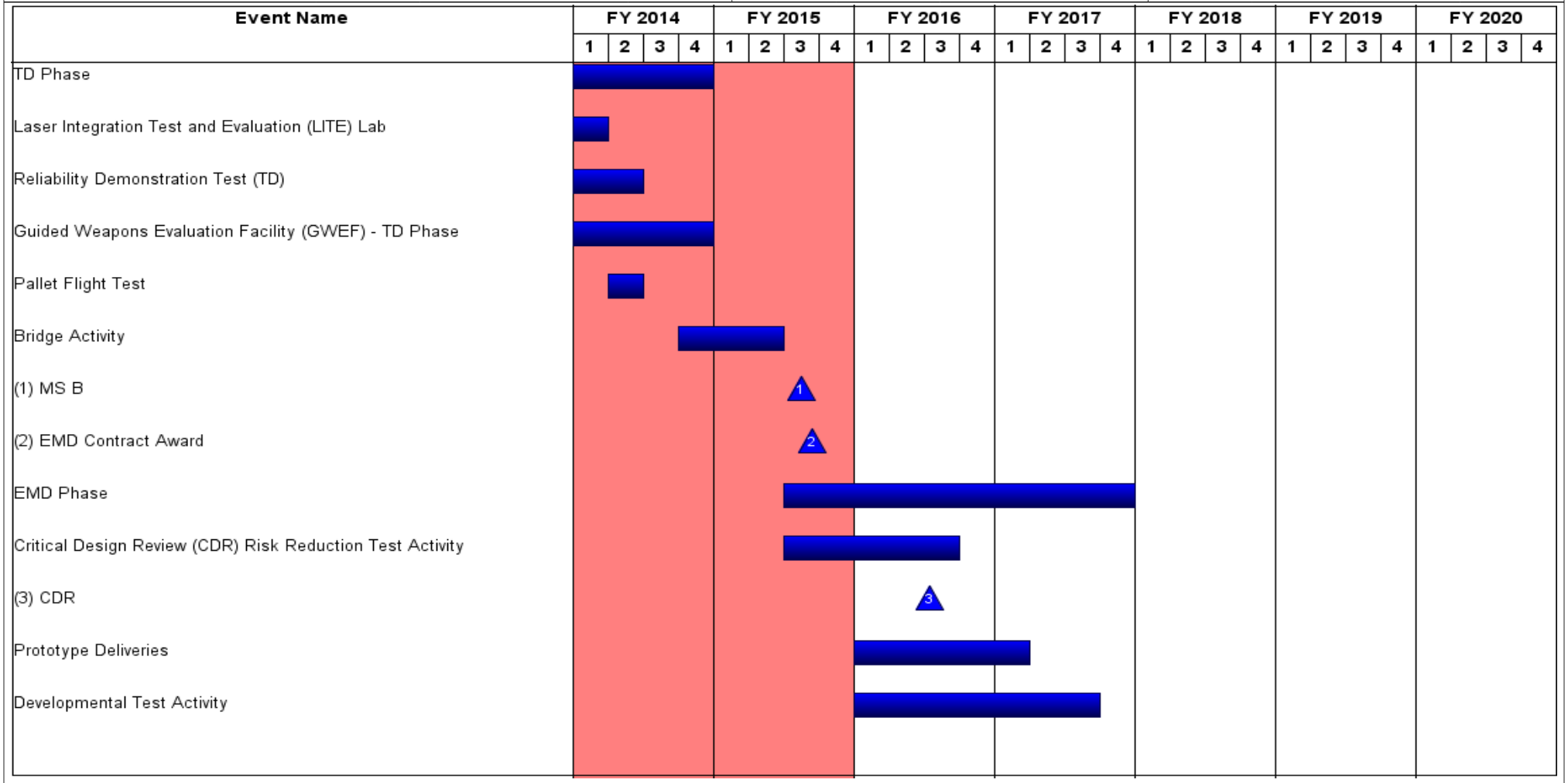

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605035A / *Common Infrared Countermeasures (CIRCM)*	**Project (Number/Name)** EB4 / *CIRCM*

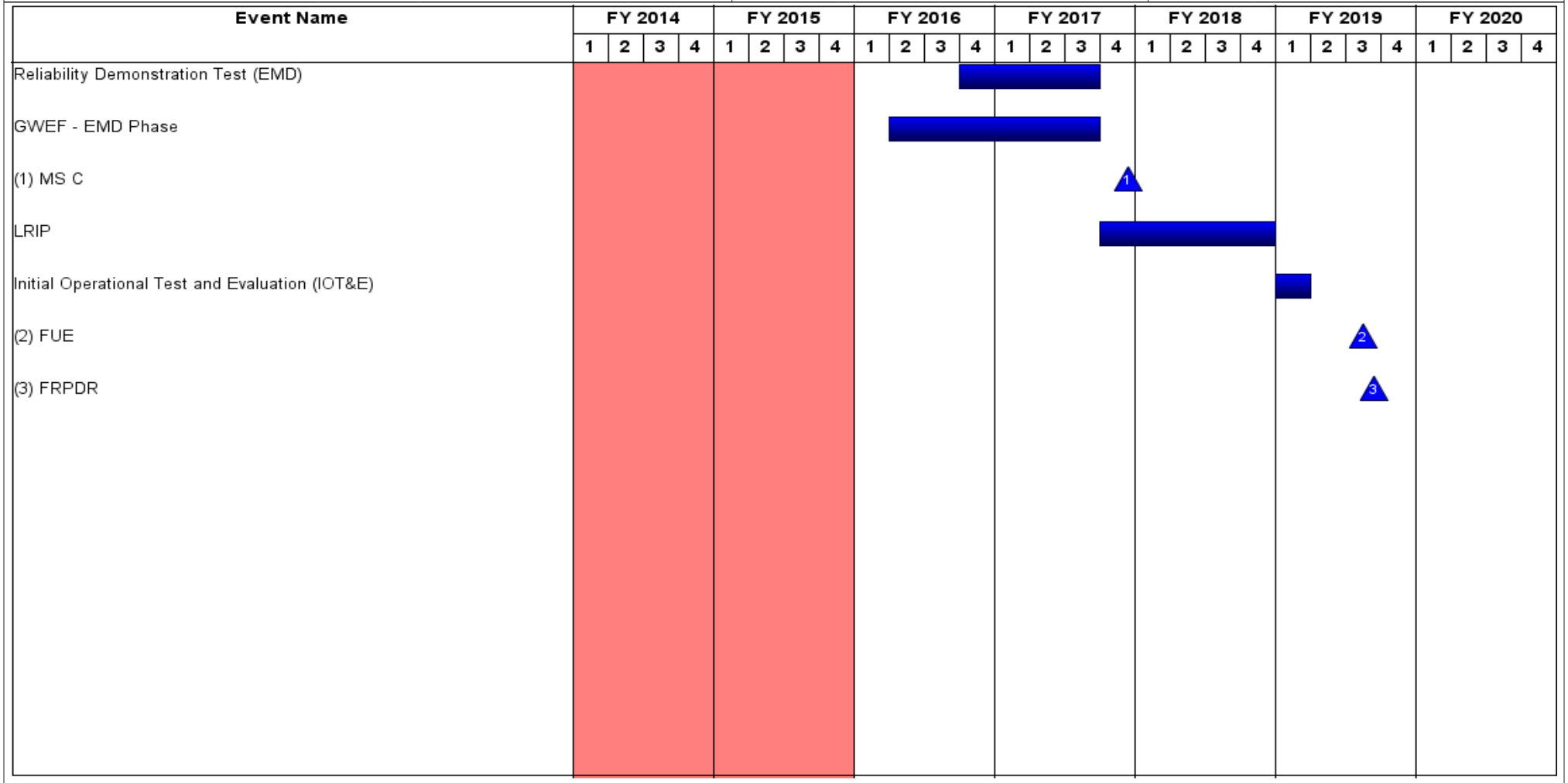

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605035A / *Common Infrared Countermeasures (CIRCM)*	**Project (Number/Name)** EB4 / *CIRCM*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
TD Phase	3	2012	4	2014
Laser Integration Test and Evaluation (LITE) Lab	1	2014	1	2014
Reliability Demonstration Test (TD)	1	2014	2	2014
Guided Weapons Evaluation Facility (GWEF) - TD Phase	2	2013	4	2014
Pallet Flight Test	2	2014	2	2014
Bridge Activity	4	2014	2	2015
MS B	3	2015	3	2015
EMD Contract Award	3	2015	3	2015
EMD Phase	3	2015	4	2017
Critical Design Review (CDR) Risk Reduction Test Activity	3	2015	3	2016
CDR	3	2016	3	2016
Prototype Deliveries	1	2016	1	2017
Developmental Test Activity	1	2016	3	2017
Reliability Demonstration Test (EMD)	4	2016	3	2017
GWEF - EMD Phase	2	2016	3	2017
MS C	4	2017	4	2017
LRIP	4	2017	4	2018
Initial Operational Test and Evaluation (IOT&E)	1	2019	1	2019
FUE	3	2019	3	2019
FRPDR	3	2019	3	2019

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605035A / *Common Infrared Countermeasures (CIRCM)*	Project (Number/Name) EE3 / *A/C Surv Equip Dev*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
EE3: *A/C Surv Equip Dev*	-	-	14.838	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Funds in the program are a realignment of funds from program 665, PE 0604270A (Electronic Warfare Development). Transitioned to Project ER7, PE 605051A Aircraft Survivability Development in FY 2016.

A. Mission Description and Budget Item Justification

The objective of the Aircraft Survivability Equipment (ASE) Development project is to improve Radio Frequency (RF) ASE for Army aviation. The APR-39 Radar Warning Receiver (RWR) detects, categorizes, and prioritizes Radio Frequency (RF) emitters and provides a visual / aural alert to aircrew members warning them of targeting by RF-guided weapons. The Milestone Decision Authority (MDA) approved Phases 1 and 2 of a 3-phased path forward.

Phase 1 serves as an obsolescence / sustainment upgrade to the Processor Line Replaceable Unit (LRU) of the AN/APR-39A(V) Radar Warning Receiver (RWR) implemented to ensure that the currently fielded system remains viable until affordable improved RF ASE capability can be pursued in Phases 2 and 3.

Phase 2, RWR Modernization, adopts the ongoing United States Navy Class I RWR Engineering Change Proposal (ECP), commonly referred to as the APR-39D(V)2 system. APR-39D(V)2 will significantly improve the near-spherical RF threat coverage, automatic detection and identification of threat types, bearing, and lethality. Under Phase 2, the Army will develop enhancements to the APR-39D(V)2, including integrated suite control functionality, threat correlation and off-boarding capability, and hardware upgrades needed to keep the APR-39D(V)2 technically relevant and address emerging Low Probability Intercept (LPI) and frequency agile threats.

Phase 3 adds active Electronic Countermeasures (ECM) jamming capability for selected aircraft; Materiel Development Decision (MDD) for this ECM jamming capability phase is not expected until later in the Future Years Defense Program(FYDP).

Justification: There is no Fiscal Year (FY) 2016 Base RDT&E dollar funding requirement for PE 655035 project EE3. FY16 justification is reported under ER7.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Phase 2 Radio Frequency CM	-	14.838	-
Description: Phase 2 Product Development (Digital RWR)			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605035A / *Common Infrared Countermeasures (CIRCM)*	**Project (Number/Name)** EE3 / *A/C Surv Equip Dev*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Will fund testing of Phase 2 prototypes, Mission Data Set (MDS) development, platform integration on AH-64E, and integration with other ASE systems.			
Accomplishments/Planned Programs Subtotals	-	14.838	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• AZ3511: *Radio Frequency CM (AZ3511)*	-	56.163	28.730	-	28.730	145.749	23.538	41.133	144.724	Continuing	Continuing

Remarks

D. Acquisition Strategy

Army RF ASE is managed by Project Manager ASE (PM ASE) for development, testing, procurement, integration and installation on Army rotary wing and small fixed wing aviation platforms. PM ASE proposed a three-phased path forward commensurate with user priorities and affordability considerations. The Milestone Decision Authority (MDA) approved Phases 1 and 2 of a 3-phased path forward.

Phase 1 addresses obsolescence/Diminishing Manufacturing Sources (DMS) issues associated with the currently fielded AN/APR-39A(V) Radar Warning Receiver (RWR) via sole source Engineering Change Proposal (ECP) awarded to the APR-39A manufacturer.

Phase 2 adopts the on-going United States Navy (USN) RWR Class I Correction of Deficiencies ECP commonly referred to as the APR-39D(V)2 system, limiting service-unique design, test, and integration expenses. Full Army participation throughout the remaining development, testing, procurement, fielding, and sustainment of the APR-39D(V)2 Digital RWR will address the significant Army RF capability gap while avoiding additional costs associated with a single-Service solution. This multi-Service approach also fields an effective and suitable Material Solution 3 years sooner to support the re-balance of the National Defense Strategy to the RF threat-heavy Asia-Pacific Region.

Phase 3 will develop and integrate active Electronic Countermeasures jamming capability for select aircraft.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605035A / *Common Infrared Countermeasures (CIRCM)*	Project (Number/Name) EE3 / *A/C Surv Equip Dev*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Other Development	TBD	Various : -	7.985	-		0.267		-		-		-	Continuing	Continuing	Continuing
Project Management	Various	Various : -	0.182	-		0.247		-		-		-	Continuing	Continuing	Continuing
		Subtotal	8.167	-		0.514		-		-		-	-	-	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Digital Radar Warning Receiver (RWR)	Various	Lab Demo / Study : Various	10.634	-		-		-		-		-	Continuing	Continuing	Continuing
S/W Development	MIPR	OGA, : Aberdeen Proving Ground, MD	0.000	-		2.817		-		-		-	Continuing	Continuing	Continuing
SIL Updates	MIPR	- : AMRDEC	0.000	-		1.121		-		-		-	Continuing	Continuing	Continuing
Depot Standup	MIPR	Tobyhanna : Tobyhanna, PA	1.052	-		-		-		-		-	Continuing	Continuing	Continuing
Platform Integration	TBD	Multiple : -	0.000	-		2.729		-		-		-	Continuing	Continuing	Continuing
		Subtotal	11.686	-		6.667		-		-		-	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Support	Various	Various : -	2.359	-		0.397		-		-		-	Continuing	Continuing	Continuing
Matrix Support	Various	Various : -	6.236	-		0.114		-		-		-	Continuing	Continuing	Continuing
		Subtotal	8.595	-		0.511		-		-		-	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605035A / *Common Infrared Countermeasures (CIRCM)*	Project (Number/Name) EE3 / *A/C Surv Equip Dev*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Multi-Service DT/OT	TBD	Various : -	0.025	-		5.629		-		-		-	Continuing	Continuing	Continuing
Government system Test and Evaluation	Various	Various : Various	0.000	-		1.517		-		-		-	Continuing	Continuing	Continuing
		Subtotal	0.025	-		7.146		-		-		-	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	28.473	-		14.838		-		-		-	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605035A / *Common Infrared Countermeasures (CIRCM)*	**Project (Number/Name)** EE3 / *A/C Surv Equip Dev*

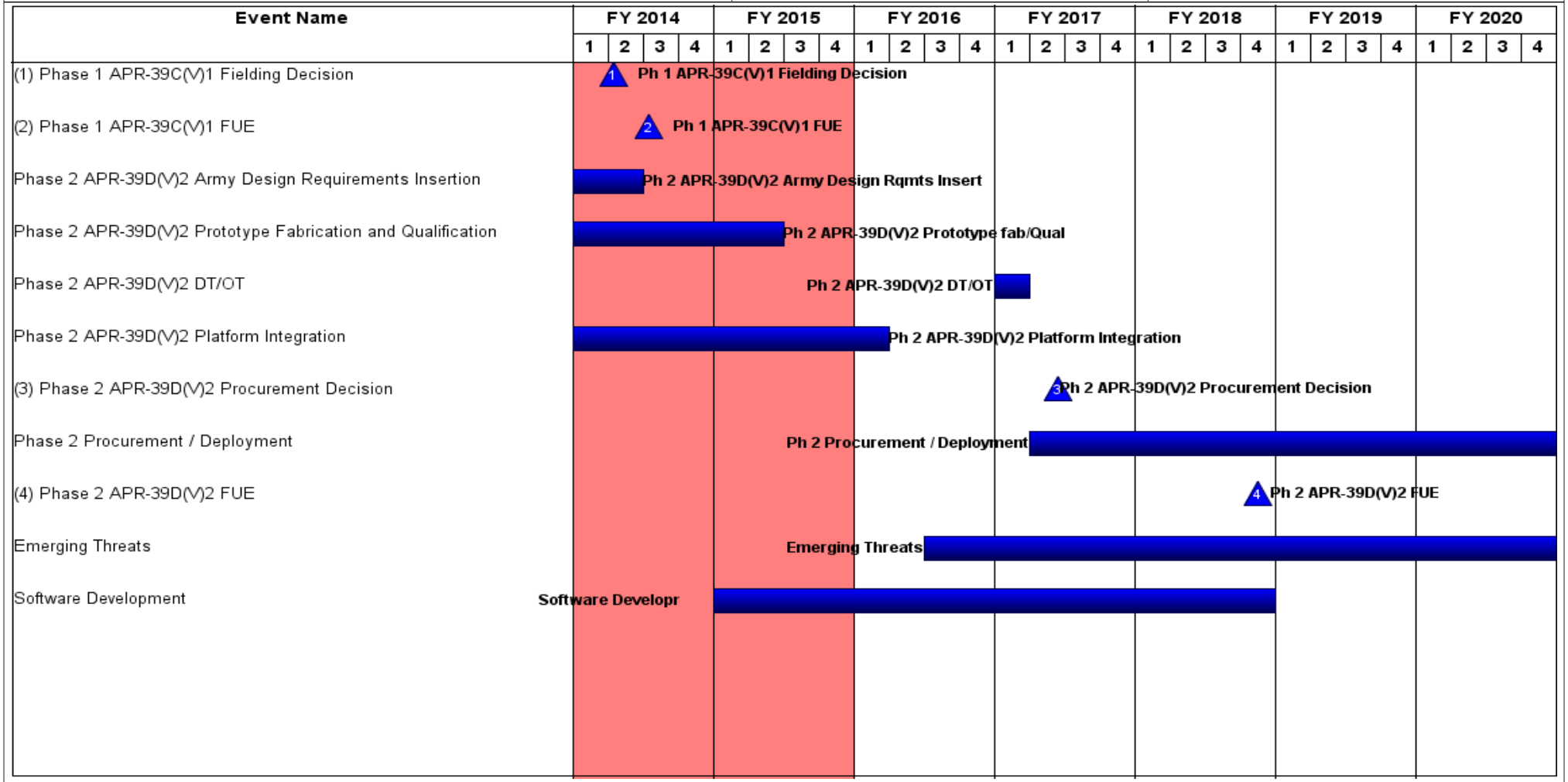

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605035A / *Common Infrared Countermeasures (CIRCM)*	**Project (Number/Name)** EE3 / *A/C Surv Equip Dev*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Phase 1 APR-39C(V)1 Fielding Decision	2	2014	2	2014
Phase 1 APR-39C(V)1 FUE	3	2014	3	2014
Phase 2 APR-39D(V)2 Army Design Requirements Insertion	3	2013	2	2014
Phase 2 APR-39D(V)2 Prototype Fabrication and Qualification	4	2013	2	2015
Phase 2 APR-39D(V)2 DT/OT	1	2017	1	2017
Phase 2 APR-39D(V)2 Platform Integration	1	2014	1	2016
Phase 2 APR-39D(V)2 Procurement Decision	2	2017	2	2017
Phase 2 Procurement / Deployment	2	2017	4	2020
Phase 2 APR-39D(V)2 FUE	4	2018	4	2018
Emerging Threats	3	2016	4	2020
Software Development	1	2015	4	2018

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605035A / *Common Infrared Countermeasures (CIRCM)*	Project (Number/Name) EE4 / *Common Missile Warning System (CMWS)*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
EE4: *Common Missile Warning System (CMWS)*	-	-	2.310	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

FY15 funds in the program are a realignment of funds from program VU7, PE 0604270A (Electronic Warfare Development). FY16 funds are realigned to Project ER8, PE 605051A (Aircraft Survivability Development).

A. Mission Description and Budget Item Justification

The US Army operational requirements concept for Aviation Infrared (IR) countermeasure systems is known as the Suite of Integrated Infrared Countermeasures (SIIRCM). SIIRCM is an integrated warning and countermeasure system to enhance aircraft survivability against IR-guided threat missile systems. The Common Missile Warning System (CMWS) is a core element of the SIIRCM concept. CMWS is an integrated ultraviolet (UV) missile warning system, with an Improved Countermeasure Dispenser (ICMD) serving as a subsystem to a host aircraft.

The CMWS program is a UV missile warning system that cues both flare and laser-based countermeasures to defeat incoming IR-seeking missiles and will alert aircrews to the presence of certain incoming unguided munitions. The B-Kit consists of the components which perform the missile detection and aircrew notification, unguided munitions detection and aircrew notification, false alarm rejection, and countermeasure employment/cueing functions of the system. The CMWS Electronic Control Unit (ECU) receives UV missile detection data from Electro-Optic Missile Sensors (EOMS) and sends a missile alert signal to warn aircrews via on-board avionics. Tier 1 threat missiles detected and tracked by the CMWS are subsequently defeated by a combination of missile seeker countermeasures, including decoy flares and IR Laser Jamming (currently ATIRCM-equipped CH-47 platform only). In addition, the CMWS ECU receives from the EOMS unguided munitions detection data which it also passes to the aircrew through aural and visual alerts. The aircrew then applies the appropriate Tactics, Techniques and Procedures (TTPs) to break contact or engage the enemy with own-ship ordnance. The CMWS Generation 3 (Gen 3) ECU in conjunction with ongoing software development efforts will address outstanding material release conditions to achieve a Full Material Release (FMR) for CMWS and ensure protection against emerging IR-guided missile threats.

The A-Kit for CMWS includes mounting hardware, wiring harnesses, cables, and other components necessary to install and interface the mission kit on host aircraft. The A-Kit ensures the mission kit is functionally and physically operational with a specific host aircraft type.

Justification: There is no Fiscal Year (FY) 2016 Base RDT&E dollar funding requirement for EE4. FY16 justification is reported under ER8.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Development Effort	-	2.310	-
Description: -			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605035A / *Common Infrared Countermeasures (CIRCM)*	**Project (Number/Name)** EE4 / *Common Missile Warning System (CMWS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
FY 2015 Plans: RDT&E funding supports continuing development engineering of the Threat Analysis Database (TAD), salaries, and integration with other ASE systems.			
Accomplishments/Planned Programs Subtotals	-	2.310	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• APA: *BA 4 AZ3517*	103.021	60.401	78.348	-	78.348	42.000	38.331	33.358	19.110	Continuing	Continuing

Remarks

D. Acquisition Strategy

The acquisition strategy includes buying CMWS B-Kits to support the Army Force Generation (ARFORGEN) model and installation of A-Kits on all modernized aircraft. The previous CMWS production contract was a firm fixed-priced (FFP), Indefinite Delivery, Indefinite Quantity (IDIQ) contract. A FFP bridge contract was awarded March 2013 for CMWS hardware. The follow-on CMWS production FFP/CPFF IDIQ contract is a 3 year firm fixed price contract to procure the remaining Generation 3 Electronic Control Units (ECUs) and A-Kits and was awarded SEP 2013. The Gen 3 ECU, which provides increased processing capacity and enables unguided munitions detection, became a part of the system in FY 2010; First Unit Equipped (FUE) for the Gen 3 ECU was achieved in Operation Enduring Freedom (OEF) on 18 September 2013. All aircraft deployed to OEF have received the new processor with hostile fire detection capability. Gen 3 ECU's will gradually replace all Gen 2 ECU's across the Aviation fleet between now and 2017.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605035A / *Common Infrared Countermeasures (CIRCM)*	Project (Number/Name) EE4 / *Common Missile Warning System (CMWS)*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CMWS Systems Engineering Program Management	Various	Various : PM ASE, HSV, AL	2.670	-		0.206		-		-		-	Continuing	Continuing	Continuing
		Subtotal	2.670	-		0.206		-		-		-	-	-	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CMWS Tier 2/3 Upgrades	Various	Various : -	2.000	-		-		-		-		-	Continuing	Continuing	Continuing
CMWS Threat Analysis Database Design	Various	BAE : Various	0.455	-		-		-		-		-	Continuing	Continuing	Continuing
Threat Analysis Database (TAD)	Various	BAE : TBD	0.000	-		2.104	Jun 2015	-		-		-	Continuing	Continuing	Continuing
CMWS Enhanced Sensor Study & Evaluation	TBD	Various : -	11.466	-		-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	13.921	-		2.104		-		-		-	-	-	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	16.591	-		2.310		-		-		-	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605035A / *Common Infrared Countermeasures (CIRCM)*	**Project (Number/Name)** EE4 / *Common Missile Warning System (CMWS)*

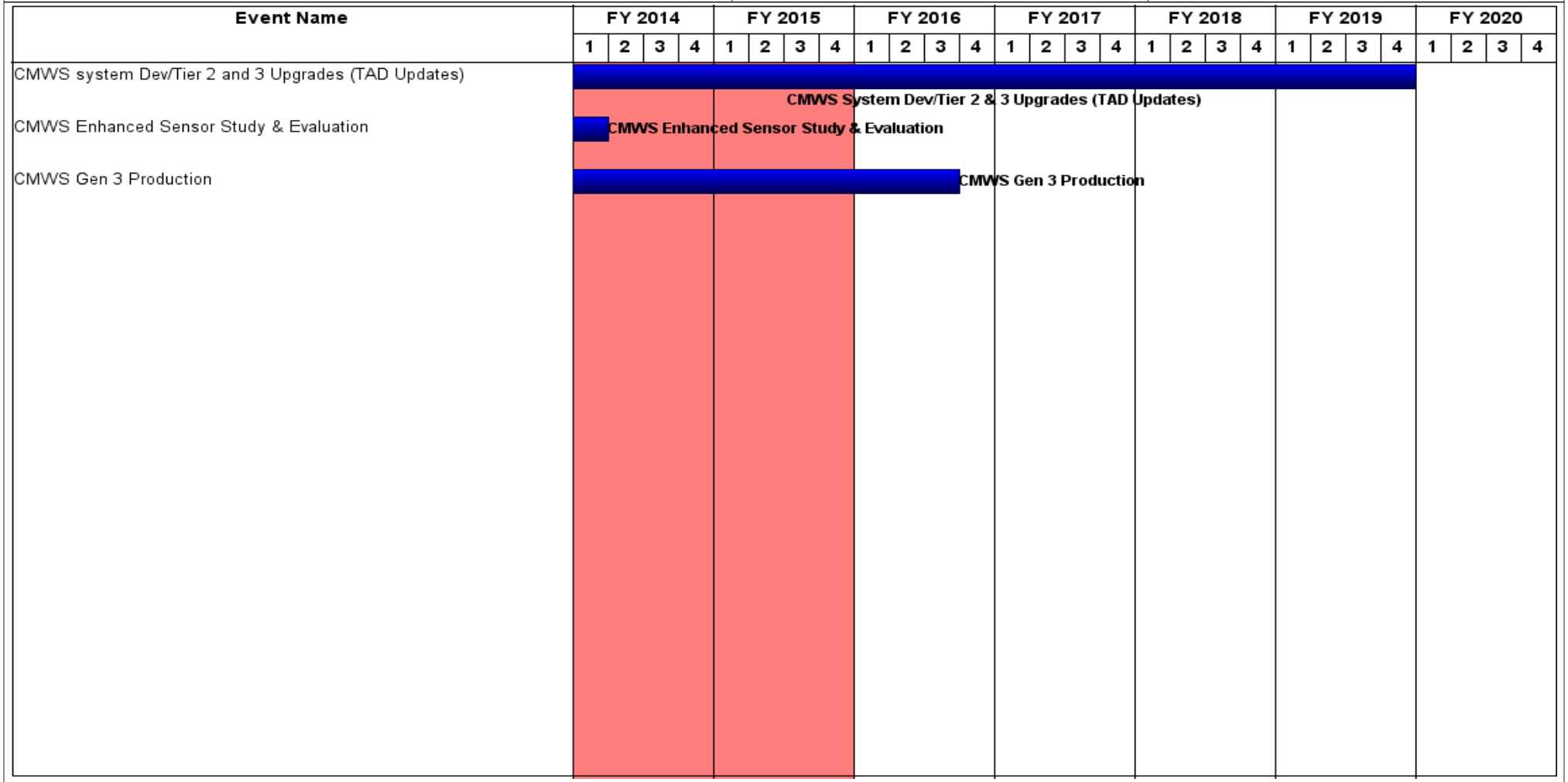

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605035A / *Common Infrared Countermeasures (CIRCM)*	**Project (Number/Name)** EE4 / *Common Missile Warning System (CMWS)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
CMWS system Dev/Tier 2 and 3 Upgrades (TAD Updates)	2	2011	4	2019
CMWS Enhanced Sensor Study & Evaluation	3	2012	1	2014
CMWS Gen 3 Production	3	2012	3	2016

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0605051A / *Aircraft Survivability Development*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	-	-	-	18.112	-	18.112	31.015	31.945	5.793	11.339	Continuing	Continuing
ER7: *Aircraft Survivability Equipment Development*	-	-	-	15.115	-	15.115	26.175	27.533	1.520	-	Continuing	Continuing
ER8: *Common Missile Warning System (CMWS)*	-	-	-	2.997	-	2.997	4.840	4.412	4.273	11.339	Continuing	Continuing

A. Mission Description and Budget Item Justification

ER7:
Aircraft Survivability Equipment Development:

The objective of the Aircraft Survivability Equipment (ASE) Development project is to improve Radio Frequency (RF) ASE for Army aviation. The APR-39 Radar Warning Receiver (RWR) detects, categorizes, and prioritizes Radio Frequency (RF) emitters and provides a visual / aural alert to aircrew members warning them of targeting by RF-guided weapons. The Milestone Decision Authority (MDA) approved Phases 1 and 2 of a 3-phased path forward.

Phase 1 serves as an obsolescence / sustainment upgrade to the Processor Line Replaceable Unit (LRU) of the AN/APR-39A(V) Radar Warning Receiver (RWR) implemented to ensure that the currently fielded system remains viable until affordable improved RF ASE capability can be pursued in Phases 2 and 3.

Phase 2, RWR Modernization, adopts the ongoing United States Navy Class I RWR Engineering Change Proposal (ECP), commonly referred to as the APR-39D(V)2 system. APR-39D(V)2 will significantly improve the near-spherical RF threat coverage, automatic detection and identification of threat types, bearing, and lethality. Under Phase 2, the Army will develop enhancements to the APR-39D(V)2, including integrated suite control functionality, threat correlation and off-boarding capability, and hardware upgrades needed to keep the APR-39D(V)2 technically relevant and address emerging Low Probability Intercept (LPI) and frequency agile threats.

Phase 3 adds active Electronic Countermeasures (ECM) jamming capability for selected aircraft; Materiel Development Decision (MDD) for this ECM jamming capability phase is not expected until later in the Future Years Defense Program (FYDP).

ER8:
Common Missile Warning System (CMWS):

The US Army operational requirements concept for Aviation Infrared (IR) countermeasure systems is known as the Suite of Integrated Infrared Countermeasures (SIIRCM). SIIRCM is an integrated warning and countermeasure system to enhance aircraft survivability against IR-guided threat missile systems. The Common Missile

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army	Date: February 2015
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0605051A *I Aircraft Survivability Development*

Warning System (CMWS) is a core element of the SIIRCM concept. CMWS is an integrated ultraviolet (UV) missile warning system, with an Improved Countermeasure Dispenser (ICMD) serving as a subsystem to a host aircraft.

The CMWS program is a UV missile warning system that cues both flare and laser-based countermeasures to defeat incoming IR-seeking missiles and will alert aircrews to the presence of certain incoming unguided munitions. The B-Kit consists of the components which perform the missile detection and aircrew notification, unguided munitions detection and aircrew notification, false alarm rejection, and countermeasure employment/cueing functions of the system. The CMWS Electronic Control Unit (ECU) receives UV missile detection data from Electro-Optic Missile Sensors (EOMS) and sends a missile alert signal to warn aircrews via on-board avionics. Tier 1 threat missiles detected and tracked by the CMWS are subsequently defeated by a combination of missile seeker countermeasures, including decoy flares and IR Laser Jamming (currently ATIRCM-equipped CH-47 platform only). In addition, the CMWS ECU receives from the EOMS unguided munitions detection data which it also passes to the aircrew through aural and visual alerts. The aircrew then applies the appropriate Tactics, Techniques and Procedures (TTPs) to break contact or engage the enemy with own-ship ordnance. The CMWS Generation 3 (Gen 3) ECU in conjunction with ongoing software development efforts will address outstanding material release conditions to achieve a Full Material Release (FMR) for CMWS and ensure protection against emerging IR-guided missile threats.

The A-Kit for CMWS includes mounting hardware, wiring harnesses, cables, and other components necessary to install and interface the mission kit on host aircraft. The A-Kit ensures the mission kit is functionally and physically operational with a specific host aircraft type.

ER7: Justification: Fiscal Year (FY) 2016 Base RDT&E funding of $15.115 million supports RWR software development, Software Integration Lab (SIL) updates and emerging threats.

ER8: Justification: Fiscal Year (FY) 2016 Base RDT&E dollars in the amount of $2.997 million supports development engineering of the Threat Analysis Database (TAD) and integration with other Aircraft Survivability Equipment systems.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	-	-	-	-	-
Current President's Budget	-	-	18.112	-	18.112
Total Adjustments	-	-	18.112	-	18.112
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	18.112	-	18.112

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605051A / *Aircraft Survivability Development*	Project (Number/Name) ER7 / *Aircraft Survivability Equipment Development*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
ER7: *Aircraft Survivability Equipment Development*	-	-	-	15.115	-	15.115	26.175	27.533	1.520	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

FY16 funds in the program are a realignment of funds from program EE3, PE 0605035A (Common Infrared Countermeasures (CIRCM)) for more efficient and effective program management.

A. Mission Description and Budget Item Justification

The objective of the Aircraft Survivability Equipment (ASE) Development project is to improve Radio Frequency (RF) ASE for Army aviation. The APR-39 Radar Warning Receiver (RWR) detects, categorizes, and prioritizes Radio Frequency (RF) emitters and provides a visual / aural alert to aircrew members warning them of targeting by RF-guided weapons. The Milestone Decision Authority (MDA) approved Phases 1 and 2 of a 3-phased path forward.

Phase 1 serves as an obsolescence / sustainment upgrade to the Processor Line Replaceable Unit (LRU) of the AN/APR-39A(V) Radar Warning Receiver (RWR) implemented to ensure that the currently fielded system remains viable until affordable improved RF ASE capability can be pursued in Phases 2 and 3.

Phase 2, RWR Modernization, adopts the ongoing United States Navy Class I RWR Engineering Change Proposal (ECP), commonly referred to as the APR-39D(V)2 system. APR-39D(V)2 will significantly improve the near-spherical RF threat coverage, automatic detection and identification of threat types, bearing, and lethality. Under Phase 2, the Army will develop enhancements to the APR-39D(V)2, including integrated suite control functionality, threat correlation and off-boarding capability, and hardware upgrades needed to keep the APR-39D(V)2 technically relevant and address emerging Low Probability Intercept (LPI) and frequency agile threats.

Phase 3 adds active Electronic Countermeasures (ECM) jamming capability for selected aircraft; Materiel Development Decision (MDD) for this ECM jamming capability phase is not expected until later in the Future Years Defense Program (FYDP).

Justification: Fiscal Year (FY) 2016 Base RDT&E funding of $15.115 million supports RWR software development, Software Integration Lab (SIL) updates and emerging threats.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Phase 2 Radio Frequency CM	-	-	15.115
Description: Phase 2 Product Development (Digital RWR)			
FY 2016 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605051A / *Aircraft Survivability Development*	**Project (Number/Name)** ER7 / *Aircraft Survivability Equipment Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Will fund RWR software development and emerging threats.			
Accomplishments/Planned Programs Subtotals	-	-	15.115

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• AZ3511: *Radio Frequency CM (AZ3511)*	-	56.163	28.730	-	28.730	145.749	23.538	41.133	144.724	Continuing	Continuing

Remarks

D. Acquisition Strategy

Army RF ASE is managed by Project Manager ASE (PM ASE) for development, testing, procurement, integration and installation on Army rotary wing and small fixed wing aviation platforms. PM ASE proposed a three-phased path forward commensurate with user priorities and affordability considerations. The Milestone Decision Authority (MDA) approved Phases 1 and 2 of a 3-phased path forward.

Phase 1 addresses obsolescence/Diminishing Manufacturing Sources (DMS) issues associated with the currently fielded AN/APR-39A(V) Radar Warning Receiver (RWR) via sole source Engineering Change Proposal (ECP) awarded to the APR-39A manufacturer.

Phase 2 adopts the on-going United States Navy (USN) RWR Class I Correction of Deficiencies ECP commonly referred to as the APR-39D(V)2 system, limiting service-unique design, test, and integration expenses. Full Army participation throughout the remaining development, testing, procurement, fielding, and sustainment of the APR-39D(V)2 Digital RWR will address the significant Army RF capability gap while avoiding additional costs associated with a single-Service solution. This multi-Service approach also fields an effective and suitable Material Solution 3 years sooner to support the re-balance of the National Defense Strategy to the RF threat-heavy Asia-Pacific Region.

Phase 3 will develop and integrate active Electronic Countermeasures jamming capability for select aircraft.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605051A / *Aircraft Survivability Development*	Project (Number/Name) ER7 / *Aircraft Survivability Equipment Development*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Other Development	TBD	Various : -	8.260	-		-		0.281		-		0.281	Continuing	Continuing	Continuing
Project Management	Various	Various : -	0.429	-		-		0.252		-		0.252	Continuing	Continuing	Continuing
		Subtotal	8.689	-		-		0.533		-		0.533	-	-	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Digital Radar Warning Receiver (RWR)	Various	Lab Demo / Study : Various	10.634	-		-		-		-		-	Continuing	Continuing	Continuing
S/W Development	Various	OGA : Aberdeen Proving Grounds, MD	2.817	-		-		4.723		-		4.723	Continuing	Continuing	Continuing
SIL Updates	MIPR	I2WD : Aberdeen Proving Grounds, MD	1.121	-		-		1.144		-		1.144	Continuing	Continuing	Continuing
Depot Standup	MIPR	Tobyhanna : Tobyhanna, PA	1.052	-		-		-		-		-	-	1.052	-
Platform Integration	TBD	Multiple : -	2.729	-		-		-		-		-	Continuing	Continuing	Continuing
Emerging Threats	MIPR	OGA : Aberdeen Proving Grounds, MD	0.000	-		-		0.532		-		0.532	Continuing	Continuing	Continuing
		Subtotal	18.353	-		-		6.399		-		6.399	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Support	Various	Various : -	2.756	-		-		0.405		-		0.405	Continuing	Continuing	Continuing
Matrix Support	Various	Various : -	6.350	-		-		0.117		-		0.117	Continuing	Continuing	Continuing
		Subtotal	9.106	-		-		0.522		-		0.522	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605051A / *Aircraft Survivability Development*	Project (Number/Name) ER7 / *Aircraft Survivability Equipment Development*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Multi-Service DT/OT	TBD	Various : -	5.654	-		-		0.229		-		0.229	Continuing	Continuing	Continuing
Government System Test and Evaluation	Various	Various : -	1.517	-		-		7.432		-		7.432	Continuing	Continuing	Continuing
		Subtotal	7.171	-		-		7.661		-		7.661	-	-	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	43.319	-		-		15.115		-		15.115	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605051A / *Aircraft Survivability Development*	**Project (Number/Name)** ER7 / *Aircraft Survivability Equipment Development*

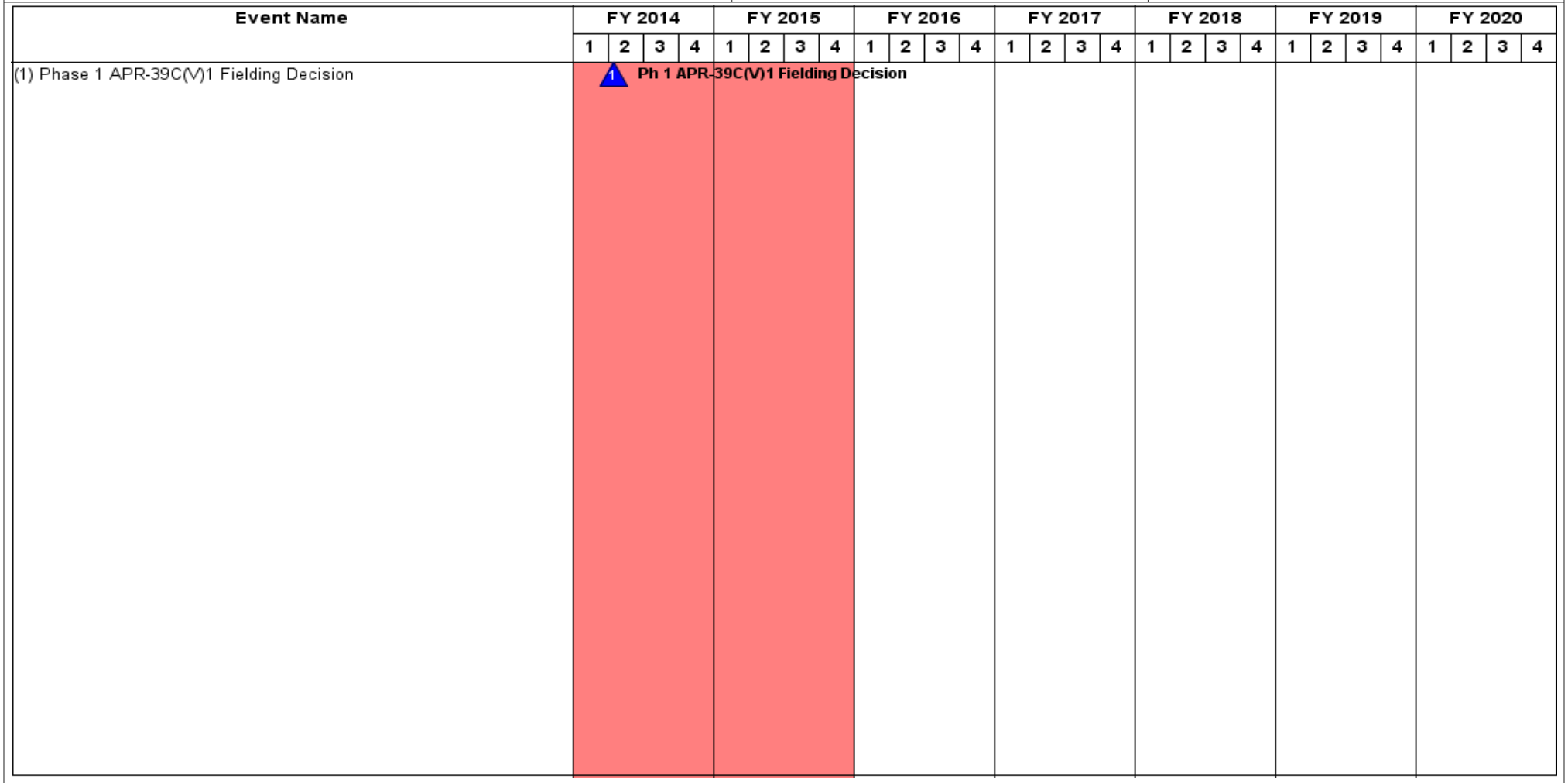

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605051A / *Aircraft Survivability Development*	**Project (Number/Name)** ER7 / *Aircraft Survivability Equipment Development*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Phase 1 APR-39C(V)1 Fielding Decision	2	2014	2	2014

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605051A / *Aircraft Survivability Development*	Project (Number/Name) ER8 / *Common Missile Warning System (CMWS)*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
ER8: *Common Missile Warning System (CMWS)*	-	-	-	2.997	-	2.997	4.840	4.412	4.273	11.339	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

FY16 funds in the program are a realignment of funds from program EE4, PE 0605035A (Common Infrared Countermeasures (CIRCM)) for more efficient and effective program management.

A. Mission Description and Budget Item Justification

The US Army operational requirements concept for Aviation Infrared (IR) countermeasure systems is known as the Suite of Integrated Infrared Countermeasures (SIIRCM). SIIRCM is an integrated warning and countermeasure system to enhance aircraft survivability against IR-guided threat missile systems. The Common Missile Warning System (CMWS) is a core element of the SIIRCM concept. CMWS is an integrated ultraviolet (UV) missile warning system, with an Improved Countermeasure Dispenser (ICMD) serving as a subsystem to a host aircraft.

The CMWS program is a UV missile warning system that cues both flare and laser-based countermeasures to defeat incoming IR-seeking missiles and will alert aircrews to the presence of certain incoming unguided munitions. The B-Kit consists of the components which perform the missile detection and aircrew notification, unguided munitions detection and aircrew notification, false alarm rejection, and countermeasure employment/cueing functions of the system. The CMWS Electronic Control Unit (ECU) receives UV missile detection data from Electro-Optic Missile Sensors (EOMS) and sends a missile alert signal to warn aircrews via on-board avionics. Tier 1 threat missiles detected and tracked by the CMWS are subsequently defeated by a combination of missile seeker countermeasures, including decoy flares and IR Laser Jamming (currently ATIRCM-equipped CH-47 platform only). In addition, the CMWS ECU receives from the EOMS unguided munitions detection data which it also passes to the aircrew through aural and visual alerts. The aircrew then applies the appropriate Tactics, Techniques and Procedures (TTPs) to break contact or engage the enemy with own-ship ordnance. The CMWS Generation 3 (Gen 3) ECU in conjunction with ongoing software development efforts will address outstanding material release conditions to achieve a Full Material Release (FMR) for CMWS and ensure protection against emerging IR-guided missile threats.

The A-Kit for CMWS includes mounting hardware, wiring harnesses, cables, and other components necessary to install and interface the mission kit on host aircraft. The A-Kit ensures the mission kit is functionally and physically operational with a specific host aircraft type.

Justification: Fiscal Year (FY) 2016 Base RDT&E dollars in the amount of $2.997 million supports development engineering of the Threat Analysis Database (TAD) and integration with other Aircraft Survivability Equipment systems.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Development Effort	-	-	2.997

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605051A / *Aircraft Survivability Development*	**Project (Number/Name)** ER8 / *Common Missile Warning System (CMWS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Description: - ***FY 2016 Plans:*** RDT&E funding supports continuing development engineering of the Threat Analysis Database (TAD), salaries and integration with other ASE Systems.			
Accomplishments/Planned Programs Subtotals	-	-	2.997

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• AZ3517: *Common Missile Warning (AZ3517)*	103.021	60.401	78.348	-	78.348	42.000	38.331	33.358	19.110	Continuing	Continuing

Remarks

D. Acquisition Strategy

The acquisition strategy includes buying CMWS B-Kits to support the Army Force Generation (ARFORGEN) model and installation of A-Kits on all modernized aircraft. The previous CMWS production contract was a firm fixed-priced (FFP), Indefinite Delivery, Indefinite Quantity (IDIQ) contract. A FFP bridge contract was awarded March 2013 for CMWS hardware. The follow-on CMWS production FFP/CPFF IDIQ contract is a 3 year firm fixed price contract to procure the remaining Generation 3 Electronic Control Units (ECUs) and A-Kits and was awarded SEP 2013. The Gen 3 ECU, which provides increased processing capacity and enables unguided munitions detection, became a part of the system in FY 2010; First Unit Equipped (FUE) for the Gen 3 ECU was achieved in Operation Enduring Freedom (OEF) on 18 September 2013. All aircraft deployed to OEF have received the new processor with hostile fire detection capability. Gen 3 ECU's will gradually replace all Gen 2 ECU's across the Aviation fleet between now and 2017.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605051A / *Aircraft Survivability Development*	Project (Number/Name) ER8 / *Common Missile Warning System (CMWS)*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CMWS systems Engineering Program Management	Various	Various : PM ASE, HSV, AL	2.876	-		-		0.378		-		0.378	Continuing	Continuing	Continuing
		Subtotal	2.876	-		-		0.378		-		0.378	-	-	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CMWS tier 2/3 Upgrades	Various	Various : -	2.000	-		-		-		-		-	Continuing	Continuing	Continuing
CMWS Threat Analysis Database Design	Various	BAE : Various	0.455	-		-		-		-		-	Continuing	Continuing	Continuing
Threat Analysis Database (TAD)	Various	BAE : Various	2.104	-		-		2.619	Jun 2016	-		2.619	Continuing	Continuing	Continuing
CMWS Enhanced Sensor Study & Evaluation	TBD	Various : -	11.466	-		-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	16.025	-		-		2.619		-		2.619	-	-	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	18.901	-		-		2.997		-		2.997	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605051A / *Aircraft Survivability Development*	**Project (Number/Name)** ER8 / *Common Missile Warning System (CMWS)*

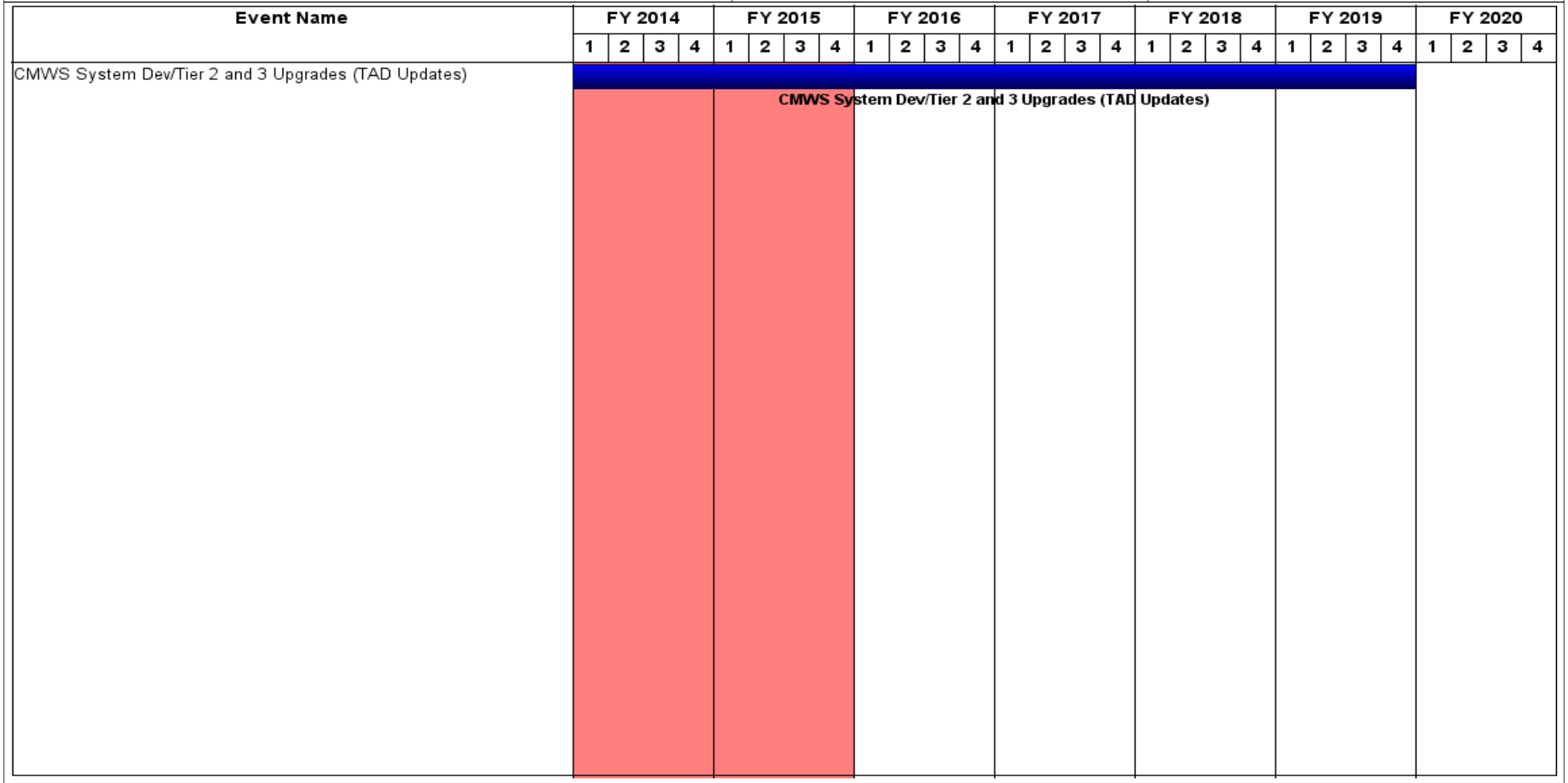

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605051A / *Aircraft Survivability Development*	**Project (Number/Name)** ER8 / *Common Missile Warning System (CMWS)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
CMWS System Dev/Tier 2 and 3 Upgrades (TAD Updates)	2	2011	4	2019

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army												Date: February 2015
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0605350A *I WIN-T Increment 3 - Full Networking*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	-	-	113.155	39.700	-	39.700	-	-	-	-	-	152.855
EE8: *WIN-T Increment 3 - Full Networking*	-	-	113.155	39.700	-	39.700	-	-	-	-	-	152.855

Note

PE 0605350/EE8 was formerly 0603782/372 in FY 2014 and prior. The Warfighter Information Network – Tactical (WIN-T) Increment (Inc) 3 program has been de-scoped to a software-only program due to FY 2015-19 budgetary constraints.

A. Mission Description and Budget Item Justification

The Warfighter Information Network – Tactical (WIN-T) Increment (Inc) 3 program has been de-scoped to a software-only program. WIN-T Inc 3 develops the Network Operations (NetOps) software to meet the Army's Network Convergence goals. NetOps provides the monitoring, control and planning tools to ensure management of the voice, data and internet transport networks. The NetOps software will also provide Information Assurance and Network Centric Enterprise Services. This allows for seamless integration of the tactical network planning, management, monitoring, and defense for the Signal staff. These NetOps improvements simplify the management of the network and increase the automation of tools and reporting. The developed NetOps software enhancements will be provided as a technical insertion to WIN-T Incs 1 and 2.

Inc 3 also develops the enhanced Net Centric Waveform (NCW) version 10.x for increased throughput capability beyond line of sight (BLOS) satellite communication and the Highband Networking Waveform (HNW) version 3.0 for line of sight (LOS) communications. NCW version 10.x testing will support Army Strategic Command certification of the waveform for use on Wideband Global Satellites and subsequent insertion into WIN-T Inc 1 and Inc 2. HNW version 3.0 will be delivered to the Joint Tactical Networking Center (JTNC) Information Repository for commercial development application. Both NCW and HNW provide improved network capacity and robustness.

FY 2016 continues funding the Engineering and Manufacturing Development (EMD) phase of the program, culminating the development with Operational Testing of NetOps Builds and NCW 10.x at the Network Integration Evaluation exercise 16.2 and execution of an over the air demonstration of the HNW 3.0 waveform using the EMD prototype radios and antennas prior to submission the waveform repository.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army					Date: February 2015
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*		R-1 Program Element (Number/Name) PE 0605350A / *WIN-T Increment 3 - Full Networking*			
B. Program Change Summary ($ in Millions)	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**
Previous President's Budget	-	113.210	39.700	-	39.700
Current President's Budget	-	113.155	39.700	-	39.700
Total Adjustments	-	-0.055	-	-	-
• Congressional General Reductions	-	-0.055			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605350A / *WIN-T Increment 3 - Full Networking*	Project (Number/Name) EE8 / *WIN-T Increment 3 - Full Networking*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
EE8: *WIN-T Increment 3 - Full Networking*	-	-	113.155	39.700	-	39.700	-	-	-	-	-	152.855
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Program was funded in PE 0603782A, project 372 in FY 2014 and prior.

A. Mission Description and Budget Item Justification

The Warfighter Information Network – Tactical (WIN-T) Increment (Inc) 3 program has been de-scoped to a software-only program. WIN-T Inc 3 develops the Network Operations (NetOps) software to meet the Army's Network Convergence goals. NetOps provides the monitoring, control and planning tools to ensure management of the voice, data and internet transport networks. The NetOps software will also provide Information Assurance and Network Centric Enterprise Services. This allows for seamless integration of the tactical network planning, management, monitoring, and defense for the Signal staff. These NetOps improvements simplify the management of the network and increase the automation of tools and reporting. The developed NetOps software enhancements will be provided as a technical insertion to WIN-T Incs 1 and 2.

WIN-T Inc 3 also develops the enhanced Net Centric Waveform (NCW) version 10.x for increased throughput capability beyond line of sight (BLOS) satellite communication and the Highband Networking Waveform (HNW) version 3.0 for line of sight (LOS) communications. NCW version 10.x testing will support Army Strategic Command certification of the waveform for use on Wideband Global Satellites and subsequent insertion into WIN-T Inc 1 and Inc 2. HNW version 3.0 will be delivered to the Joint Tactical Networking Center (JTNC) Information Repository. Both NCW and HNW provide improved network capacity and robustness.

FY 2016 continues funding the Engineering and Manufacturing Development (EMD) phase of the program, culminating the development with Operational Testing of NetOps Builds and NCW 10.x at the Network Integration Evaluation exercise 16.2 and execution of an over the air demonstration of the HNW 3.0 waveform using the EMD prototype radios and antennas prior to submission the waveform repository.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Increment 3 Product Development	-	86.109	12.369
Description: Increment 3 Engineering Maufacturing Development (EMD) continues development of the Inc 3 system software development and prototype manufacturing of test assets for the Inc 3 system.			
FY 2015 Plans: Continues development of NetOps software build 4/5 , completes the Highband Networking Waveform (HNW) version 3.0 development and Net Centric Waveform (NCW) version 10.x certification. Manufacture the NetOps and waveform specific			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605350A / *WIN-T Increment 3 - Full Networking*	**Project (Number/Name)** EE8 / *WIN-T Increment 3 - Full Networking*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
hardware for test assets. This will start the integration efforts of HNW 3.0 on limited surrogate ground and air platforms in order to conduct an over the air demonstration of HNW 3.0 capability. ***FY 2016 Plans:*** Continues funding the EMD phase of the program to prepare for Operational Testing of NetOps builds and NCW 10.x at the Network Integration Evaluation (NIE) exercise 16.2 and execution of an over the air demonstration of the HNW 3.0 waveform using the EMD prototype radios and antennas prior to submission to the waveform repositorty.			
Title: Test and Engineering ***Description:*** Test and Evaluation ***FY 2015 Plans:*** FY15 T&E funds are required to continue testing of the NetOps Builds through Functional Qualification Testing (FQT), conduct NCW 10.x testing, conduct HNW 3.0 parameter analysis and develop multi-node emulator to support on-going scalability work. ***FY 2016 Plans:*** FY 2016 continues funding the Engineering and Manufacturing Development (EMD) phase of the program, funds Operational Testing of NetOps Builds at the Network Integration Evaluation exercise 16.2 and funds an Over-the-Air (OTA) demonstration of the Highband Networking Waveform (HNW) 3.0 waveform using the EMD prototype radios and antennas prior to submission the waveform repository.	-	16.516	17.484
Title: Management Services ***Description:*** Provides System Engineering and Program Management Support. ***FY 2015 Plans:*** Continues System Engineering and Program Management Support. ***FY 2016 Plans:*** Continues System Engineering and Program Management Support.	-	10.530	9.847
Accomplishments/Planned Programs Subtotals	-	113.155	39.700

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• Inc 3 RDTE: *RDTE PE 0603782/372*	117.192	-	-	-	-	-	-	-	-	-	117.192

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605350A / *WIN-T Increment 3 - Full Networking*	**Project (Number/Name)** EE8 / *WIN-T Increment 3 - Full Networking*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost

Remarks

D. Acquisition Strategy

An evolutionary acquisition strategy is being utilized to provide for the timely insertion of new technologies into Army communication systems by adhering to the basic principles of the DoD Modular Open Systems Approach (MOSA). This allows the Army to keep pace with changing commercial technology and maintain required interoperability with other joint, strategic and commercial standards-based networks. Applying integrated Network Operations (NetOps) capability, WIN-T provides the capability to manage, prioritize, and protect information. It ensures NetOps commonality with Joint, Allied, Coalition, Current Force, and Commercial voice and data networks.

The program is presently in its Engineering, Manufacturing, and Development (EMD) phase, as WIN-T Inc 3 technology is being tested and released over time and will be inserted into WIN-T Inc 1 and Inc 2.

The Acquisition Decision Memorandum (ADM) dated 30 May 2014 directed the restructure of Inc 3 program. Software development for NetOps Build 4/5 and NCW 10.x is to be completed in FY 2015 and testing in FY 2016. The ADM allowed for the development and demonstration of HNW 3.0. The program will also cease all efforts associated with development of Inc 3 unique hardware items.

An updated Acquisition Program Baseline (APB) was approved by the AAE on 15 Sep 14 and shows no Nunn-McCurdy risk due to the program quantity being zero. Likewise, the Program Acquisition Unit Cost/Average Procurement Unit Cost (PAUC/APUC) are no longer applicable.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605350A / *WIN-T Increment 3 - Full Networking*	Project (Number/Name) EE8 / *WIN-T Increment 3 - Full Networking*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	C/ FFPLOE	Various : Various	0.000	-		10.530		9.847		-		9.847	-	20.377	-
		Subtotal	0.000	-		10.530		9.847		-		9.847	-	20.377	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Increment 3 Engineering Manufacturing and Development	SS/CPFF	General Dynamics C4 Systems Inc : Taunton, MA	0.000	-		83.374		12.369		-		12.369	-	95.743	-
Prototype Manufacturing	SS/CPFF	General Dynamics C4 Systems Inc : Taunton, MA	0.000	-		2.735		-		-		-	-	2.735	-
		Subtotal	0.000	-		86.109		12.369		-		12.369	-	98.478	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Testing	SS/BA	Various : Various	0.000	-		16.516		17.484		-		17.484	-	34.000	-
		Subtotal	0.000	-		16.516		17.484		-		17.484	-	34.000	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	-		113.155		39.700		-		39.700	-	152.855	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605350A / *WIN-T Increment 3 - Full Networking*	**Project (Number/Name)** EE8 / *WIN-T Increment 3 - Full Networking*

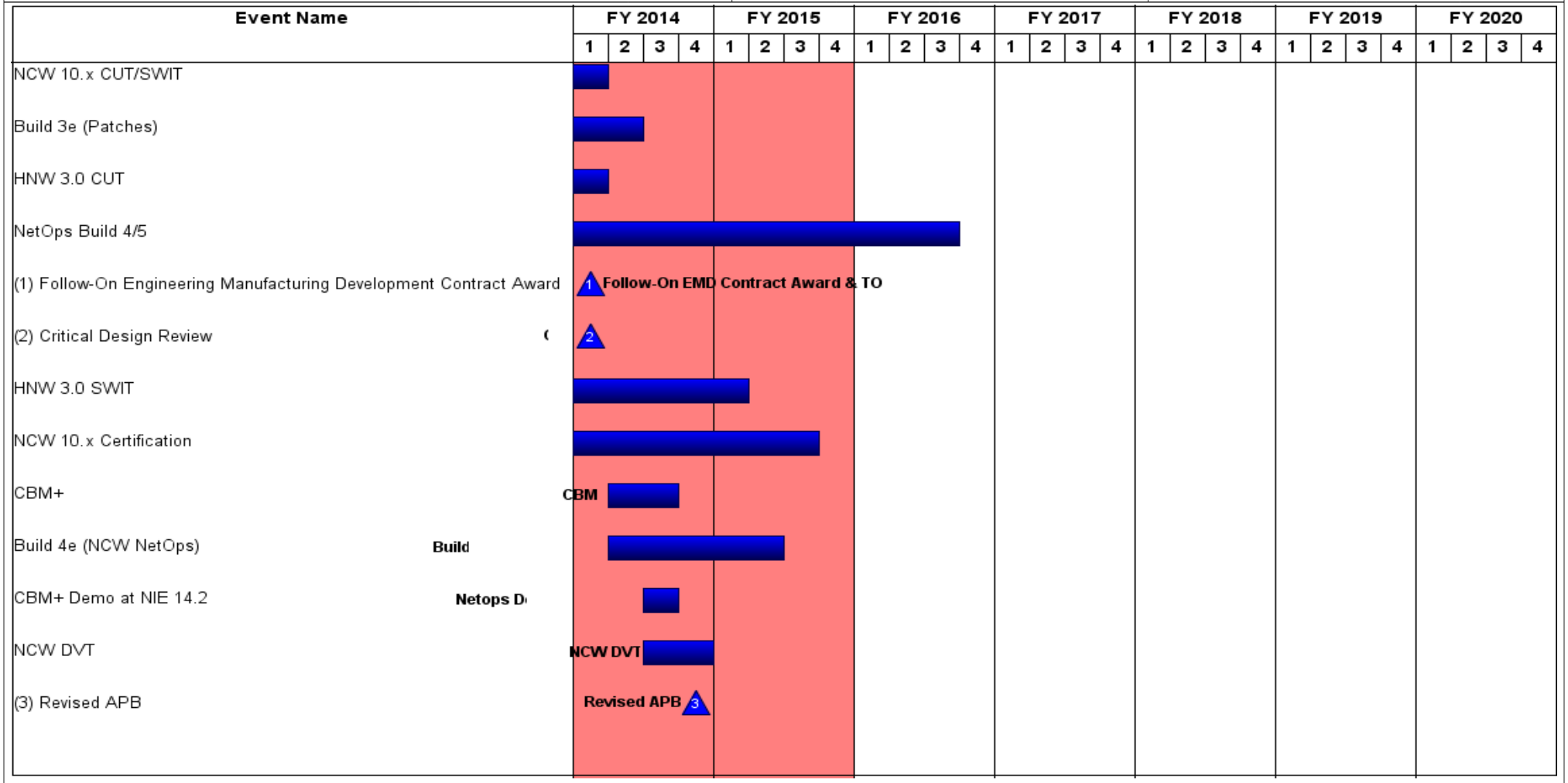

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605350A / *WIN-T Increment 3 - Full Networking*	**Project (Number/Name)** EE8 / *WIN-T Increment 3 - Full Networking*

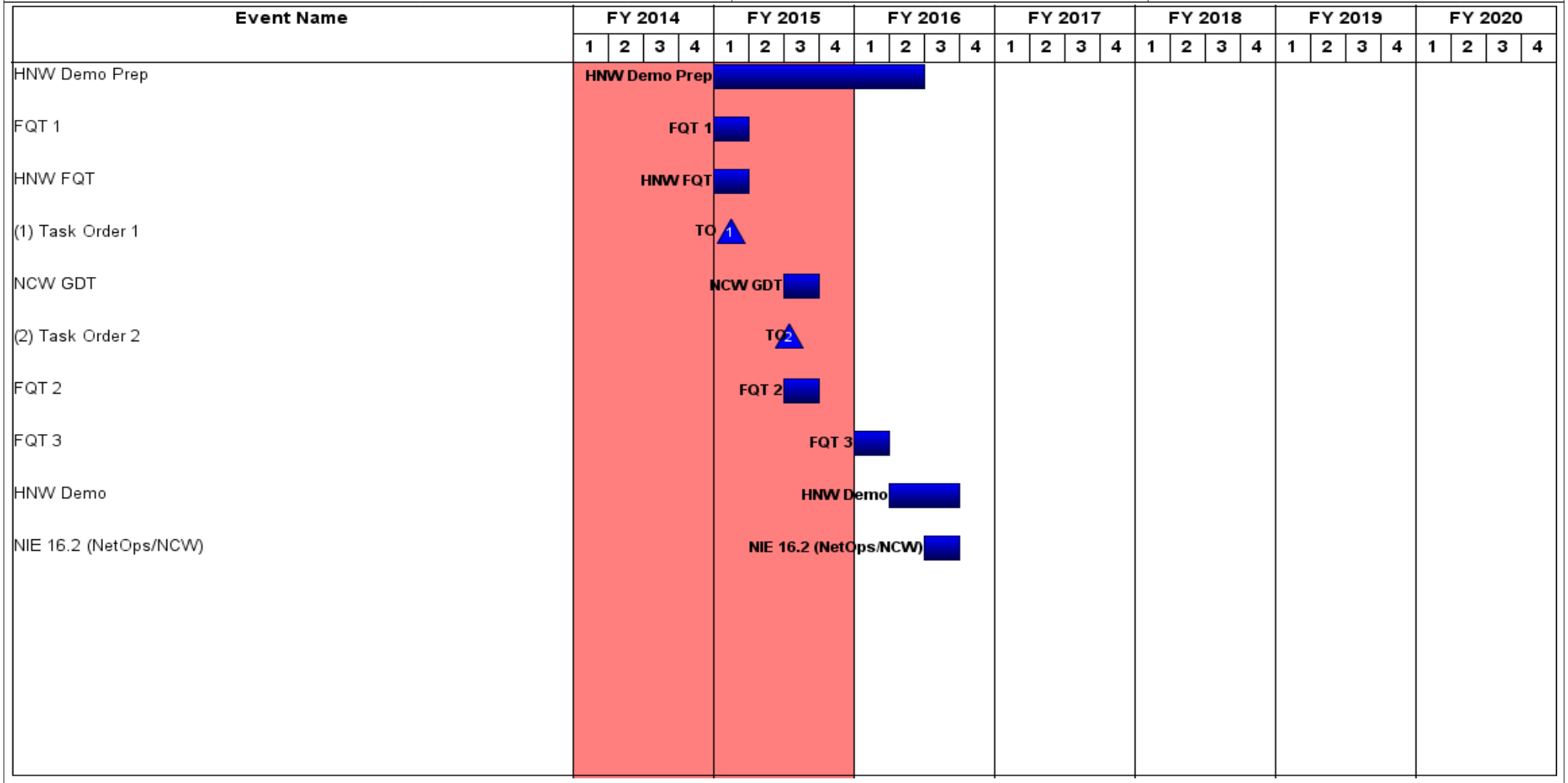

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605350A / *WIN-T Increment 3 - Full Networking*	**Project (Number/Name)** EE8 / *WIN-T Increment 3 - Full Networking*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
NCW 10.x CUT/SWIT	4	2012	1	2014
Build 3e (Patches)	1	2013	2	2014
HNW 3.0 CUT	1	2014	1	2014
NetOps Build 4/5	1	2014	3	2016
Follow-On Engineering Manufacturing Development Contract Award	1	2014	1	2014
Critical Design Review	1	2014	1	2014
HNW 3.0 SWIT	1	2014	1	2015
NCW 10.x Certification	1	2014	3	2015
CBM+	2	2014	3	2014
Build 4e (NCW NetOps)	2	2014	2	2015
CBM+ Demo at NIE 14.2	3	2014	3	2014
NCW DVT	3	2014	4	2014
Revised APB	4	2014	4	2014
HNW Demo Prep	1	2015	2	2016
FQT 1	1	2015	1	2015
HNW FQT	1	2015	1	2015
Task Order 1	1	2015	1	2015
NCW GDT	3	2015	3	2015
Task Order 2	3	2015	3	2015
FQT 2	3	2015	3	2015
FQT 3	1	2016	1	2016
HNW Demo	2	2016	3	2016

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605350A / *WIN-T Increment 3 - Full Networking*	**Project (Number/Name)** EE8 / *WIN-T Increment 3 - Full Networking*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
NIE 16.2 (NetOps/NCW)	3	2016	3	2016

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0605380A *I AMF Joint Tactical Radio System (JTRS)*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	-	9.874	6.878	12.987	-	12.987	11.091	36.114	26.196	8.636	Continuing	Continuing
EA9: *Airborne Maritime Fixed - Small Airborne (AMF-SA)*	-	9.874	6.878	6.832	-	6.832	0.699	0.713	0.728	2.982	Continuing	Continuing
EG6: *Small Airborne Networking Radio (SANR)*	-	-	-	6.155	-	6.155	10.392	35.401	25.468	5.654	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Airborne Maritime/Fixed Station (AMF) radios are software programmable, multi-band, multi-mode, mobile ad hoc networking radios, providing simultaneous voice, data, and video communications for Army Aviation platforms. The radios will operate in networks supporting the Common Operating Picture (COP), Situational Awareness (SA), and interoperability of Mission Command (MC) systems throughout the battlefield. AMF radios will ensure the Soldier's ability to communicate both horizontally and vertically via voice and data within all mission areas and Common Operating Environment (COE). AMF radios will help close capability gaps by extending data networking to company and below echelons, enabling network services to the platform and connecting Army Aviation platforms to Army ground and Joint air network domains. Per Milestone Decision Authority (MDA) direction, the restructured AMF Program will procure radios as Non-Developmental Items (NDI). The Milestone Decision Authority (MDA), Under Secretary of Defense for Acquisition, Technology, and Logistics (USD AT&L), signed the Acquisition Program Baseline (APB) along with the Acquisition Decision Memorandum (ADM) in May of 2014, which identifies the Small Airborne Link 16 Terminal (SALT) and Small Airborne Networking Radio (SANR) as subprograms.

AMF will operate networking waveforms that are deployed by Joint Forces today, enable interoperability between different types of platforms, and transport operational and MC information through the tactical network. AMF is relevant to the Joint Functional Concept (Net-Centric Environment), Joint Integrating Concept (Net-Centric Operational Environment), Joint Operating Concept (Major Combat Operations, Stability Operations), and JTRS Concept of Operations (Tactical Wireless Joint Networks).

Total FY2016 funding is $12.987 million of which $6.832 million is allocated to SALT (Project EA9), and $6.155 million will be allocated to SANR (Project EG6).

The FY 2016 funding allocation for SALT will provide funding that is necessary to complete Market Research efforts required for approval of the Acquisition Strategy, revision and release of the Request for Proposal (RFP), to begin source selection and associated testing activities in support of Contract Award, and to provide office level support for the product and project offices.

The FY 2016 funding allocation to SANR will provide funding that is necessary to complete Market Research, develop and release the Request for Proposal (RFP), and conduct source selection activities including aircraft integration, lab and airborne testing in support of contract award.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army					Date: February 2015
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)*			R-1 Program Element (Number/Name) PE 0605380A *I AMF Joint Tactical Radio System (JTRS)*		
B. Program Change Summary ($ in Millions)	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**
Previous President's Budget	10.213	6.882	12.346	-	12.346
Current President's Budget	9.874	6.878	12.987	-	12.987
Total Adjustments	-0.339	-0.004	0.641	-	0.641
• Congressional General Reductions	-	-0.004			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.339	-			
• Adjustments to Budget Years	-	-	0.641	-	0.641

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605380A / *AMF Joint Tactical Radio System (JTRS)*	Project (Number/Name) EA9 / *Airborne Maritime Fixed - Small Airborne (AMF-SA)*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
EA9: *Airborne Maritime Fixed - Small Airborne (AMF-SA)*	-	9.874	6.878	6.832	-	6.832	0.699	0.713	0.728	2.982	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

In FY 2014-FY 2020, Project EA9 represents the total Airborne Maritime Fixed Small Airborne (AMF-SA) RDT&E budget for those years. Prior to FY 2014, JTRS AMF was funded under Navy PE 0604280N aligned under the Navy Joint Tactical Radio System (JTRS) Programs. In accordance with the Acquisition Decision Memorandum (ADM) dated 11 July 2012, the JTRS Program of Record (POR) transitioned to a Military Department-managed program. On 29 July 2013, USD (AT&L) issued Congressional notification which addressed the intent to establish Small Airborne Link 16 Terminal (SALT) and Small Airborne Networking Radio (SANR) as major subprograms under the AMF Program. Project EA9 represents the SALT RDTE subprogram budget under Airborne Maritime Fixed Small Airborne (AMF-SA). AMF JTRS is managed by Program Executive Office Command, Control and Communications (PEO C3T) under Project Manager Tactical Radios (PM TR), funded by Army PE 0605380A.

A. Mission Description and Budget Item Justification

The Airborne Maritime/Fixed Station will procure Non-Developmental Item (NDI) software programmable, multi-band, multi-mode, multi-channel networking radios that will satisfy requirements for Army managed airborne and air-to-ground communications networks. The radios will operate in networks supporting the Common Operating Picture (COP), Situational Awareness (SA), and interoperability of Mission Command (MC) systems throughout the battlefield.

AMF radios will ensure the Soldier's ability to communicate both horizontally and vertically via voice and data within all mission areas and Common Operating Environment (COE). AMF radios will help close capability gaps by extending data networking to company and below echelons, enabling network services to the platform and connecting Army Aviation platforms to Army ground and Joint air network domains. Per Milestone Decision Authority (MDA) direction, the restructured AMF Program will procure radios as Non-Developmental Items (NDI). The Milestone Decision Authority (MDA), Under Secretary of Defense for Acquisition, Technology, and Logistics (USD AT&L), signed the Acquisition Program Baseline (APB) along with the Acquisition Decision Memorandum (ADM) May 2014, which identifies the Small Airborne Link 16 Terminal (SALT) and Small Airborne Networking Radio (SANR) as subprograms.

AMF will operate networking waveforms that are deployed by Joint Forces today, enable interoperability between different types of platforms, and transport operational and MC information through the tactical network. AMF is relevant to the Joint Functional Concept (Net-Centric Environment), Joint Integrating Concept (Net-Centric Operational Environment), Joint Operating Concept (Major Combat Operations, Stability Operations), and JTRS Concept of Operations (Tactical Wireless Joint Networks).

Total FY2016 funding is $12.987M of which $6.832M is allocated to SALT (Project EA9).

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605380A / *AMF Joint Tactical Radio System (JTRS)*	**Project (Number/Name)** EA9 / *Airborne Maritime Fixed - Small Airborne (AMF-SA)*

The FY 2016 SALT budget will provide funding that is necessary to complete Market Research efforts required for approval of the Acquisition Strategy, revision and release of the Request for Proposal (RFP), begin source selection and associated testing activities in support of Contract Award, and provide office level support for the product and project offices.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Airborne Maritime Fixed Small Airborne (AMF-SA).	9.874	6.878	6.832
Description: Airborne Maritime Fixed Small Airborne (AMF-SA). ***FY 2014 Accomplishments:*** The PMO will conduct source selection and source selection testing with a contract award. Production Qualification Testing (PQT) for the Small Airborne Link 16 Terminal (SALT) to be conducted in FY15 will be funded with FY14 dollars due to a Q1FY15 start. ***FY 2015 Plans:*** With the funding in FY2015, the PMO will only be able to conduct the Production Qualification Testing (PQT) and Pre-solicitation Reliability Testing (PRT)for Small Airborne Link 16 Terminal (SALT). Army Test and Evaluation Command (ATEC) will be funded to support program test & evaluation and requirements efforts. ***FY 2016 Plans:*** With FY2016 funding, the PMO will complete Market Research efforts required for approval of the Acquisition Strategy, revision and release of the Request for Proposal (RFP), and begin source selection and associated testing activities in support of Contract Award. Army Test and Evaluation Command (ATEC) will be funded to support program test & evaluation and requirements efforts.			
Accomplishments/Planned Programs Subtotals	9.874	6.878	6.832

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• B90900: *B90902 Airborne Maritime Fixed - Small Airborne (AMF-SA)*	-	-	-	-	-	23.594	30.668	35.823	46.881	Continuing	Continuing

Remarks

D. Acquisition Strategy

The Small Airborne Link 16 Terminal (SALT) program's acquisition strategy is to procure radios for the Apache aircraft. The SALT radio will be capable of operating Link 16 and Soldier Radio Waveform (SRW). The acquisition strategy for SALT is full and open competition using a Non-Developmental Item (NDI) procurement approach. The strategy supports a concept in which NDI radios can be selected from a qualified vendor base and tailored to platform needs.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605380A / *AMF Joint Tactical Radio System (JTRS)*	**Project (Number/Name)** EA9 / *Airborne Maritime Fixed - Small Airborne (AMF-SA)*

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605380A / *AMF Joint Tactical Radio System (JTRS)*	Project (Number/Name) EA9 / *Airborne Maritime Fixed - Small Airborne (AMF-SA)*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AMF-SA Business Operations Management and Support	Various	Various : Various	0.000	5.518		3.014		2.417		-		2.417	Continuing	Continuing	-
		Subtotal	0.000	5.518		3.014		2.417		-		2.417	-	-	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AMF-SA - System Engineering and Requirements Validation	Various	Various : Various	0.000	1.160		1.325		1.863		-		1.863	Continuing	Continuing	-
		Subtotal	0.000	1.160		1.325		1.863		-		1.863	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AMF-SA - Logistics Support	Various	Various : Various	0.000	1.242		1.267		1.276		-		1.276	Continuing	Continuing	-
		Subtotal	0.000	1.242		1.267		1.276		-		1.276	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AMF-SA - Test and Evaluation and Test Support	Various	Various : Various	0.000	1.954		1.272		1.276		-		1.276	Continuing	Continuing	-
		Subtotal	0.000	1.954		1.272		1.276		-		1.276	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605380A / *AMF Joint Tactical Radio System (JTRS)*	Project (Number/Name) EA9 / *Airborne Maritime Fixed - Small Airborne (AMF-SA)*	

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	9.874		6.878		6.832		-		6.832	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605380A / *AMF Joint Tactical Radio System (JTRS)*	**Project (Number/Name)** EA9 / *Airborne Maritime Fixed - Small Airborne (AMF-SA)*

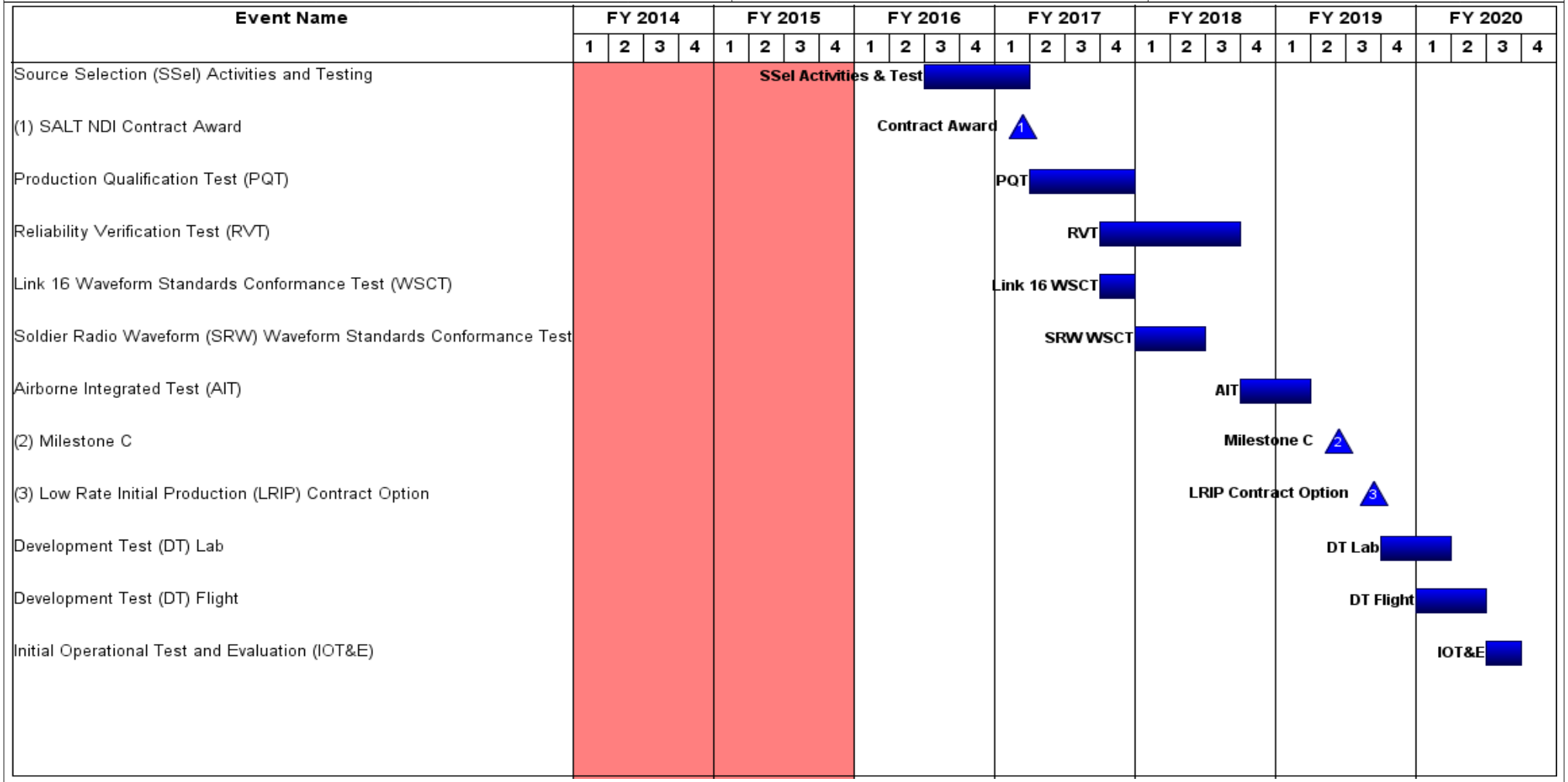

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605380A / *AMF Joint Tactical Radio System (JTRS)*	**Project (Number/Name)** EA9 / *Airborne Maritime Fixed - Small Airborne (AMF-SA)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Source Selection (SSel) Activities and Testing	3	2016	1	2017
SALT NDI Contract Award	1	2017	1	2017
Production Qualification Test (PQT)	2	2017	4	2017
Reliability Verification Test (RVT)	4	2017	3	2018
Link 16 Waveform Standards Conformance Test (WSCT)	4	2017	4	2017
Soldier Radio Waveform (SRW) Waveform Standards Conformance Test (WSCT)	1	2018	2	2018
Airborne Integrated Test (AIT)	4	2018	1	2019
Milestone C	2	2019	2	2019
Low Rate Initial Production (LRIP) Contract Option	3	2019	3	2019
Development Test (DT) Lab	4	2019	1	2020
Development Test (DT) Flight	1	2020	2	2020
Initial Operational Test and Evaluation (IOT&E)	3	2020	3	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605380A / *AMF Joint Tactical Radio System (JTRS)*	Project (Number/Name) EG6 / *Small Airborne Networking Radio (SANR)*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
EG6: *Small Airborne Networking Radio (SANR)*	-	-	-	6.155	-	6.155	10.392	35.401	25.468	5.654	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Starting in FY16 Project No. EG6 represents the total Small Airborne Networking Radio (SANR) RDT&E budgets. Prior to FY 2014, JTRS AMF was funded under Navy PE 0604280N aligned under the Navy Joint Tactical Radio System (JTRS) Programs. In accordance with the Acquisition Decision Memorandum (ADM) dated 11 July 2012, the JTRS Program of Record (POR) transitioned to a Military Department-managed program. AMF JTRS is now managed by Program Executive Office Command, Control and Communications Tactical(PEO C3T) under Project Manager Tactical Radios (PM TR), funded by Army PE 0605380A.

A. Mission Description and Budget Item Justification

Airborne Maritime/Fixed Station - Small Airborne (AMF-SA) radios are software programmable, multi-band, multi-mode, mobile ad hoc networking radios, providing simultaneous voice, data, and video communications. The radios will support the Common Operating Picture (COP), Situational Awareness (SA), and interoperability of Mission Command (MC) systems throughout the battlefield. AMF requirements are satisfied via the combined capabilities of two systems-the Small Airborne Networking Radio (SANR) and Small Airborne Link 16 Terminal (SALT). Their waveforms support MC COP, SA and ensure Aviation platforms communicate both horizontally and vertically via voice and data. Per Milestone Decision Authority (MDA) direction, the redefined AMF Program will procure radios as Non-Developmental Items (NDI).

The communication capabilities provided by AMF SANR provide two new network waveforms (SRW and WNW), and one legacy waveform (VHF-FM SINCGARS), that will enhance and further enable the ability of the maneuver commander to integrate and synchronize aviation forces with land based operational forces. AMF SANR, employed on all Army tactical aircraft (reconnaissance, attack, cargo, and utility), will enable Aviation combat elements (Combat Aviation Brigades (CAB), Theater Aviation Brigades (TAB), and Special Operations Aviation Regiment (SOAR)), to better utilize the inherent versatility of Aviation as a complement to the unique capabilities of the other Combat Arms. The new networks will give commanders enhanced SA and MC in a package that provides a more responsive means of directing aircraft to match changing maneuver forces situations and missions.

The FY 2016 funding will conduct Market Research, develop and release the Request for Proposal (RFP), and conduct source selection activities including aircraft integration, lab and airborne testing in support of contract award.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Small Airborne Networking Radio (SANR)	-	-	6.155
Description: Small Airborne Networking Radio (SANR)			
FY 2016 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605380A / *AMF Joint Tactical Radio System (JTRS)*	**Project (Number/Name)** EG6 / *Small Airborne Networking Radio (SANR)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
The PMO will conduct Market Research, develop and release the Request for Proposal (RFP), and conduct source selection activities including aircraft integration, lab and airborne testing in support of contract award.			
Accomplishments/Planned Programs Subtotals	-	-	6.155

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• B90900: *B90904 JTRS (AMF) Small Airborne Networking Radio (SANR)*	-	-	-	-	-	-	-	23.143	81.340	Continuing	Continuing

Remarks

D. Acquisition Strategy

The Small Airborne Networking Radio (SANR) program's acquisition strategy is to procure SA radios: for the Blackhawk, Chinook, Gray Eagle and other Special Operations Forces aircraft. SANR will be capable of operating the Wideband Networking Waveform (WNW), Soldier Radio Waveform (SRW), and Single Channel Ground and Airborne Radio System (SINCGARS). SANR's acquisition strategy employs open competition using a Non-Developmental Item (NDI) procurement approach. The strategy supports a concept in which NDI radios can be selected from a qualified vendor that meets the AMF capability production document (CPD) requirements.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605380A / *AMF Joint Tactical Radio System (JTRS)*	Project (Number/Name) EG6 / *Small Airborne Networking Radio (SANR)*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AMF-SA Business Operations Management and Support	Various	Various : Various	0.000	-		-		1.531		-		1.531	Continuing	Continuing	-
		Subtotal	0.000	-		-		1.531		-		1.531	-	-	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AMF-SA - System Engineering and Requirements Validation	Various	Various : Various	0.000	-		-		0.413		-		0.413	Continuing	Continuing	-
		Subtotal	0.000	-		-		0.413		-		0.413	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AMF-SA - Logistics Support	Various	Various : Various	0.000	-		-		0.544		-		0.544	Continuing	Continuing	-
		Subtotal	0.000	-		-		0.544		-		0.544	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AMF-SA - Test and Evaluation and Test Support	Various	Various : Various	0.000	-		-		3.667		-		3.667	Continuing	Continuing	-
		Subtotal	0.000	-		-		3.667		-		3.667	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605380A / *AMF Joint Tactical Radio System (JTRS)*	Project (Number/Name) EG6 / *Small Airborne Networking Radio (SANR)*	

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	-		-		6.155		-		6.155	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605380A / *AMF Joint Tactical Radio System (JTRS)*	**Project (Number/Name)** EG6 / *Small Airborne Networking Radio (SANR)*

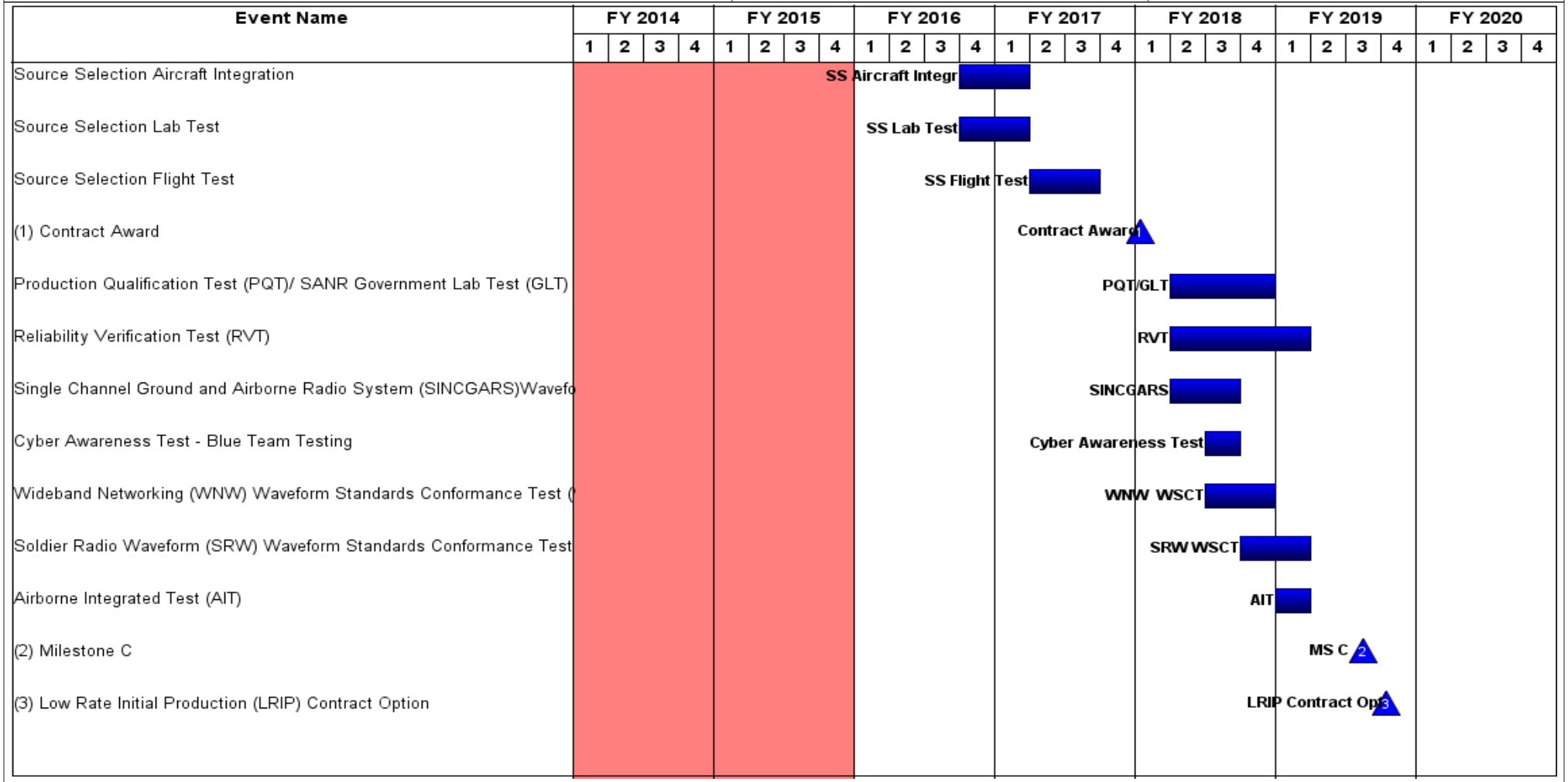

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605380A / *AMF Joint Tactical Radio System (JTRS)*	**Project (Number/Name)** EG6 / *Small Airborne Networking Radio (SANR)*

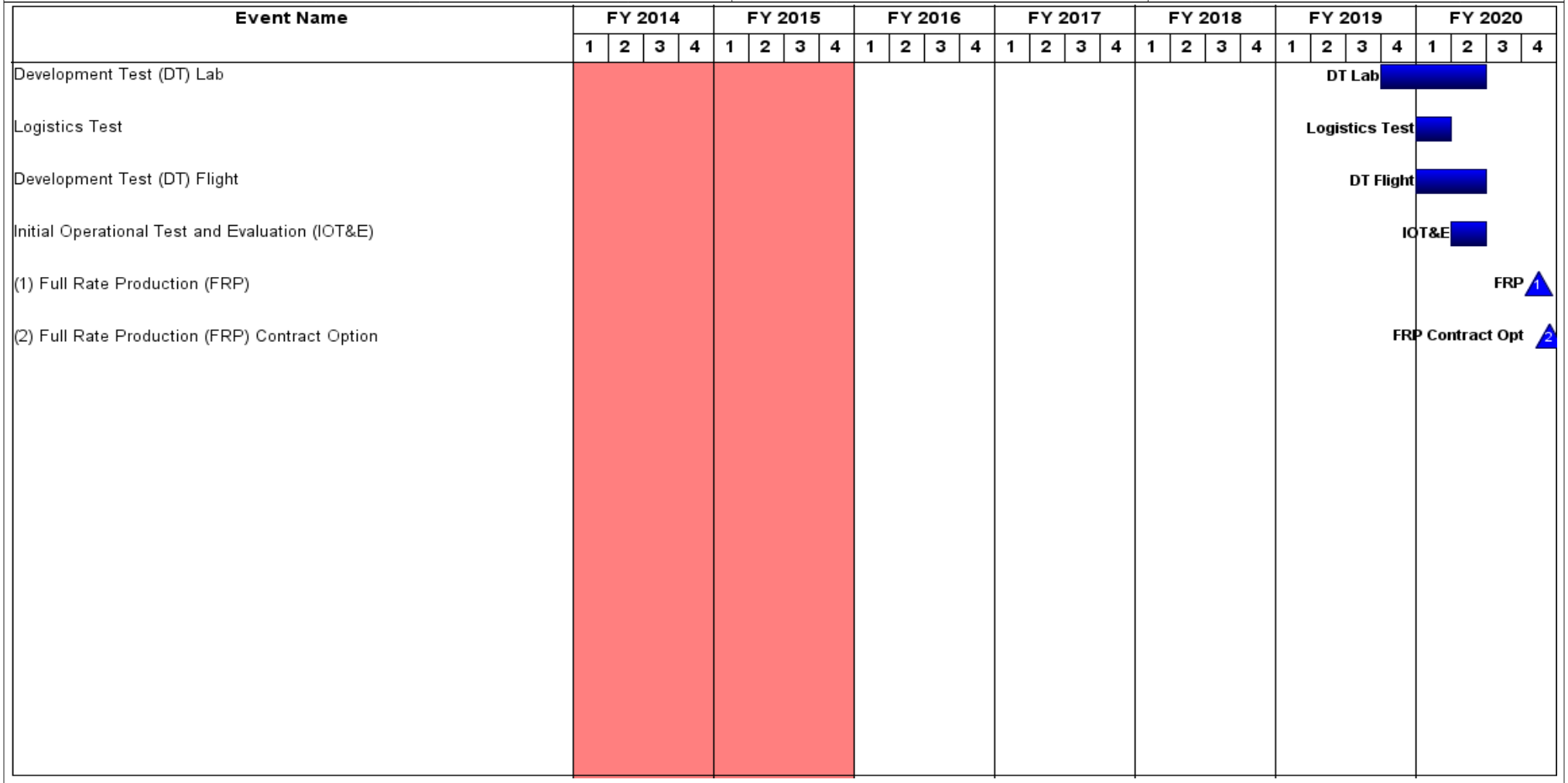

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605380A / *AMF Joint Tactical Radio System (JTRS)*	**Project (Number/Name)** EG6 / *Small Airborne Networking Radio (SANR)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Source Selection Aircraft Integration	4	2016	1	2017
Source Selection Lab Test	4	2016	1	2017
Source Selection Flight Test	2	2017	3	2017
Contract Award	1	2018	1	2018
Production Qualification Test (PQT)/ SANR Government Lab Test (GLT)	2	2018	4	2018
Reliability Verification Test (RVT)	2	2018	1	2019
Single Channel Ground and Airborne Radio System (SINCGARS)Waveform Standard	2	2018	3	2018
Cyber Awareness Test - Blue Team Testing	3	2018	3	2018
Wideband Networking (WNW) Waveform Standards Conformance Test (WSCT)	3	2018	4	2018
Soldier Radio Waveform (SRW) Waveform Standards Conformance Test (WSCT)	4	2018	1	2019
Airborne Integrated Test (AIT)	1	2019	1	2019
Milestone C	3	2019	3	2019
Low Rate Initial Production (LRIP) Contract Option	4	2019	4	2019
Development Test (DT) Lab	4	2019	2	2020
Logistics Test	1	2020	1	2020
Development Test (DT) Flight	1	2020	2	2020
Initial Operational Test and Evaluation (IOT&E)	2	2020	2	2020
Full Rate Production (FRP)	4	2020	4	2020
Full Rate Production (FRP) Contract Option	4	2020	4	2020

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army												Date: February 2015
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0605450A / *Joint Air-to-Ground Missile (JAGM)*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	-	15.684	83.799	88.866	-	88.866	41.286	16.900	-	-	-	246.535
JA6: *Joint Air-To-Ground Missile (JAGM)*	-	15.684	83.799	88.866	-	88.866	41.286	16.900	-	-	-	246.535

Note

Fiscal Year 2016 increase (+21109) to the JAGM program funds and supports the Engineering and Manufacturing Development (EMD) Aircraft Qualification and Missile Developmental Testing.

A. Mission Description and Budget Item Justification

The Joint Air-to-Ground Missile (JAGM) program is an Army led pre-Major Defense Acquisition Program (MDAP) with joint interest with the U.S. Marine Corps (USMC) and U.S. Navy. The JAGM mission is to develop the next generation of aviation launched missiles to replace the HELLFIRE laser and Longbow radar missiles. JAGM will be used by joint service aircraft for destruction of high value stationary, moving and relocatable land and maritime targets from standoff range in day, night, adverse weather and obscured battlefield conditions.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	15.119	83.838	67.757	-	67.757
Current President's Budget	15.684	83.799	88.866	-	88.866
Total Adjustments	0.565	-0.039	21.109	-	21.109
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	1.063	-			
• SBIR/STTR Transfer	-0.498	-			
• Adjustments to Budget Years	-	-0.039	21.109	-	21.109

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605450A / *Joint Air-to-Ground Missile (JAGM)*	Project (Number/Name) JA6 / *Joint Air-To-Ground Missile (JAGM)*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
JA6: *Joint Air-To-Ground Missile (JAGM)*	-	15.684	83.799	88.866	-	88.866	41.286	16.900	-	-	-	246.535
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

The Joint Air-to-Ground Missile (JAGM) program is an Army led pre-Major Defense Acquisition Program (MDAP) with joint interest with the U.S. Marine Corps (USMC) and U.S. Navy. The JAGM mission is to develop the next generation of aviation launched missiles to replace the HELLFIRE laser and Longbow radar missiles. JAGM will be used by joint service aircraft for destruction of high value stationary, moving and relocatable land and maritime targets from standoff range in day, night, adverse weather and obscured battlefield conditions.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Milestone (MS) B Preparation	5.484	11.238	-
Description: The JAGM Product Office will prepare documentation for MS B decision. ***FY 2014 Accomplishments:*** The JAGM Product Office continued to prepare documentation for a MS B. ***FY 2015 Plans:*** The JAGM Product Office completed documentation for MS B and an Engineering and Manufacturing Development (EMD) Request for Proposal (RFP). Additionally the office will conduct a Source Selection Evaluation Board (SSEB) in response to the RFP. MS B decision expected mid-Fiscal Year (FY) 2015.			
Title: Guidance Section (GS) Critical Design Review (CDR), Component Qualification Testing (CQT) and System Qualification Testing	10.200	16.400	-
Description: The JAGM Product Office will integrate the JAGM GS to the HELLFIRE missile backend and perform System Qualification Testing. ***FY 2014 Accomplishments:*** The GS CDR and CQT completed in FY 2014. The JAGM Product Office integrated the JAGM GS to the HELLFIRE missile backend and performed System Qualification Testing. The required testing included Temperature and Vibration, Electromagnetic			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605450A / *Joint Air-to-Ground Missile (JAGM)*	**Project (Number/Name)** JA6 / *Joint Air-To-Ground Missile (JAGM)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Environmental Effects (E3), Tower/Captive Flight Testing, Lethality Testing and use of hardware-in-the-loop facilities to evaluate missile performance. ***FY 2015 Plans:*** The JAGM Product Office and prime contractor will continue System Qualification Testing that includes E3 and Tower/Captive Flight Testing. The Government will conduct ground launched flight tests of the missile as a risk reduction effort prior to EMD.			
Title: Engineering and Manufacturing Development (EMD) Contract ***Description:*** The JAGM prime contractor will conduct qualification of the production line and deliver missiles to support both Developmental and Operational Testing. The prime contractor will support government led activities to qualify the JAGM on the AH-64 Longbow Apache. ***FY 2015 Plans:*** Procure EMD long lead items (HELLFIRE Backend) from backend contractor. The JAGM prime contractor will establish subcontracts, procure hardware and initiate production of the JAGM missile. The prime contractor will support airworthiness qualification of the JAGM missile on the AH-64 Longbow Apache. ***FY 2016 Plans:*** The JAGM prime contractor continues to establish subcontracts, procure hardware and start production of the JAGM missile on a pilot production line. Contractor supports government led All Up Round (AUR) CDR, System Test Readiness Review (TRR) and Production Qualification Test (PQT).	-	42.630	34.872
Title: System Critical Design Review (CDR) ***Description:*** System CDR occurs in the EMD phase. Assess the JAGM system final design as captured in product specifications. Ensures that each item in the product baseline has been captured in the detailed design documentation. ***FY 2015 Plans:*** The JAGM Product Office and the prime contractor will prepare for JAGM System CDR. ***FY 2016 Plans:*** JAGM Product Office will complete System CDR by verifying prime contractor design compliance to all performance requirements including environmental conditions, missile and platform interfaces, reliability and cyber security.	-	3.516	5.522
Title: Engineering and Manufacturing Development (EMD) Aircraft Qualification and Missile Developmental Testing ***Description:*** The Government will conduct system developmental testing and aircraft qualification testing. ***FY 2015 Plans:***	-	10.015	32.475

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605450A / *Joint Air-to-Ground Missile (JAGM)*	**Project (Number/Name)** JA6 / *Joint Air-To-Ground Missile (JAGM)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
The JAGM Product Office will conduct warhead lethality testing, integrated flight simulations, captive carry testing and missile flight testing. The JAGM Product Office, platform product office and platform prime contractor will conduct aircraft qualification testing. Test data and interface requirements will support initial airworthiness qualification required for testing on the AH-64 Longbow Apache. ***FY 2016 Plans:*** The JAGM Product Office and Other Government Agencies will conduct warhead tests for lethality characterization and Live Fire Test and Evaluation (T&E) requirements; seeker performance through captive flight tests including countermeasures and hardware in the loop; Production Qualification Tests for environmental and Electromagnetic Environmental Effects (E3); ground launched missile flight tests; safety of flight tests and platform integration laboratory testing for airworthiness and interface verification; System Test Readiness Review; Apache flight tests with missile launches against threat targets including Live Fire T&E. The data will support the Full Material Release process.			
Title: Milestone (MS) C Preparation ***Description:*** The JAGM Product Office will complete all documentation, conduct evaluations, reviews and analyses to support a FY 2017 MS C decision, Production Contract Award and contract options. ***FY 2016 Plans:*** JAGM Product Office will complete all documentation, conduct evaluations, reviews and analyses to support a FY 2017 MS C decision, Production Contract Award and contract options.	-	-	15.997
Accomplishments/Planned Programs Subtotals	15.684	83.799	88.866

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• C7030200: *JAGM Missile Procurement; SSN C7030200*	-	-	27.738	-	27.738	57.466	151.619	109.932	128.584	Continuing	Continuing
• 0605450N: *Navy JAGM Missile RDT&E*	4.800	6.300	25.900	-	25.900	19.800	9.000	4.400	-	Continuing	Continuing
• 0206138M: *Navy JAGM Missile Procurement*	-	-	-	-	-	26.200	26.200	24.300	24.300	Continuing	Continuing

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605450A / *Joint Air-to-Ground Missile (JAGM)*	**Project (Number/Name)** JA6 / *Joint Air-To-Ground Missile (JAGM)*

D. Acquisition Strategy

The JAGM EMD acquisition approach outlines the plan to qualify the All Up Round (AUR), qualify the production line, qualify JAGM on the U.S. Army AH-64 Apache and complete operational testing. Advanced Procurement of long lead items (HELLFIRE Romeo backends and Millimeter Wave (MMW) subsystems) occur in FY 2016. This long lead procurement is needed to facilitate FY 2017 Low Rate Initial Production (LRIP) 1 production timeline, which is necessary to achieve Initial Operational Capability (IOC) in FY 2018 and Full Rate Production (FRP) in FY 2019. The JAGM Product Office and Army Contracting Command (ACC) - Redstone Arsenal will conduct a full and open competition for the JAGM EMD phase.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605450A / *Joint Air-to-Ground Missile (JAGM)*	Project (Number/Name) JA6 / *Joint Air-To-Ground Missile (JAGM)*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
System Eng/ Project Management	C/LH	Various : Performers	34.284	6.090		11.081		11.942		-		11.942	10.970	74.367	-
		Subtotal	34.284	6.090		11.081		11.942		-		11.942	10.970	74.367	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Technology Development Prime Contract	C/FFP	TD : Prime Contract	371.319	-		-		-		-		-	-	371.319	-
Rocket Motor Insensitive Munition (IM) Qualification	C/CPFF	Defense Ordnance Technology Consortium (DOTC) : Picatinny Arsenal, NJ	30.534	-		1.900		-		-		-	-	32.434	-
Electro-Mechanical Control Actuator System (EMCAS)	C/CPFF	Defense Ordnance Technology Consortium (DOTC) : Picatinny Arsenal, NJ	4.033	-		-		-		-		-	-	4.033	-
Integrated Warhead	C/CPFF	Defense Ordnance Technology Consortium (DOTC) : Picatinny Arsenal, NJ	2.982	-		-		-		-		-	-	2.982	-
EMD Long Lead Contract (Backends)	SS/FFP	Lockheed Martin : Orlando, FL	0.000	0.430		10.164		-		-		-	-	10.594	-
Development Engineering	C/LH	Various : Performers	21.072	0.576		-		-		-		-	-	21.648	-
EMD Prime Contract	C/FPIF	TBD : TBD	0.000	-		32.466		34.872		-		34.872	20.645	87.983	-
		Subtotal	429.940	1.006		44.530		34.872		-		34.872	20.645	530.993	-

Remarks

(C / FFP) - Competitive / Firm Fixed Price
(C / CPFF) - Competitive / Cost-Plus Fixed Fee
(C / LH) - Competitive / Labor Hour
(SS / FFP) - Sole Source / Firm Fixed Price

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605450A / *Joint Air-to-Ground Missile (JAGM)*	Project (Number/Name) JA6 / *Joint Air-To-Ground Missile (JAGM)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
(C / FPIF) - Competitive / Fixed Price Incentive (Firm Target)															

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Other Gov Agencies	C/LH	Various : Performers	15.738	8.588		28.188		42.052		-		42.052	26.571	121.137	-
		Subtotal	15.738	8.588		28.188		42.052		-		42.052	26.571	121.137	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	479.962	15.684		83.799		88.866		-		88.866	58.186	726.497	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605450A / *Joint Air-to-Ground Missile (JAGM)*	**Project (Number/Name)** JA6 / *Joint Air-To-Ground Missile (JAGM)*

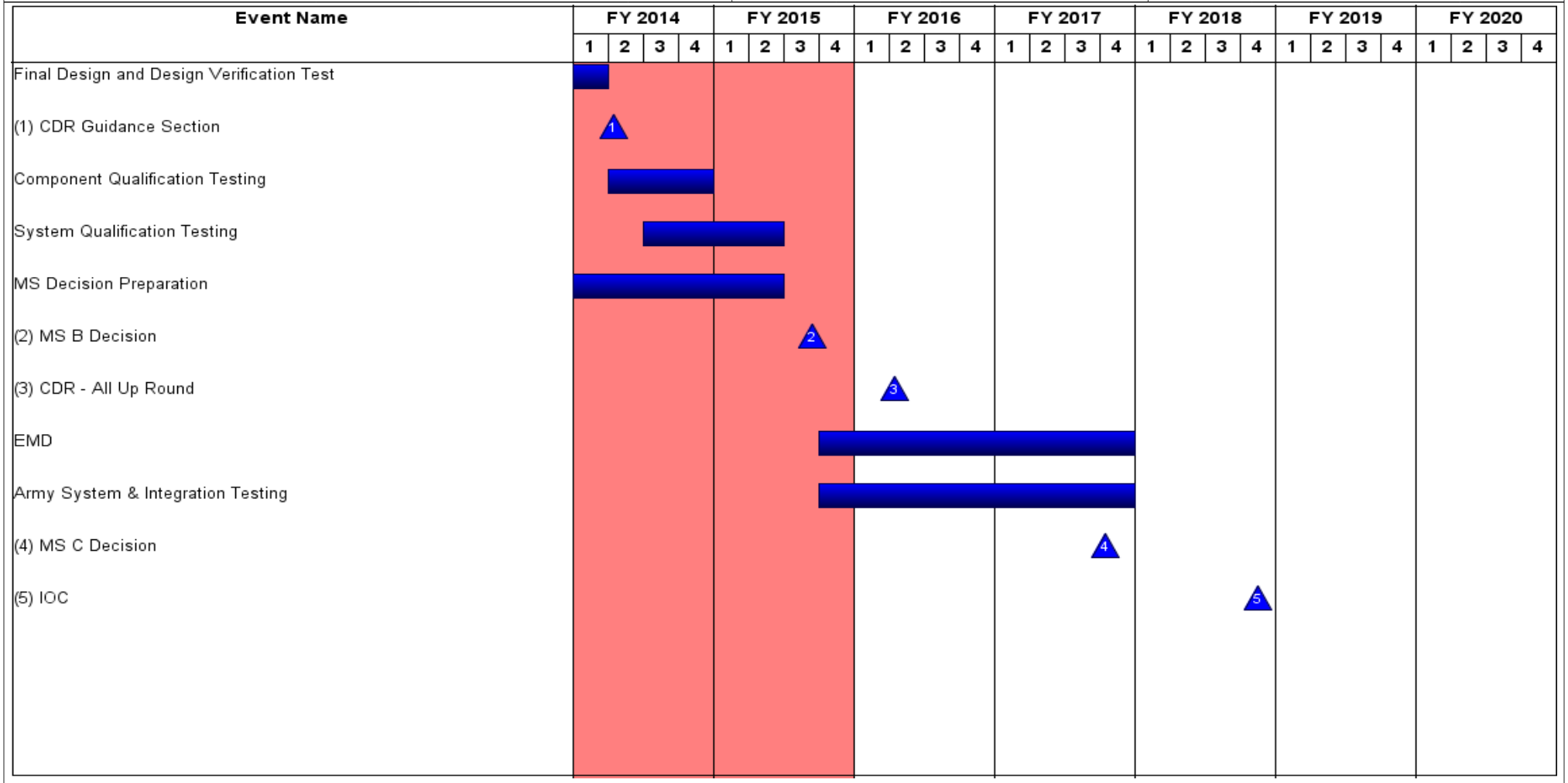

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605450A / *Joint Air-to-Ground Missile (JAGM)*	**Project (Number/Name)** JA6 / *Joint Air-To-Ground Missile (JAGM)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Final Design and Design Verification Test	2	2013	1	2014
CDR Guidance Section	2	2014	2	2014
Component Qualification Testing	2	2014	4	2014
System Qualification Testing	3	2014	2	2015
MS Decision Preparation	1	2013	2	2015
MS B Decision	3	2015	3	2015
CDR - All Up Round	2	2016	2	2016
EMD	4	2015	4	2017
Army System & Integration Testing	4	2015	4	2017
MS C Decision	4	2017	4	2017
IOC	4	2018	4	2018

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army												Date: February 2015
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0605456A / *PAC-3/MSE Missile*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	-	86.223	34.991	2.272	-	2.272	-	-	-	-	-	123.486
PA3: *PAC-3/MSE Missile*	-	86.223	34.991	2.272	-	2.272	-	-	-	-	-	123.486

A. Mission Description and Budget Item Justification

This system is an integral part of the overall Air and Missile Defense (AMD) architecture and enables the incremental fielding of the Integrated Air and Missile Defense Fire Control System/capability for the composite Army Air and Missile Defense Battalions.

The Missile Segment Enhancement (MSE) is the latest version of the PAC-3 Missile. It provides a more agile and lethal interceptor that increases the engagement envelope/defended area of the PATRIOT System. Both Live Fire Test and Evaluation (LFT&E) and Initial Operational Test & Evaluation (IOT&E) activities are required to be executed during Low Rate Initial Production (LRIP) in support of the planned Full Rate Production (FRP) decision. As software and hardware improvements are developed there is a continuing need for system level modeling, simulations, and tests. Modeling and Simulation allow for performance assessment against all threats that would not be possible in flight tests due to cost, target, and range constraints. Flight testing is periodically required for validation of the Modeling and Simulation as well as satisfying Army Test & Evaluation Command/Director, Operational Test & Evaluation (ATEC/DOTE) requirements.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	68.807	35.009	2.271	-	2.271
Current President's Budget	86.223	34.991	2.272	-	2.272
Total Adjustments	17.416	-0.018	0.001	-	0.001
• Congressional General Reductions	-0.036	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	19.701	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-2.249	-			
• Adjustments to Budget Years	-	-0.018	0.001	-	0.001

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605456A / *PAC-3/MSE Missile*	Project (Number/Name) PA3 / *PAC-3/MSE Missile*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
PA3: *PAC-3/MSE Missile*	-	86.223	34.991	2.272	-	2.272	-	-	-	-	-	123.486
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Missile Segment Enhancement (MSE) is the latest version of the PAC-3 Missile. It provides a more agile and lethal interceptor that increases the engagement envelope/defended area of the PATRIOT System. Both LFT&E and IOT&E activities are required to be executed during Low Rate Initial Production (LRIP) in support of the planned Full Rate Production (FRP) decision. As software and hardware improvements are developed there is a continuing need for system level modeling, simulations, and tests. Modeling and Simulation allow for performance assessment against all threats that would not be possible in flight tests due to cost, target and range constraints. Flight testing is periodically required for validation of Modeling and Simulation as well as satisfying ATEC/DOTE requirements.

PATRIOT is an integral part of the overall Air and Missile Defense (AMD) Architecture and enables the incremental fielding of the system capability for Army Air and Missile Defense Battalions.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: MSE PAC-3 ***Description:*** Funding is provided for the following efforts ***FY 2014 Accomplishments:*** MSE technical support for test program and initial PDB-8 testing. ***FY 2015 Plans:*** MSE technical support for initial PDB-8 testing.	9.372	12.300	-
Title: Program Integration Efforts ***Description:*** Funding is provided for the following efforts ***FY 2014 Accomplishments:*** Integration of missile and ground system hardware and software.	16.683	-	-
Title: Testing, Targets, and Modeling and Simulation ***Description:*** Funding is provided for the following efforts ***FY 2014 Accomplishments:***	60.168	22.691	2.272

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605456A / *PAC-3/MSE Missile*	**Project (Number/Name)** PA3 / *PAC-3/MSE Missile*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Continued testing program to include utilization of targets/threat simulators, test missiles, mobile flight mission simulator, modeling efforts, PBD 8 DT and OT and test activities to support the Test and Evaluation Master Plan (TEMP). ***FY 2015 Plans:*** Continues testing program to include utilization of targets/threat simulators, test missiles, flight simulator, modeling efforts and test activities to support Test and Evaluation Master Plan (TEMP) for initial IOT&E activities. ***FY 2016 Plans:*** Continues testing program in support of the Test and Evaluation Master Plan (TEMP) for IOT&E activities.			
Accomplishments/Planned Programs Subtotals	86.223	34.991	2.272

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• SSN C53101: *SSN C53101, MSE Missile*	690.401	532.605	414.946	-	414.946	430.622	462.676	493.613	569.488	Continuing	Continuing
• SSN C50016: *SSN C50016, Lower-Tier Air and Missile Defense (AMD)*	-	110.300	115.075	-	115.075	130.366	113.676	123.582	151.421	Continuing	Continuing
• PE 0102419A: *PE 0102419A, Proj E55, Joint Aero Stat Program - EMD Effort*	57.976	-	-	-	-	-	-	-	-	-	57.976
• PE 0205456: *PE 0205456, Proj EF9, System Integration and Test*	-	78.720	64.159	-	64.159	60.214	58.722	75.315	96.392	Continuing	Continuing
• PE 0604319A: *PE 0604319A, Proj DU3, IFPC2, (FY12 PE 0603305A IFPC II - Intercept)*	76.559	96.131	155.361	-	155.361	90.323	58.562	43.384	109.495	Continuing	Continuing
• SSN C62002: *SSN C62002, IFPC Inc 2-I Block 1 Missile*	-	-	-	-	-	19.920	48.046	139.362	175.738	Continuing	Continuing
• SSN C62001: *SSN C62001, IFPC Inc 2-I Block 1 System*	-	-	-	-	-	-	73.552	123.106	186.840	Continuing	Continuing
• PE 0604820A: *PE 0604820A, Proj E10, SENTINEL*	1.796	5.221	12.309	-	12.309	11.465	10.971	12.191	30.277	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605456A / *PAC-3/MSE Missile*	**Project (Number/Name)** PA3 / *PAC-3/MSE Missile*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• PE 0605457A: *PE 0605457A, Proj S40 Army Integrated Air and Missile Defense (AIAMD)*	358.192	152.516	214.099	-	214.099	227.103	169.575	153.451	33.424	Continuing	Continuing
• SSN BZ5075: *SSN BZ5075, IAMD Battle Command System (IBCS)*	-	-	20.917	-	20.917	204.513	296.361	375.763	443.637	Continuing	Continuing
• PE 0604741A: *PE 0604741A, Proj 126,146,149, Air Defense C2I Eng Dev*	38.412	15.898	24.569	-	24.569	27.131	20.524	20.018	18.082	Continuing	Continuing
• SSN AD50700: *SSN AD50700; Air & Missle Defense Planning & Control Sys*	13.090	27.374	28.176	-	28.176	32.443	32.690	33.032	13.366	Continuing	Continuing
• PE 0202429A: *PE 0202429A Proj EP8 JLENS COCOM EXERCISE*	22.659	43.248	40.565	-	40.565	46.371	6.746	-	-	-	159.589

Remarks

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

D. Acquisition Strategy

The design objective of the PATRIOT system is to provide an element of an Integrated Ballistic Missile Defense System capable of being modified to cope with the evolving threat. This strategy minimizes technological risks and provides a means of enhancing system capability through planned upgrades of deployed systems. PAC-3 system development efforts further improve system capabilities against emerging and reactive threats. The PAC-3 Missile Program focuses on developing, fabricating and testing the high velocity, hit to kill, surface to air missile and associated ground support equipment to provide essential increases in battle space, accuracy, lethality and firepower to counter and destroy evolving air defense threats. The missile performance is demonstrated through a series of flight tests and modeling and simulation activities. The PAC-3 / MSE program evolves the PAC-3 system providing extended ranges, insensitive munitions enhancements, and greater logistical flexibility. The PAC-3 MSE will be fielded to U.S. PATRIOT units.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605456A / *PAC-3/MSE Missile*	Project (Number/Name) PA3 / *PAC-3/MSE Missile*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Program Management	Various	Various : Huntsville, AL	3.009	1.100	Dec 2013	-		-		-		-	-	4.109	4.109
PAC-3 Product Office	Various	Various : Huntsville, AL	9.628	2.400	Dec 2013	1.000	Dec 2014	-		-		-	-	13.028	-
		Subtotal	12.637	3.500		1.000		-		-		-	-	17.137	4.109

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Integration	Various	Various : Huntsville, AL	43.798	5.783	Dec 2013	-		-		-		-	-	49.581	49.573
MSE/PAC-3 Raytheon	Various	Raytheon : Waltham, Massachusetts	41.909	10.900	Dec 2013	-		-		-		-	-	52.809	52.809
SETA Contracts	Various	Various : Huntsville, AL	8.876	3.772	Feb 2014	-		-		-		-	-	12.648	12.640
		Subtotal	94.583	20.455		-		-		-		-	-	115.038	115.022

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Targets/Threat Simulators	Various	Various : Huntsville, AL	27.666	4.585	Dec 2013	-		-		-		-	-	32.251	32.251
Modeling and Simulation	Various	Various : Huntsville, AL	3.974	3.930	Dec 2013	-		-		-		-	-	7.904	7.904
Contractor T&E funding	Various	Various : Huntsville, AL / Dallas, TX	10.428	1.048	Dec 2013	5.691	Dec 2014	-		-		-	-	17.167	24.185
Other T&E Funding	MIPR	Various : Holloman AFB, NM	23.462	3.605	Dec 2013	7.000	Dec 2014	2.272	Dec 2015	-		2.272	-	36.339	36.338
Mobile Flight Mission Simulator	TBD	Raytheon : Massachusetts	9.700	11.800	Dec 2013	-		-		-		-	-	21.500	21.500

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605456A / *PAC-3/MSE Missile*	Project (Number/Name) PA3 / *PAC-3/MSE Missile*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PDB 8 DT/OT	TBD	Various : Huntsville, AL	0.000	27.300	Dec 2013	7.000		-		-		-	-	34.300	9.900
U.S. Other Government Agencies (OGAs)	MIPR	Various : Huntsville, AL	16.149	7.900	Nov 2013	3.000	Nov 2014	-		-		-	-	27.049	27.049
Missile Segment Enhancement (MSE) - Lockheed Martin Missiles and Fire Control (LMMFC)	C/CPIF	LMMFC Dallas, : Texas	72.138	2.100	Dec 2013	11.300	Dec 2014	-		-		-	-	85.538	85.538
		Subtotal	163.517	62.268		33.991		2.272		-		2.272	-	262.048	244.665

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	270.737	86.223		34.991		2.272		-		2.272	-	394.223	363.796

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605456A / *PAC-3/MSE Missile*	**Project (Number/Name)** PA3 / *PAC-3/MSE Missile*

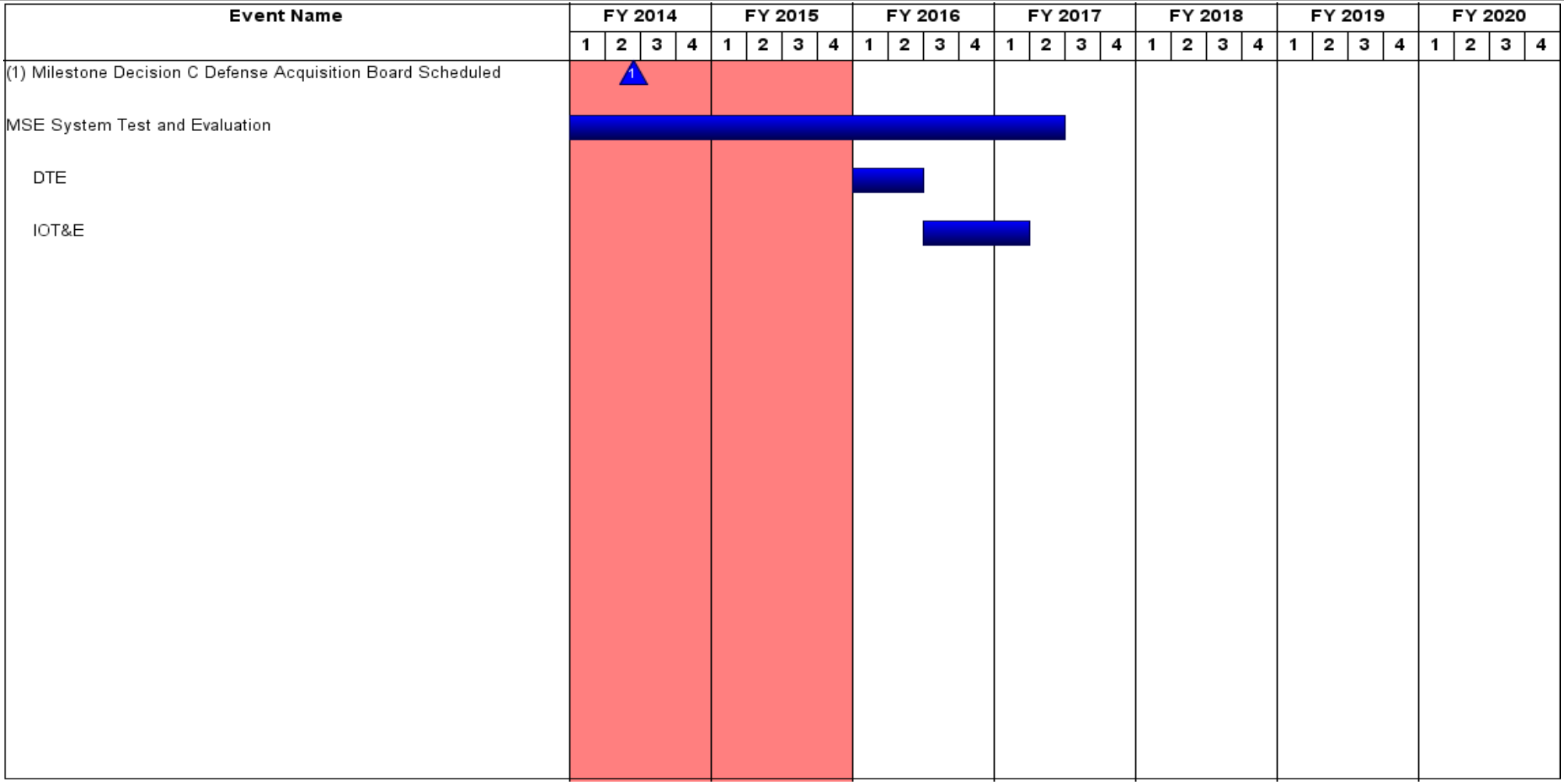

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605456A / *PAC-3/MSE Missile*	**Project (Number/Name)** PA3 / *PAC-3/MSE Missile*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Milestone Decision C Defense Acquisition Board Scheduled	2	2014	2	2014
MSE System Test and Evaluation	1	2014	2	2017
DTE	1	2016	2	2016
IOT&E	3	2016	1	2017

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0605457A *I Army Integrated Air and Missile Defense (AIAMD)*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	-	358.192	152.516	214.099	-	214.099	227.103	169.575	153.451	33.424	Continuing	Continuing
S40: *Army Integrated Air and Missile Defense*	-	358.192	152.516	214.099	-	214.099	227.103	169.575	153.451	33.424	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Army Integrated Air and Missile Defense (AIAMD) program is a designated Major Defense Acquisition Program (MDAP).

The AIAMD program is a direct response to the U.S. Army Air and Missile Defense (AMD) Concept and Operational and Organizational (O&O) Plan for the Future Force, the AIAMD System of Systems (SoS) Capabilities Development Document (CDD) and the new Air and Missile Defense Task Force Concept of Operations (CONOPS). The AIAMD Program is uniquely structured to enable the development of an overarching SoS capability with all participating Air Defense Artillery (ADA) components functioning interdependently to provide total operational capabilities not achievable by the individual element systems. The AIAMD program achieves this objective by establishing the AIAMD architecture and developing (1) the IAMD Battle Command Systems (IBCS) Engagement Operations Center (EOC) that provides the common Mission Command capability, (2) the Integrated Fire Control Network (IFCN) capability for fire control connectivity and distributed operations, and (3) the common Plug and Fight (P&F) Kits that network enable multiple sensor components, weapon components, and the IBCS EOC.

The AIAMD Program will provide advanced capabilities to the Army and the soldier by allowing transformation to a network-centric system-of-systems capability (also referred to as "Plug and Fight") that integrates AMD sensors and weapons with the IBCS EOC. The AIAMD SoS architecture will enable extended range and non-line-of-sight engagements, to include joint kill chain engagements across the full spectrum of aerial threats, providing fire control quality data to the most appropriate weapon to complete the mission successfully. Further, it will mitigate the coverage gaps and the single points of failure that have plagued AMD defense design in the past. The AIAMD program will provide the user with the ability to train on a single command and control (C2) system that will result in overall training savings. The AIAMD program will also provide the Army with the ability to procure components that will build to established interfaces allowing them to "connect" to the IFCN alleviating the cost of procuring total system capabilities in the future.

The FY18 Initial Operational Capability (IOC) will be delivered through fielding of the IBCS EOC-based AIAMD architecture including the IBCS EOC, Sentinel, and Patriot components connected via an IFCN, working in an integrated manner. Additional capabilities include the incorporation of IBCS functionality into Air Defense Airspace Management (ADAM) Cells, ADA Brigade Headquarters and Army Air and Missile Defense Command (AAMDC) Headquarters. Future additional capabilities include incorporation of Terminal High Altitude Air Defense (THAAD) batteries and composite Indirect Fire Protection Capability (IFPC)/Avenger battalions into the AIAMD architecture.

Funding in FY16 will provide for EMD Developmental Test phase activities, to include preparation and conduct of flight tests, and execution of a Limited User Test (LUT). A MS C decision is scheduled for 4QFY16.

Fielding of the IBCS is the Army Air Defense Artillery User's number one priority. The AIAMD Program is on track to deliver the IOC in FY18.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army	Date: February 2015
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0605457A *I Army Integrated Air and Missile Defense (AIAMD)*

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	369.452	142.584	215.659	-	215.659
Current President's Budget	358.192	152.516	214.099	-	214.099
Total Adjustments	-11.260	9.932	-1.560	-	-1.560
• Congressional General Reductions	-0.197	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	5.000	10.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-11.968	-			
• Adjustments to Budget Years	-	-	-1.560	-	-1.560
• Other Adjustments 1	-4.095	-	-	-	-
• Other Adjustments 2	-	-0.068	-	-	-

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2014	FY 2015
Project: S40: *Army Integrated Air and Missile Defense*		
Congressional Add: *Product Development - Cyber Security*	5.000	10.000
Congressional Add Subtotals for Project: S40	5.000	10.000
Congressional Add Totals for all Projects	5.000	10.000

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605457A / *Army Integrated Air and Missile Defense (AIAMD)*				Project (Number/Name) S40 / *Army Integrated Air and Missile Defense*			
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
S40: *Army Integrated Air and Missile Defense*	-	358.192	152.516	214.099	-	214.099	227.103	169.575	153.451	33.424	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Army Integrated Air and Missile Defense (AIAMD) Program is a direct response to the U.S. Army Air and Missile Defense (AMD) Concept and Operational and Organizational (O&O) Plan for the Future Force, the AIAMD System of Systems (SoS) Capabilities Development Document (CDD) and the new Air and Missile Defense Task Force Concept of Operations (CONOPS). The AIAMD Program is uniquely structured to enable the development of an overarching SoS capability with all participating Air Defense Artillery (ADA) components functioning interdependently to provide total operational capabilities not achievable by the individual element systems. The AIAMD program achieves this objective by establishing the AIAMD architecture and developing (1) the IAMD Battle Command Systems (IBCS) Engagement Operations Center (EOC) that provides the common Mission Command capability, (2) the Integrated Fire Control Network (IFCN) capability for fire control connectivity and distributed operations, and (3) the common Plug and Fight (P&F) Kits that network enable multiple sensor components, weapon components, and the IBCS EOC.

The AIAMD Program will provide advanced capabilities to the Army and the soldier by allowing transformation to a network-centric system-of-systems capability (also referred to as "Plug and Fight") that integrates AMD sensors and weapons with the IBCS EOC. The AIAMD SoS architecture will enable extended range and non-line-of-sight engagements, to include joint kill chain engagements across the full spectrum of aerial threats, providing fire control quality data to the most appropriate weapon to complete the mission successfully. Further, it will mitigate the coverage gaps and the single points of failure that have plagued AMD defense design in the past. The AIAMD program will provide the user with the ability to train on a single command and control (C2) system that will result in overall training savings. The AIAMD program will also provide the Army with the ability to procure components that will build to established interfaces allowing them to "connect" to the IFCN alleviating the cost of procuring total system capabilities in the future.

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Funding in FY16 will provide for EMD Developmental Test phase activities, to include preparation and conduct of flight tests, and execution of a Limited User Test (LUT). A MS C decision is scheduled for 4QFY16.

Fielding of the IBCS is the Army Air Defense Artillery User's number one priority. The AIAMD Program is on track to deliver the IOC in FY18.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605457A / *Army Integrated Air and Missile Defense (AIAMD)*	**Project (Number/Name)** S40 / *Army Integrated Air and Missile Defense*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Product Development ***Description:*** Funding is provided for the following effort ***FY 2014 Accomplishments:*** Continuing product development in support of Prototype Deliveries of EOCs and P&F kits. Risk reduction test. Advanced Electronic Protection Enhancements. ***FY 2015 Plans:*** Continuing product development in support of EMD Developmental Test activities and risk reduction test. ***FY 2016 Plans:*** Continuing product development in support of EMD Developmental Test activities, preparation and conduct of flight tests, MS C decision, and ongoing risk reduction test.	300.763	100.334	166.165
Title: Government Program Management ***Description:*** Funding is provided for the following effort ***FY 2014 Accomplishments:*** Government Program Management in support of developing the P&F kits, IFCN, and Modeling and Simulation. Other contracts and OGAs support of the EMD phase. Risk reduction test. ***FY 2015 Plans:*** Government Program Management in support of developing the P&F kits, IFCN, and Modeling and Simulation. Other contracts and OGAs support of the EMD phase. Risk reduction test. ***FY 2016 Plans:*** Government Program Management in support of developing the P&F kits, IFCN, and Modeling and Simulation. Other contracts and OGAs in support of the EMD Developmental Test activities, preparation and conduct of flight tests, MS C decision, and ongoing risk reduction test.	3.835	4.538	4.568
Title: Test and Evaluation ***Description:*** Funding is provided for the following effort ***FY 2014 Accomplishments:***	48.594	37.644	43.366

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605457A / *Army Integrated Air and Missile Defense (AIAMD)*	**Project (Number/Name)** S40 / *Army Integrated Air and Missile Defense*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Provides for Modeling and Simulation, Joint Interoperability Test Support, Army Evaluation Center/Developmental Test Command/ Operational Test Command support and White Sands Missile Range Test Support to include design testing. Risk reduction test. Range activation preparation. Target preparation. ***FY 2015 Plans:*** Provides for Modeling and Simulation, Joint Interoperability Test Support, Army Evaluation Center/Developmental Test Command/ Operational Test Command support and White Sands Missile Range Test Support for EMD Developmental Test. Risk reduction test. Target preparation. ***FY 2016 Plans:*** Provides for Modeling and Simulation, Joint Interoperability Test Support, Army Evaluation Center/Developmental Test Command/ Operational Test Command support and White Sands Missile Range Test Support for EMD Developmental Test activities including preparation and conduct of flight tests. Also provides for Customer Test, Limited User Test/Hardware in the Loop, ongoing risk reduction test, and target preparation.			
Accomplishments/Planned Programs Subtotals	353.192	142.516	214.099

	FY 2014	FY 2015
Congressional Add: Product Development - Cyber Security	5.000	10.000
FY 2014 Accomplishments: Cyber security and supply chain management		
FY 2015 Plans: Counter cyber vulnerabilities		
Congressional Adds Subtotals	5.000	10.000

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• PE 0605456A, Project PA3: *PE 0605456A, Project PA3, PAC- 3/MSE Missile*	86.223	34.991	2.272	-	2.272	-	-	-	-	-	123.486
• SSN C53101: *SSN C53101, MSE Missile*	690.401	532.605	414.946	-	414.946	430.622	462.676	493.613	569.488	Continuing	Continuing
• PE 0205456, Project EF9: *PE 0205456, Project EF9, System Integration and Test*	-	78.720	64.159	-	64.159	60.214	58.722	75.315	96.392	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605457A / *Army Integrated Air and Missile Defense (AIAMD)*	**Project (Number/Name)** S40 / *Army Integrated Air and Missile Defense*	

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• SSN C50016: *SSN C50016, Lower Tier Air and Missile Defense (AMD)*	-	110.300	115.075	-	115.075	130.366	113.676	123.582	151.421	Continuing	Continuing
• PE 0102419A, Proj E55: *PE 0102419A, Proj E55, Joint Aero Stat Program - EMD Effort*	57.976	-	-	-	-	-	-	-	-	-	57.976
• PE 0604319A, Proj DU3: *PE 0604319A, Proj DU3, IFPC2 (FY12 PE0603305A IFPC II- Intercept)*	76.559	96.131	155.361	-	155.361	90.323	58.562	43.384	109.495	Continuing	Continuing
• SSN C62002: *IFPC Inc 2-I Block 1 Missile*	-	-	-	-	-	-	73.552	123.106	186.480	Continuing	Continuing
• SSN C62001: *IFPC INC 2-I Block 1 System*	-	-	-	-	-	19.920	48.076	139.362	175.738	Continuing	Continuing
• PE 0604820A, Proj E10: *PE 0604820A, Proj E10, SENTINEL*	1.796	5.221	12.309	-	12.309	11.465	10.971	12.191	30.277	Continuing	Continuing
• SSN BZ5075: *SSN BZ5075, Army IAMD Battle Command System (IBCS)*	-	-	20.917	-	20.917	204.513	296.361	375.763	443.637	Continuing	Continuing
• PE 0604741A, Proj 126, 146, 149: *PE 0604741A, Proj 126, 146, 149, Counter-Rockets, Artillery and Mortar (C-RAM)*	38.412	15.898	24.569	-	24.569	27.131	20.524	20.018	18.082	Continuing	Continuing
• SSN AD50700: *AIR & MSL Defense Planning & Control Sys*	13.090	27.374	28.176	-	28.176	32.443	32.690	33.032	13.366	Continuing	Continuing
• PE 0202429A, Proj EP8: *JLENS COCOM EXERCISE*	22.659	43.248	40.565	-	40.565	46.371	6.746	-	-	-	159.589

Remarks

This program is an integral part of the Army Integrated Air and Missile Defense (AIAMD) architecture. It provides for development of a common Mission Command (MC) through an open architecture approach allowing for integration of Air Defense Artillery (ADA) components as they become available. This approach enables the AIAMD program to pursue its baseline program independent of fluctuation of other programs.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605457A / *Army Integrated Air and Missile Defense (AIAMD)*	**Project (Number/Name)** S40 / *Army Integrated Air and Missile Defense*

D. Acquisition Strategy

The AIAMD acquisition strategy is to deliver an Initial Operational Capability (IOC) in FY18. The capabilities are delivered through the fielding of the IAMD Battle Command System (IBCS) Engagement Operations Center (EOC)-based AIAMD architecture including the IBCS EOC, Sentinel, and Patriot (through a Radar Interface Unit (RIU)) components connected via an Integrated Fire Control Network (IFCN), working in an integrated manner. Additional capabilities include the incorporation of IBCS functionality into Air Defense Airspace Management (ADAM) Cells, ADA Brigade Headquarters and Army Air and Missile Defense Command (AAMDC) Headquarters. Future additional capabilities include incorporation of Terminal High Altitude Area Defense (THAAD) batteries and other Army and Joint net-centric architectures to ensure compatibility.

Key principles of the AIAMD acquisition approach are the following:
- Migrate from system-based acquisition to component-based acquisition
- Use system-of-systems acquisition approach with collaboration among AIAMD, PEO MS, PEO C3T, and Brigade Combat Team (BCT) Modernization Component Project Offices, Missile Defense Agency (MDA), and other Service Project Offices to network enable weapons and sensor components
- Develop and procure common Army IAMD Battle Command System (IBCS) Engagement Operations Center (EOC) that replaces seven weapon system unique Battle Management Command, Control, Communications, Computers and Intelligence (BMC4I) components
- Establish product lines used to evaluate and select, modify and integrate modular open systems hardware (HW) and software (SW) common configuration items
- Conduct architecture-based System Engineering, Integration and Test (SEI&T) activities for an incremental fielded configuration of the AIAMD Integrated Fire Control (IFC) Network-compatible IBCS EOC, weapons and sensor system components

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605457A / *Army Integrated Air and Missile Defense (AIAMD)*	Project (Number/Name) S40 / *Army Integrated Air and Missile Defense*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Program Management	TBD	Various : Huntsville, AL	14.189	3.835		4.538		4.568		-		4.568	Continuing	Continuing	Continuing
		Subtotal	14.189	3.835		4.538		4.568		-		4.568	-	-	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Air Space and Missile Defense (ASMD) System of Systems (SOS) Hardware-in-the- Loop Testbed	C/CPFF	Various : Huntsville, AL and multiple other locations	17.697	-		-		-		-		-	-	17.697	-
AIAMD System Engineering & Integration	C/CPFF	Various : Huntsville, AL	51.531	23.949		21.544		23.772		-		23.772	Continuing	Continuing	Continuing
IAMD Engineering Manufacturing and Development	C/CPIF	Northrop Grumman, Raytheon and Other : Huntsville, AL and Various other locations	561.392	239.645		65.180		126.707		-		126.707	Continuing	Continuing	Continuing
Government Furnished Equipment	TBD	Various : Multiple	12.055	2.338		2.017		3.025		-		3.025	Continuing	Continuing	Continuing
Government Systems Engineering and Logistics	TBD	Various : Huntsville, AL	18.953	13.831		11.593		12.661		-		12.661	Continuing	Continuing	Continuing
Advanced Electronic Protection Enhancement (AEPE)	TBD	Various : TBD	0.000	21.000		-		-		-		-	-	21.000	-
Cyber Security	TBD	Huntsville, AL : TBD	0.000	5.000		10.000		-		-		-	-	15.000	-
		Subtotal	661.628	305.763		110.334		166.165		-		166.165	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605457A / *Army Integrated Air and Missile Defense (AIAMD)*	Project (Number/Name) S40 / *Army Integrated Air and Missile Defense*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Army Evaluation Center/ Developmental Test Command/Operational Test Command	TBD	Various : Multiple Locations	4.063	4.222		3.129		3.143		-		3.143	Continuing	Continuing	Continuing
Modeling & Sim/Joint Interoperability Test Spt	MIPR	SED : Huntsville, AL	56.418	35.705		28.804		34.522		-		34.522	Continuing	Continuing	Continuing
Range Support	TBD	WSMR : White Sands, NM	6.317	8.667		5.711		5.701		-		5.701	Continuing	Continuing	Continuing
		Subtotal	66.798	48.594		37.644		43.366		-		43.366	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	742.615	358.192		152.516		214.099		-		214.099	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605457A / *Army Integrated Air and Missile Defense (AIAMD)*	**Project (Number/Name)** S40 / *Army Integrated Air and Missile Defense*

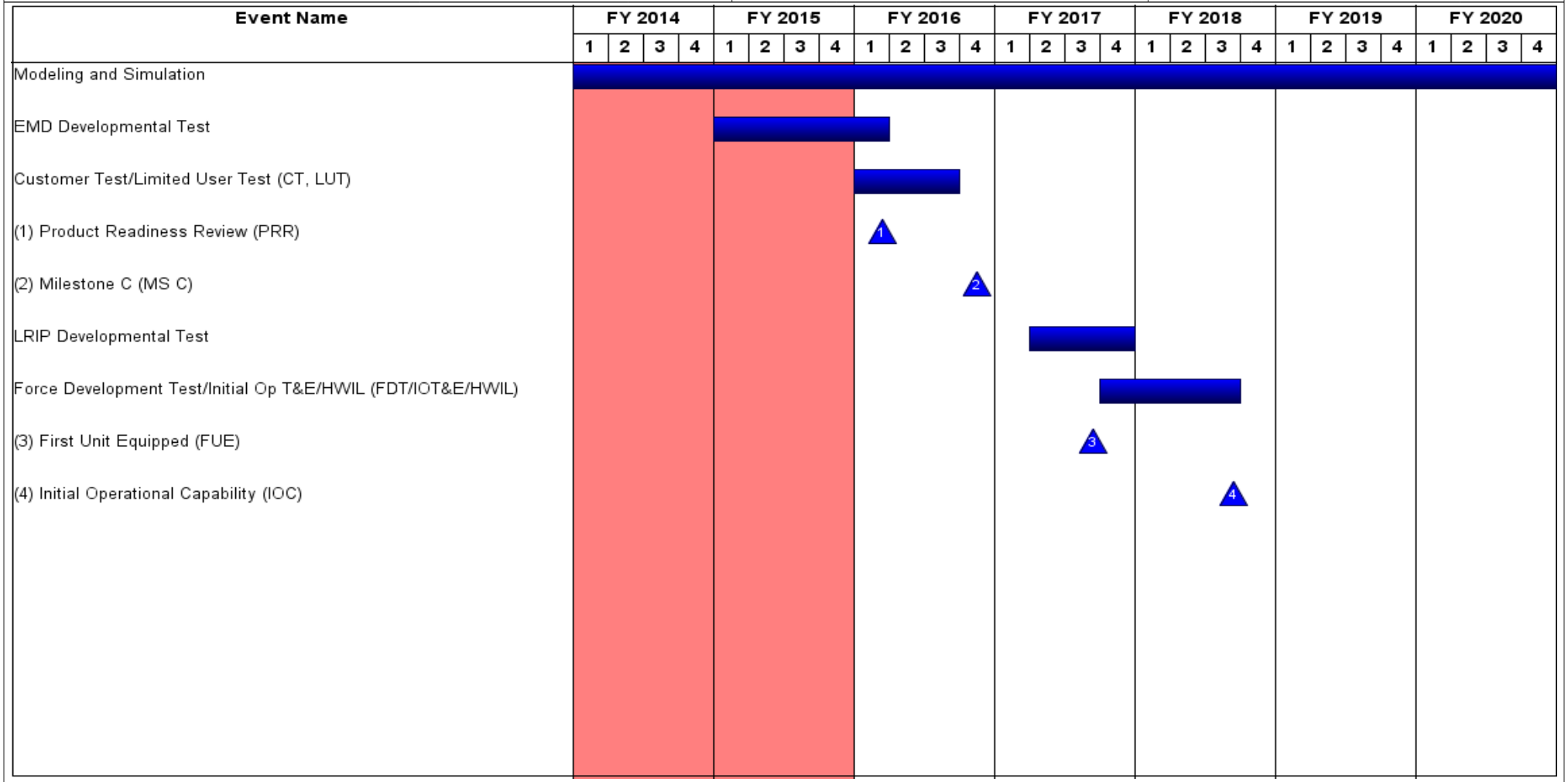

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605457A / *Army Integrated Air and Missile Defense (AIAMD)*	**Project (Number/Name)** S40 / *Army Integrated Air and Missile Defense*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Modeling and Simulation	1	2013	4	2020
EMD Developmental Test	1	2015	1	2016
Customer Test/Limited User Test (CT, LUT)	1	2016	3	2016
Product Readiness Review (PRR)	1	2016	1	2016
Milestone C (MS C)	4	2016	4	2016
LRIP Developmental Test	2	2017	4	2017
Force Development Test/Initial Op T&E/HWIL (FDT/IOT&E/HWIL)	4	2017	3	2018
First Unit Equipped (FUE)	3	2017	3	2017
Initial Operational Capability (IOC)	3	2018	3	2018

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0605625A / *Manned Ground Vehicle*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	-	96.820	49.134	49.247	-	49.247	-	-	-	-	-	195.201
FC8: *BCT Ground Combat Vehicle*	-	96.820	49.134	49.247	-	49.247	-	-	-	-	-	195.201

Note

Rform reflects Congressional Adjusted Base Number of $49,134.

A. Mission Description and Budget Item Justification

Fiscal constraints and competing demands during budget uncertainty forced the Army to make hard choices between near-term readiness and modernizing current systems to meet near term capability gaps and developing the Ground Combat Vehicle (GCV). The Army concluded it was not the right time to develop the GCV and ended the program upon completion of the Technology Development (TD) phase in June 2014. The Army has benefited from investment in the GCV program and will use the insights gained to inform technology maturation efforts in support of a strategy for the Army's Future Fighting Vehicle (FFV) modernization program.

Although the GCV program ended at the conclusion of the TD phase, the Army still maintains their requirement to fully modernize their fleet of ground combat vehicles. The FFV program will continue to leverage information and insights gained from the GCV TD phase to allow the Army to make better informed decisions in the future regarding their Combat Vehicle Portfolio. The main goals of the FFV program are to conduct technical, cost, and risk assessments against selected capability trades and future technologies for a FFV system.

The funding in 2016 will support continuing advanced concept development, trade studies, technology maturation/testing, technical/operational/affordability analyses, and potential limited prototyping to assess future designs that integrate emerging Science and Technology advancements.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	100.147	49.160	49.247	-	49.247
Current President's Budget	96.820	49.134	49.247	-	49.247
Total Adjustments	-3.327	-0.026	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-0.026			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-3.327	-			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605625A / *Manned Ground Vehicle*	Project (Number/Name) FC8 / *BCT Ground Combat Vehicle*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
FC8: *BCT Ground Combat Vehicle*	-	96.820	49.134	49.247	-	49.247	-	-	-	-	-	195.201
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Fiscal constraints and competing demands during budget uncertainty forced the Army to make hard choices between near-term readiness and modernizing current systems to meet near term capability gaps and developing the Ground Combat Vehicle (GCV). The Army concluded it was not the right time to develop the GCV and ended the program upon completion of the Technology Development (TD) phase in June 2014. The Army has benefited from investment in the GCV program and will use the insights gained to inform technology maturation efforts in support of a strategy for the Army's Future Fighting Vehicle (FFV) modernization program.

Although the GCV program ended at the conclusion of the TD phase, the Army still maintains their requirement to fully modernize their fleet of ground combat vehicles. The FFV program will continue to leverage information and insights gained from the GCV TD phase to allow the Army to make better informed decisions in the future regarding their Combat Vehicle Portfolio. The main goals of the FFV program are to conduct technical, cost, and risk assessments against selected capability trades and future technologies for a FFV system.

The funding in FY 2016 will support continuing advanced concept development, trade studies, technology maturation/testing, technical/operational/affordability analyses, and potential limited prototyping to assess future designs that integrate emerging Science and Technology advancements.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Government System Engineering & Program Management	9.398	9.134	9.247
Description: Provides for basic Government oversight of the Ground Combat Vehicle (GCV) and Future Fighting Vehicle (FFV) programs. Includes funding for government personnel (labor, travel, training, supplies) and other support (other government agencies, support contractors, automated data processing, communications, and equipment).			
FY 2014 Accomplishments: Oversight of the GCV TD contracts continued through 3Q FY 2014. Preliminary Design Reviews (PDR) were completed 1Q FY 2014 and a PDR report was completed. The GCV IPTs continued to oversee the technical development efforts of each separate contractor in order to monitor and track technical progress related to the development of the various subsystems. This included review and acceptance of all formal contract deliverables for the two contractor teams. The Project Management team supported TD contract close-outs 3Q FY 2014 and then develop detailed plans to facilitate the transition of the program to supporting FFV S&T efforts in FY 2015 and FY 2016.			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605625A / *Manned Ground Vehicle*	**Project (Number/Name)** FC8 / *BCT Ground Combat Vehicle*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
The Project Management team will be significantly scaled back, but will continue to provide oversight to planned contract efforts. The contract efforts will be focused on advanced concept development, technology risk reduction, and integration of S&T developed components. The Government Future Fighting Vehicle (FFV) team will also lead, integrate, and collaborate across technical and analytical efforts with the S&T and Requirements communities. ***FY 2016 Plans:*** The Project Management team will continue to provide oversight to planned contract efforts. The contract efforts will be focused on advanced concept development, technology risk reduction, and integration of S&T developed components. The Government Future Fighting Vehicle (FFV) team will also lead, integrate, and collaborate across technical and analytical efforts with the S&T and Requirements communities.			
Title: Contractor Systems Engineering/Program Management ***Description:*** Provides for contractor basic development, engineering, and management for the GCV and FFV prime contracts, less prototype hardware and software development (which are captured in the following sections). Includes material consumed in support of component level engineering efforts. ***FY 2014 Accomplishments:*** Contractors performed program management using Earned Value Management (EVM) and Technical Performance Measures (TPMs) to report cost, schedule and technical status. All required contract deliverables were prepared and delivered. Each of the current contractors continued and completed the GCV Technology Development phase. This included: conducted system level Preliminary Design Reviews 1Q FY 2014, conducted and completed component/subsystem maturation testing 3Q FY 2014, conducted hot-bench integration 1Q-3Q FY 2014, and conducted and performed assessments of initial component/subsystem reliability growth tests. ***FY 2015 Plans:*** Contractors will conduct concept development work and subsystem risk reduction, in collaboration with planned S&T efforts. Concept development effort will initially evolve from the design concepts developed under the GCV TD phase and will result in development and delivery of concept data packages that include: 3 dimensional/Computer Aided Design (CAD) model representations, bill of materials, product structure / weight tape / power and energy balance, and cost estimate. In addition, a variety of technical and operational analyses and trades are expected to be completed. ***FY 2016 Plans:*** Contractors will conduct concept development work and subsystem risk reduction, in collaboration with planned S&T efforts. Concept development effort will initially evolve from the design concepts developed under the GCV TD phase and will result in development and delivery of concept data packages that include: 3 dimensional/Computer Aided Design (CAD) model	67.226	40.000	40.000

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605625A / *Manned Ground Vehicle*	**Project (Number/Name)** FC8 / *BCT Ground Combat Vehicle*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
representations, bill of materials, product structure / weight tape / power and energy balance, and cost estimate. In addition, a variety of technical and operational analyses and trades are expected to be completed.			
Title: Government Tests ***Description:*** Provides for costs incurred by the government to perform and validate system-related test activities. This element also includes costs of the detailed planning, conduct, support, data reduction, and reports from such testing. The actual test articles (i.e., functionally configured systems) are excluded from this element as they are included in the prototype manufacturing section. ***FY 2014 Accomplishments:*** The additional GCV TD phase risk mitigation assets were tested at Government test facilities 1Q-3Q FY 2014. In addition, re-test of the existing subsystem test assets were performed after updates that reflected the revised performance specification. The TEMP was finalized.	1.800	-	-
Title: Contractor Software ***Description:*** Provides for contractor software development efforts for the GCV prime contracts. This includes all software related to the various subsystems, training, logistics, vehicle management, and battle command integration. ***FY 2014 Accomplishments:*** GCV TD contractors refined Software Architecture Design Documents (SADDs) and all architectural significant use case and software requirement specifications.	18.396	-	-
Accomplishments/Planned Programs Subtotals	96.820	49.134	49.247

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

The Army will continue to engage with the prime contractors from the Ground Combat Vehicle (GCV) Technology Development (TD) Phase, to conduct system level trade studies and integrated assessments using their designs relative to a new Future Fighting Vehicle (FFV). In addition, the contractors will perform design excursions based on the Bradley Fighting Vehicle. The data provided will be utilized by the Army to determine if the acquisition of a new FFV is the preferred choice over a modification to existing Fighting Vehicles.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605625A / *Manned Ground Vehicle*	**Project (Number/Name)** FC8 / *BCT Ground Combat Vehicle*

For the FY 2016 Budget, the Army will continue combat vehicle concept development and synchronization with planned Government S&T investments which will eventually form the foundation for a future fighting vehicle program. The Project Management Office is assessing the full impact of this decision and will ultimately formalize a future fighting vehicle acquisition strategy.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605625A / *Manned Ground Vehicle*	Project (Number/Name) FC8 / *BCT Ground Combat Vehicle*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor System Engineering and Prog. Mgt GCV/FFV	SS/CPFF	BAE / GDLS, Sterling Heights, MI : .	985.543	67.226	Dec 2013	40.000	May 2015	40.000	Jan 2016	-		40.000	Continuing	Continuing	Continuing
Contractor Prototypes GCV	SS/CPFF	BAE / GDLS, Sterling Heights, MI : .	65.659	-		-		-		-		-	Continuing	Continuing	Continuing
Contractor Software GCV	SS/CPFF	BAE / GDLS, Sterling Heights, MI : .	64.082	18.396	Dec 2013	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	1,115.284	85.622		40.000		40.000		-		40.000	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government System Engineering and Prog. Mgt GCV/FFV	Various	PM Ground Combat Vehicle : Warren, MI	212.474	9.398	Nov 2013	9.134	Oct 2014	-		-		-	Continuing	Continuing	Continuing
Government System Engineering and Prog Mgt FFV	Various	PM FFV : Various Locations	0.000	-		-		9.247	Nov 2015	-		9.247	-	9.247	-
Assessment of Selected Non-developmental Vehicles (ASNV) GCV	Various	Various Locations : Various Locations	38.304	-		-		-		-		-	-	38.304	-
		Subtotal	250.778	9.398		9.134		9.247		-		9.247	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Tests & Modeling & Simulation GCV	Various	PM Ground Combat Vehicle : Warren, MI	29.310	1.800	Jan 2014	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	29.310	1.800		-		-		-		-	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605625A / *Manned Ground Vehicle*	Project (Number/Name) FC8 / *BCT Ground Combat Vehicle*	

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	1,395.372	96.820		49.134		49.247		-		49.247	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605625A / *Manned Ground Vehicle*	**Project (Number/Name)** FC8 / *BCT Ground Combat Vehicle*

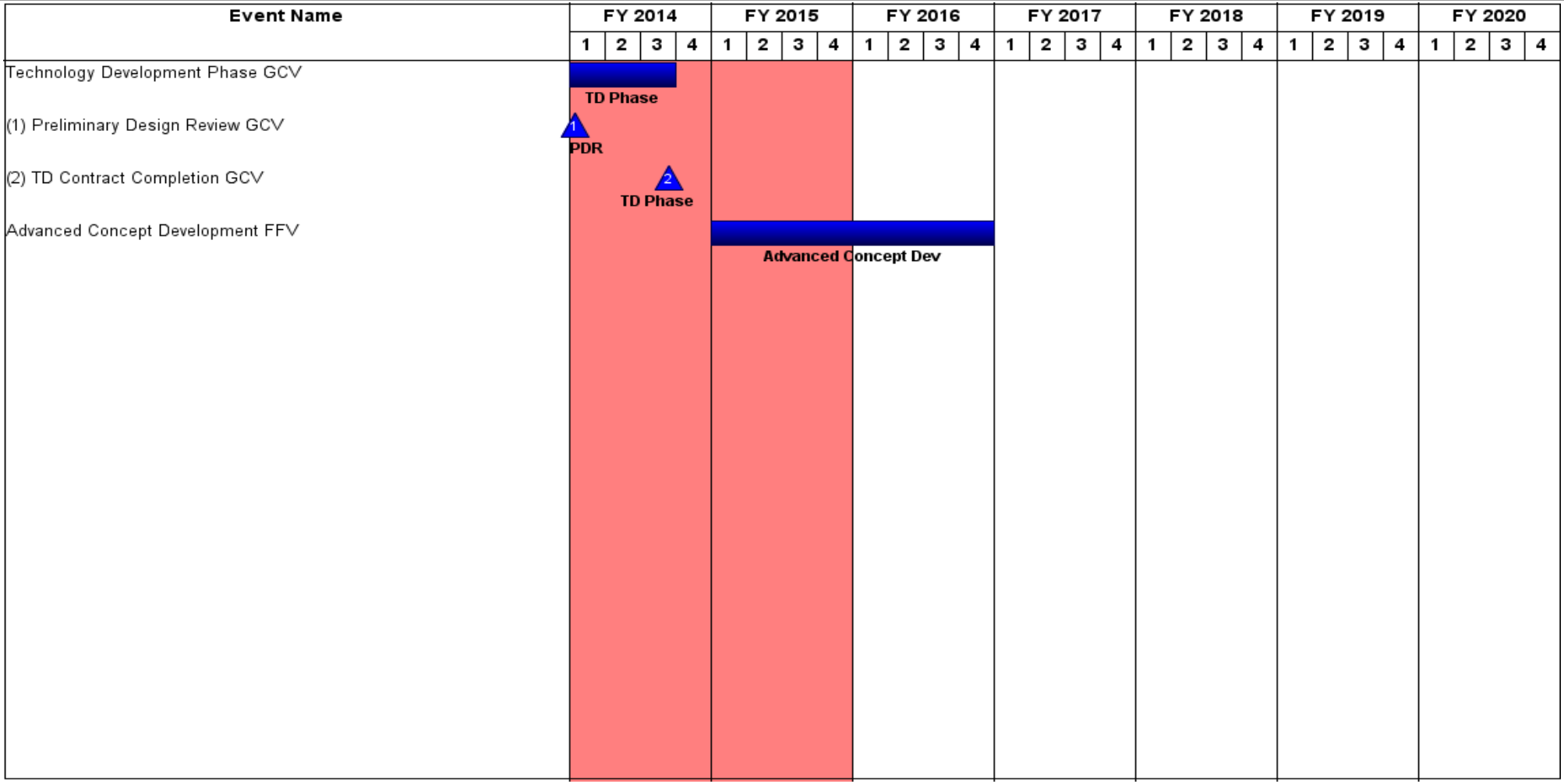

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605625A / *Manned Ground Vehicle*	**Project (Number/Name)** FC8 / *BCT Ground Combat Vehicle*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Technology Development Phase GCV	4	2011	3	2014
Preliminary Design Review GCV	1	2014	1	2014
TD Contract Completion GCV	3	2014	3	2014
Advanced Concept Development FFV	1	2015	4	2016

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army												Date: February 2015
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0605626A / *Aerial Common Sensor*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	-	10.377	17.748	0.002	-	0.002	-	-	-	-	-	28.127
AC5: *Enhanced Medium Alt Recon Surv Sys*	-	10.377	17.748	0.002	-	0.002	-	-	-	-	-	28.127

Note

FY15 - This is EMARSS RDTE funding line which contains funding for Airborne Reconnaissance Low - Enhanced (ARL-E) in FY15 ($10.174 million).

A. Mission Description and Budget Item Justification

The Enhanced Medium Altitude Reconnaissance and Surveillance System (EMARSS) is the Army's next generation C-12 based, direct support, manned airborne intelligence collection, processing, and targeting support system. EMARSS provides a persistent capability to detect, locate, classify/identify, and track surface targets with a high degree of timeliness and accuracy. EMARSS aircraft will be assigned to the U.S. Army Intelligence and Security Command's (INSCOM) Aerial Exploitation Battalions (AEB). EMARSS is an improvement over the existing Medium Altitude Reconnaissance and Surveillance System Quick Reaction Capability (MARSS QRC) in that it hosts an on board Distributed Common Ground System - Army (DCGS-A) capability, improved satellite communications, improved aircraft performance, and life cycle logistics sustainment capability.

EMARSS will consist of a commercial derivative aircraft equipped with an Electro-optical/Infrared (EO/IR) sensor with Full Motion Video (FMV), a Communications Intelligence (COMINT) collection system, an Aerial Precision Geolocation (APG) system, tactical line-of-site (LOS) and beyond line-of-site (BLOS) communications suite, two DCGS-A enabled operator workstations and a self-protection suite. EMARSS is built to allow future capabilities to be integrated on platform with the addition of a third carry-on workstation.

EMARSS will operate in direct support of tactical missions. EMARSS, integrating elements of the DCGS-A, will provide efficient response to Combat Forces with Intelligence, Surveillance and Reconnaissance (ISR) tasking.

The EMARSS funding line contains funding for the Airborne Reconnaissance Low - Enhanced (ARL-E) program. ARL-E supports the Aerial ISR 2020 Strategy which recommended replacement of the current Airborne Reconnaissance Low Multifunction (ARL-M) and migrates the current ARL sensors plus new niche sensors to meet the ARL-E Capabilities Production Document (CPD) requirements. ARL-E procures the hardware, software, and infrastructure to rapidly install sensors which support a rapid plug and play, quick connect/disconnect, mounting system to allow the installation of various combinations of sensor-types in support of a wide-range of theater operations. The sensor suite will consist of a COMINT subsystem capable of supporting theater net centric geo-location efforts, High Definition FMV; Improved Synthetic Aperture Radar / Moving Target Indicator (SAR/MTI) radar capability and updated mission workstations, as well as radio and data/communications architecture. ARL-E will leverage existing sensors as well as integrating and installing niche sensors to augment current capabilities. Niche capabilities include Wide Area Aerial Surveillance (WAAS), Light Imaging Detection and Ranging (LIDAR) and Hyper Spectral Imaging (HSI) sensors.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army					Date: February 2015
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*			R-1 Program Element (Number/Name) PE 0605626A / *Aerial Common Sensor*		
B. Program Change Summary ($ in Millions)	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**
Previous President's Budget	10.377	17.748	22.896	-	22.896
Current President's Budget	10.377	17.748	0.002	-	0.002
Total Adjustments	-	-	-22.894	-	-22.894
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	-22.894	-	-22.894

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605626A / *Aerial Common Sensor*	Project (Number/Name) AC5 / *Enhanced Medium Alt Recon Surv Sys*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
AC5: *Enhanced Medium Alt Recon Surv Sys*	-	10.377	17.748	0.002	-	0.002	-	-	-	-	-	28.127
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

This EMARSS RDTE funding line contains funding for Airborne Reconnaissance Low - Enhanced (ARL-E) in FY15 ($10.174 million). The remaining funds will be used for Interim Contractor Logistics Support (ICLS) to support testing of the EMARSS Variants: EMARSS-G (Constant Hawk & TACOP LiDAR); EMARSS-V (VaDER); EMARSS-M (Liberty Project Aircraft (LPA)); and EMARSS-S (Engineering and Manufacturing Development (EMD) systems.

For FY16 and beyond, the EMARSS RDTE funding line continues on 375206EH3.
For FY16 and beyond, the ARL-E RDTE funding line continues on 375206EH5.

A. Mission Description and Budget Item Justification

The Enhanced Medium Altitude Reconnaissance and Surveillance System (EMARSS) is the Army's next generation C-12 based, direct support, manned airborne intelligence collection, processing, and targeting support system. EMARSS provides a persistent capability to detect, locate, classify/identify, and track surface targets with a high degree of timeliness and accuracy. EMARSS aircraft will be assigned to the U.S. Army Intelligence and Security Command's (INSCOM) Aerial Exploitation Battalions (AEB). EMARSS is an improvement over the existing Medium Altitude Reconnaissance and Surveillance System Quick Reaction Capability (MARSS QRC) in that it hosts an on board Distributed Common Ground System - Army (DCGS-A) capability, improved satellite communications, improved aircraft performance, and life cycle logistics sustainment capability.

EMARSS Payloads will consist of Mission Equipment Packages (MEP) and Processing Exploitation & Dissemination commercial derivative equipment such as, an Electro-optical/Infrared (EO/IR) sensor with Full Motion Video (FMV), a Communications Intelligence (COMINT) collection system, an Aerial Precision Geolocation (APG) system, tactical line-of-site (LOS) and beyond line-of-site (BLOS) communications suite, two Distributed Common Ground System - Army (DCGS-A) enabled operator workstations and a self-protection suite. Payloads integrated on platforms will include: niche capabilities such as Wide Area Aerial Surveillance (WAAS), Light Imaging Detection and Ranging (LiDAR) and improved Synthetic Aperture Radar / Moving Target Indicator (SAR/MTI) radar capability.

EMARSS will operate in direct support of tactical missions. EMARSS, integrating elements of the DCGS-A, will provide provide a near real-time response to Combat Forces with Intelligence, Surveillance and Reconnaissance (ISR) tasking.

The FY 2015 EMARSS funding line contains $10.174 million for the Airborne Reconnaissance Low - Enhanced (ARL-E) program. ARL-E supports the Aerial ISR 2020 Strategy which recommended replacement of the current Airborne Reconnaissance Low Multifunction (ARL-M) and migrates the current ARL sensors plus new niche sensors to meet the ARL-E Capabilities Production Document (CPD) requirements. ARL-E procures the hardware, software, and infrastructure to rapidly install sensors which support a rapid plug and play, quick connect/disconnect, mounting system to allow the installation of various combinations of sensor-types in support of a wide-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605626A / *Aerial Common Sensor*	**Project (Number/Name)** AC5 / *Enhanced Medium Alt Recon Surv Sys*

range of theater operations. The sensor suite will consist of a COMINT subsystem capable of supporting theater net centric geo-location efforts, High Definition FMV; Improved Synthetic Aperture Radar / Moving Target Indicator (SAR/MTI) radar capability and updated mission workstations, as well as radio and data/communications architecture. ARL-E will leverage existing sensors as well as integrating and installing niche sensors to augment current capabilities. Niche capabilities include Wide Area Aerial Surveillance (WAAS), Light Imaging Detection and Ranging (LiDAR) and Hyper Spectral Imaging (HSI) sensors.

FY 2016 RDTE funding in the amount of $0.002 million provides Interim Contractor Logistics support.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: EMARSS - Product Development ***Description:*** Funding is provided for the following efforts: ***FY 2014 Accomplishments:*** Finalizes integration of prime mission equipment, software integration, and risk mitigation efforts. Partially funds an ICLS capability to support testing. ***FY 2015 Plans:*** EMARSS RDTE funds Sensor Engineering Change Proposals (ECPs) and contractor system support. Partially funds an ICLS capability to support testing. ***FY 2016 Base Plans:*** Partially funds an ICLS capability	7.177	5.474	0.002	-	0.002
Title: Support Costs ***Description:*** Support costs for matrix government, matrix contractor and PM Fixed Wing. ***FY 2014 Accomplishments:*** Support costs for matrix government, matrix contractor and PM Fixed Wing. ***FY 2015 Plans:*** Support costs for matrix government, matrix contractor and PM Fixed Wing.	0.400	0.800	-	-	-
Title: EMARSS - Test and Evaluation ***Description:*** Funding is provided for the following effort: ***FY 2014 Accomplishments:*** Delta testing and corrective actions resulting from LUT.	2.170	-	-	-	-
Title: Program Management Support	0.630	1.300	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605626A / *Aerial Common Sensor*	**Project (Number/Name)** AC5 / *Enhanced Medium Alt Recon Surv Sys*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Description: Funding is provided for the following effort: ***FY 2014 Accomplishments:*** Continues Program Management Office (PMO) support and travel, Systems Engineering and Technical Assistance (SETA) and MITRE support. ***FY 2015 Plans:*** Continues Program Management Office (PMO) support and travel, Systems Engineering and Technical Assistance (SETA) and MITRE support.					
Title: ARL-E - Product Development ***Description:*** ARL-E RDTE in EMARSS funding line until new RDTE line can be established. ***FY 2015 Plans:*** ARL-E RDTE funds the development of a Long Range Radar prototype for ARL-E.	-	10.174	-	-	-
Accomplishments/Planned Programs Subtotals	10.377	17.748	0.002	-	0.002

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• Aerial Common Sensor (ACS): *EMARSS - Aircraft Procurement (A02005)*	54.700	165.890	-	99.500	99.500	-	-	-	-	-	320.090
• EMARSS MEP/PED: *EMARSS Payloads (AZ2054)*	-	-	13.670	6.900	20.570	13.366	3.305	21.294	4.452	-	62.987
• ARL Mod: *ARL Mods (AZ2050)*	10.467	131.892	68.540	-	68.540	48.500	53.778	7.668	2.679	-	323.524
• TENCAP - TNG: *TENCAP - TNG (0605766A, Project DX9)*	4.172	2.660	0.588	-	0.588	0.769	0.543	-	-	-	8.732

Remarks

ACS - A02005 - FY 2015 Base procurement dollars in the amount of $165.890 million supports the modification and conversion of the balance of QRC systems redeploying out of Afghanistan to meet the EMARSS Capabilities Production Document (CPD).

FY 2014 A02005 OCO in the amount of $28 million procured one EMARSS-V.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605626A / *Aerial Common Sensor*	**Project (Number/Name)** AC5 / *Enhanced Medium Alt Recon Surv Sys*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost

For FY 2016 and beyond, the EMARSS APA funding line continues from A02005 and splits between Project Manager Sensors - Aerial Intelligence (PM SAI) AZ2054 EMARSS Payloads and Project Manager Fixed Wing (PM FW) A02112 EMARSS SEMA. Also in FY 2016 the EMARSS Payloads AZ2054 line is established separated from ARL Mod AZ2050. Separate funding lines support the Army Acquisition Executive's directive, codified in the October 28, 2011 memorandum, to assign overall acquisition lead for manned airborne intelligence systems to Program Executive Officer for Aviation PEO-AVN); and overall sensor,processing, exploitation, and dissemination responsibilities to Program Executive Officer or Intelligence, Electronic Warfare, and Sensors (PEO-IEWS).

D. Acquisition Strategy

The Enhanced Medium Altitude Reconnaissance and Surveillance System (EMARSS) is a Program of Record based on an Army G-3/5/7 Directed Requirement (DR) signed 11 December 2009. The program entered the acquisition process in the Engineering and Manufacturing Development (EMD) phase with a 1QFY11 contract award that was competitively awarded to a single contractor. Program completed System Design Review in 1QFY12 and began modification and integration of the aircraft in 2QFY12. Program currently has an Army validated Capabilities Production Document (CPD) and a successful Milestone C.

ARL-E portion, in the amount of $10.174 million, funds the engineering, manufacturing and development of a Long Range radar prototype to replace the current ARL Phoenix Eye to meet requirement for increased performance for ARL-E.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605626A / *Aerial Common Sensor*	Project (Number/Name) AC5 / *Enhanced Medium Alt Recon Surv Sys*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMO	Various	PM SAI : Aberdeen Proving Ground, MD	11.823	0.230		0.500		-		-		-	-	12.553	-
SETA Support	C/CPFF	PM SAI : Aberdeen Proving Ground, MD	5.860	0.200		0.400		-		-		-	-	6.460	-
MITRE - FFRDC Support	C/CPFF	PM SAI : Aberdeen Proving Ground, MD	3.733	0.200		0.400		-		-		-	-	4.333	-
		Subtotal	21.416	0.630		1.300		-		-		-	-	23.346	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
EMARSS EMD (#5 & #6 green ACFT purchase)	C/CPIF	Boeing Company : Ridley Park, PA	72.438	-		-		-		-		-	-	72.438	-
Request for Equitable Adjustment (REA)	C/FP	Boeing Company : Ridley Park, PA	7.085	-		-		-		-		-	-	7.085	-
Prime Contractor Systems Support	C/CPFF	Boeing Company : Ridley Park, PA	15.535	7.177		3.736		-		-		-	-	26.448	-
Engineering Change Proposals (ECP) for Sensors	C/CPIF	Boeing Company : Ridley Park, PA	12.966	-		1.738		-		-		-	-	14.704	-
Sensors acquisition	SS/FFP	BAE Systems : Nashua, NH	6.351	-		-		-		-		-	-	6.351	-
EMD Contract Cost Growth	Allot	Boeing Company : Ridley Park, PA	19.600	-		-		-		-		-	-	19.600	-
EMARSS - EMD 5 (currently held for potential REAs)	C/CPIF	Boeing Company : Ridley Park, PA	20.000	-		-		-		-		-	-	20.000	-
DCGS-A & Orion S/W processing on board	Various	Various : Various	6.740	-		-		-		-		-	-	6.740	-
ARL-E - Radar Development	C/TBD	TBD : TBD	0.000	-		10.174	Jun 2015	-		-		-	-	10.174	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605626A / *Aerial Common Sensor*	Project (Number/Name) AC5 / *Enhanced Medium Alt Recon Surv Sys*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	160.715	7.177		15.648		-		-		-	-	183.540	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Matrix Government	MIPR	Various : Various	15.187	0.200		0.400		-		-		-	-	15.787	-
Matrix Contractor Support	Various	Various : Various	3.113	0.200		0.400		-		-		-	-	3.713	-
		Subtotal	18.300	0.400		0.800		-		-		-	-	19.500	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government DT/OT, LUT	Various	Various : Various	9.590	2.170		-		0.002		-		0.002	-	11.762	-
Contractor Test (CT/DT)	C/CPIF	Various : Various	0.390	-		-		-		-		-	-	0.390	-
Test Flight Ranges	Various	Various : Various	7.517	-		-		-		-		-	-	7.517	-
Forward Operational Assessment (FOA)	MIPR	Various : Various	0.124	-		-		-		-		-	-	0.124	-
Initial Operational Test and Evaluation (IOT&E)	MIPR	Various : Various	1.000	-		-		-		-		-	-	1.000	-
Joint Test & Integration Facility (JTIF)	Various	Various : various	11.771	-		-		-		-		-	-	11.771	-
		Subtotal	30.392	2.170		-		0.002		-		0.002	-	32.564	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	230.823	10.377		17.748		0.002		-		0.002	-	258.950	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605626A / *Aerial Common Sensor*	**Project (Number/Name)** AC5 / *Enhanced Medium Alt Recon Surv Sys*

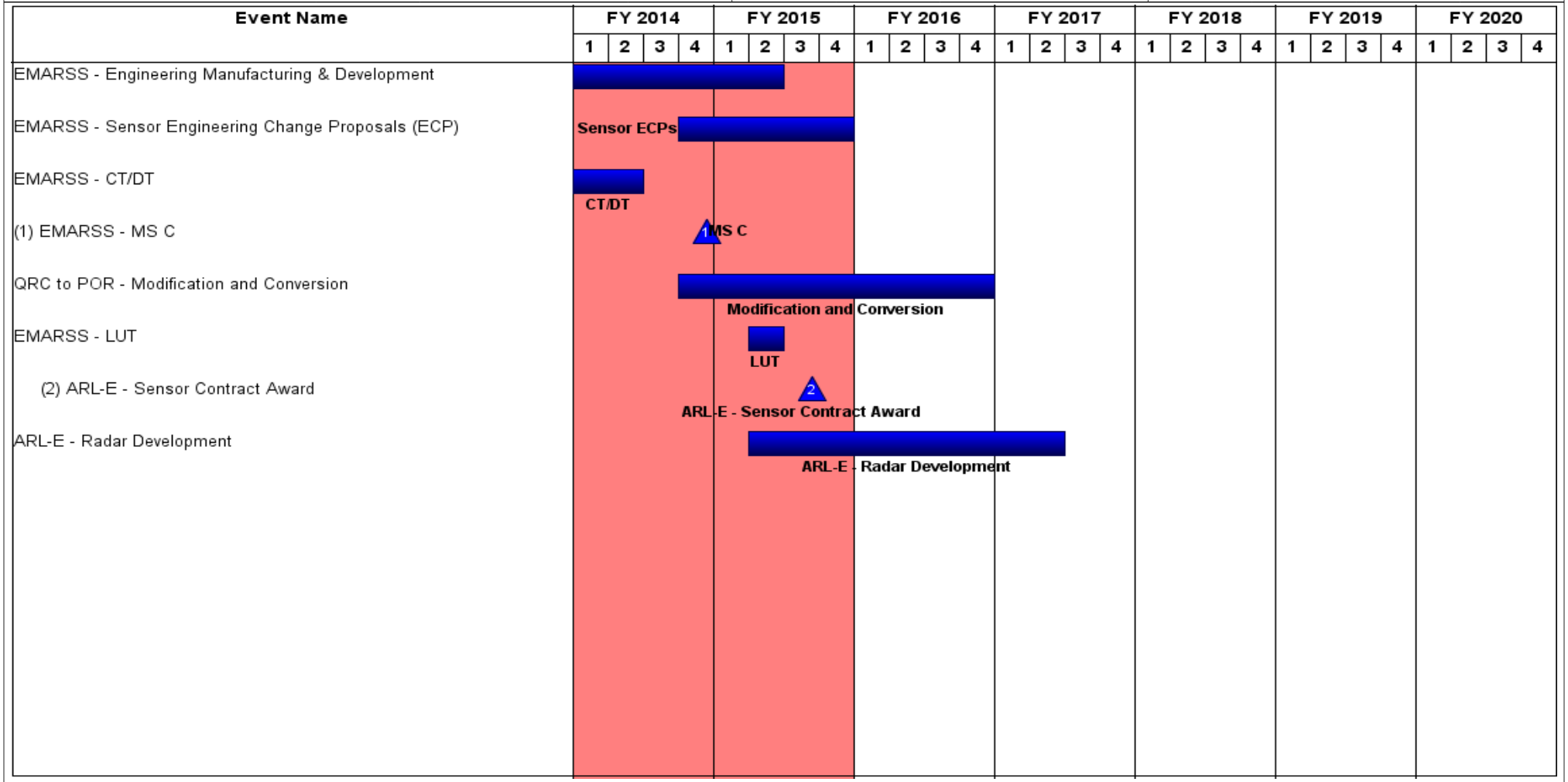

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605626A / *Aerial Common Sensor*	**Project (Number/Name)** AC5 / *Enhanced Medium Alt Recon Surv Sys*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
EMARSS - Engineering Manufacturing & Development	3	2011	2	2015
EMARSS - Sensor Engineering Change Proposals (ECP)	4	2014	4	2015
EMARSS - CT/DT	1	2014	2	2014
EMARSS - MS C	4	2014	4	2014
QRC to POR - Modification and Conversion	4	2014	4	2016
EMARSS - LUT	2	2015	2	2015
ARL-E - Sensor Contract Award	3	2015	3	2015
ARL-E - Radar Development	2	2015	2	2017

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0605766A / *National Capabilities Integration (MIP)*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	-	21.132	15.212	10.599	-	10.599	8.970	7.088	8.235	7.216	Continuing	Continuing
DX9: *National Integration To Tactical Systems(MIP)*	-	21.132	15.212	10.599	-	10.599	8.970	7.088	8.235	7.216	Continuing	Continuing

A. Mission Description and Budget Item Justification

National Integration to Tactical Systems provides centralized monitoring and synchronization of the transition and integration of proven advanced technologies, prototypes and standards developed by the National Intelligence Community (IC) into Army systems and Programs of Record. It also enables efficient use and oversight of system development funds for final stage integration, development, and testing of successful technologies and prototypes to advance, or make compliant, Army systems and Programs of Record that have or use National capabilities.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	21.132	15.212	8.639	-	8.639
Current President's Budget	21.132	15.212	10.599	-	10.599
Total Adjustments	-	-	1.960	-	1.960
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	1.960	-	1.960

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605766A / *National Capabilities Integration (MIP)*	Project (Number/Name) DX9 / *National Integration To Tactical Systems(MIP)*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
DX9: *National Integration To Tactical Systems(MIP)*	-	21.132	15.212	10.599	-	10.599	8.970	7.088	8.235	7.216	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Conducts National Capabilities Integration to transition and incorporate selected Intelligence Community (IC) emerging technologies and advanced capabilities into Army systems and Programs of Record. Provides Army the ability to deliver services and capabilities successfully demonstrated through advanced development and prototype activities determined technologically ready by the Army Tactical Exploitation of National Capabilities (TENCAP) program. Facilitates testing and program office ability to accept and integrate National capabilities and standards into Program of Record acquisition systems and baselines.

A. Mission Description and Budget Item Justification

National Integration to Tactical Systems provides for centralized monitoring and synchronization of the transition and integration of new, updated, and emerging National Intelligence Community (IC) technologies, capabilities, and standards into Programs of Record across the Army to (1) to maintain operational relevance of Army programs and address changes in technology and the threat, (2) to ensure Army programs maintain interoperability with and access to the National community architecture and systems , and (3) to advance Army ability to conduct analysis and tasking, collection, processing, exploitation, dissemination and feedback (TCPEDF) of intelligence data.

FY2016 Base funding in the amount of $10.599 million provides integration funds for 2 validated National Intel Community (IC) efforts: (1) Air Vigilance (AV) software development with $7.179 million for the integration of advanced sensor developments into the Army Air Vigilance (AV) Program of Record; (2) Army TNG Integration, $3.420 million funds the continued efforts to ensure Army Programs of Record are in compliance to the National standard for Airborne Overhead Cooperative Operations/Theater Net-Centric Geolocation (AOCO/TNG), per the Joint Requirement (JROCM 101-10).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Advanced Air Vigilance (AV) capabilities	8.032	7.362	7.179
Description: Advanced development, modifications, and changes to the Air Vigilance (AV) system software.			
FY 2014 Accomplishments: Provided for software development and integration of advances and/or changes to ensure continued system interoperability and viability.			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605766A / *National Capabilities Integration (MIP)*	**Project (Number/Name)** DX9 / *National Integration To Tactical Systems(MIP)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Provides for software development and integration of advances and/or changes to ensure continued system interoperability and viability. ***FY 2016 Plans:*** Provides for software development and integration of advances and/or changes to ensure continued system interoperability and viability.			
Title: Army TNG Integration - Airborne Overhead Cooperative Operations (AOCO) / Theater Net-Centric Geolocation (TNG) ***Description:*** National Intelligence Community (IC) standard for interoperability and use of specific intelligence networked capabilities. ***FY 2014 Accomplishments:*** Provided funds to specified Army Programs of Record for software development and enhancements and for integration, ensuring compliance to the National requirement and standards and interoperability with this National Intelligence Community (IC) networked capability for tactical use and improved Army battlefield awareness. ***FY 2015 Plans:*** Provides funds to specified Army Programs of Record for software development and enhancements and for integration, ensuring compliance to the National requirement and standards and interoperability with this National Intelligence Community (IC) networked capability for tactical use and improved Army battlefield awareness. ***FY 2016 Plans:*** Provides funds to ensure specified Army Programs of Record can perform software development and enhancements for integration, ensuring compliance to the National requirement and standards and interoperability with National Intelligence Community (IC) networked capabilities for tactical use and improved Army battlefield awareness, to participate in the Theater Net-Centric Geolocation (TNG) standards for interoperability. (ref. CJCSI 32450.61, AOCO 13Jan2012)	13.100	7.850	3.420
Accomplishments/Planned Programs Subtotals	21.132	15.212	10.599

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• 0603766A: *Tactical Support Development - Adv Dev (MIP), PE 643766*	10.390	8.953	13.472	-	13.472	16.963	20.952	21.348	21.749	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605766A / *National Capabilities Integration (MIP)*	**Project (Number/Name)** DX9 / *National Integration To Tactical Systems(MIP)*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• W60001: *Air Vigilance (AV), OPA2 (W60001)*	-	7.000	8.224	-	8.224	0.739	1.526	2.485	2.533	Continuing	Continuing

Remarks

D. Acquisition Strategy

The 'National Integration To Tactical Systems (Military Intelligence Program - MIP)' funds provide for transition and integration of National Intelligence Community (IC) advanced technologies and prototypes leveraged by the Army's Tactical Exploitation of National Capabilities (TENCAP) program office. The Army TENCAP acquisition strategy is driven by an annual TENCAP General Officer Steering Group (TGOSG), co-chaired by the Army G2; Army G8; and the Military Deputy to the Assistant Secretary of the Army for Acquisition, Logistics, and Technology [ASA(ALT)]; and includes representatives from the Army G3; Army G6; Army Training and Doctrine Command (TRADOC); and the Program Executive Office for Intelligence, Electronic Warfare and Sensors (PEO IEW&S). The TGOSG reviews, validates, prioritizes, and guides Army TENCAP efforts, according to Army and Defense strategy. Based on this TGOSG guidance, Army TENCAP invests BA 6.4 RDTE in Intelligence Community (IC) developments during the more cost-effective advanced development phase to ensure Army requirements are met with minimal redundancy. Army TENCAP then uses BA 6.5 RDTE to manage the transition of these advanced development efforts through system development and integration into Army Programs of Record (POR). This strategy ensures these leveraged investments remain viable through multiple budget cycles, significantly increasing successful transition to recipient Army POR. Army TENCAP facilitates the continued access to National Intel Community (IC) 'joint' efforts and compatibility with those National standards and software baseline for those Army PORs that benefit from these leveraged National IC technologies, resulting in cost-savings through cost-sharing, and Army participation in collaborative Intelligence.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605766A / *National Capabilities Integration (MIP)*	Project (Number/Name) DX9 / *National Integration To Tactical Systems(MIP)*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Matrix Gov Engineers	MIPR	AGC : Alexandria, VA	0.000	0.195	Dec 2013	0.200	Nov 2014	0.208	Nov 2015	-		0.208	Continuing	Continuing	-
Military Intelligence Engineers	C/FFP	TASC, Inc. : Chantilly, VA	0.000	0.675	Dec 2013	-		-		-		-	Continuing	Continuing	-
Military Intelligence Engineers	C/CPFF	TBD : TBD	0.000	-		0.695	Dec 2014	0.770	Dec 2015	-		0.770	-	1.465	-
		Subtotal	0.000	0.870		0.895		0.978		-		0.978	-	-	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Air Vigilance (AV) software updates and ehancement integration	MIPR	Classified : MIPR	0.000	5.389	Dec 2013	4.761	Dec 2014	4.391	Nov 2015	-		4.391	Continuing	Continuing	-
TNG for PM DCGS-A, PD Prophet and PM Sensors Aerial Intelligence	MIPR	Multiple : Multiple	0.000	13.100	Feb 2014	7.850	Feb 2015	3.420	Jan 2016	-		3.420	Continuing	Continuing	-
		Subtotal	0.000	18.489		12.611		7.811		-		7.811	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Air Vigilance (AV) program direct costs - Gov, travel, facilities, etc.	Allot	Army TENCAP/ Air Vigilance : Alexandria, VA	0.000	1.273	Oct 2013	1.206	Oct 2014	1.230	Oct 2015	-		1.230	Continuing	Continuing	-
		Subtotal	0.000	1.273		1.206		1.230		-		1.230	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605766A / *National Capabilities Integration (MIP)*	Project (Number/Name) DX9 / *National Integration To Tactical Systems(MIP)*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Integration, interoperability testing	MIPR	Multiple : Multiple	0.000	0.500	Jan 2014	0.500	Jan 2015	0.580	Jan 2016	-		0.580	Continuing	Continuing	-
		Subtotal	0.000	0.500		0.500		0.580		-		0.580	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	21.132		15.212		10.599		-		10.599	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605766A / *National Capabilities Integration (MIP)*	**Project (Number/Name)** DX9 / *National Integration To Tactical Systems(MIP)*

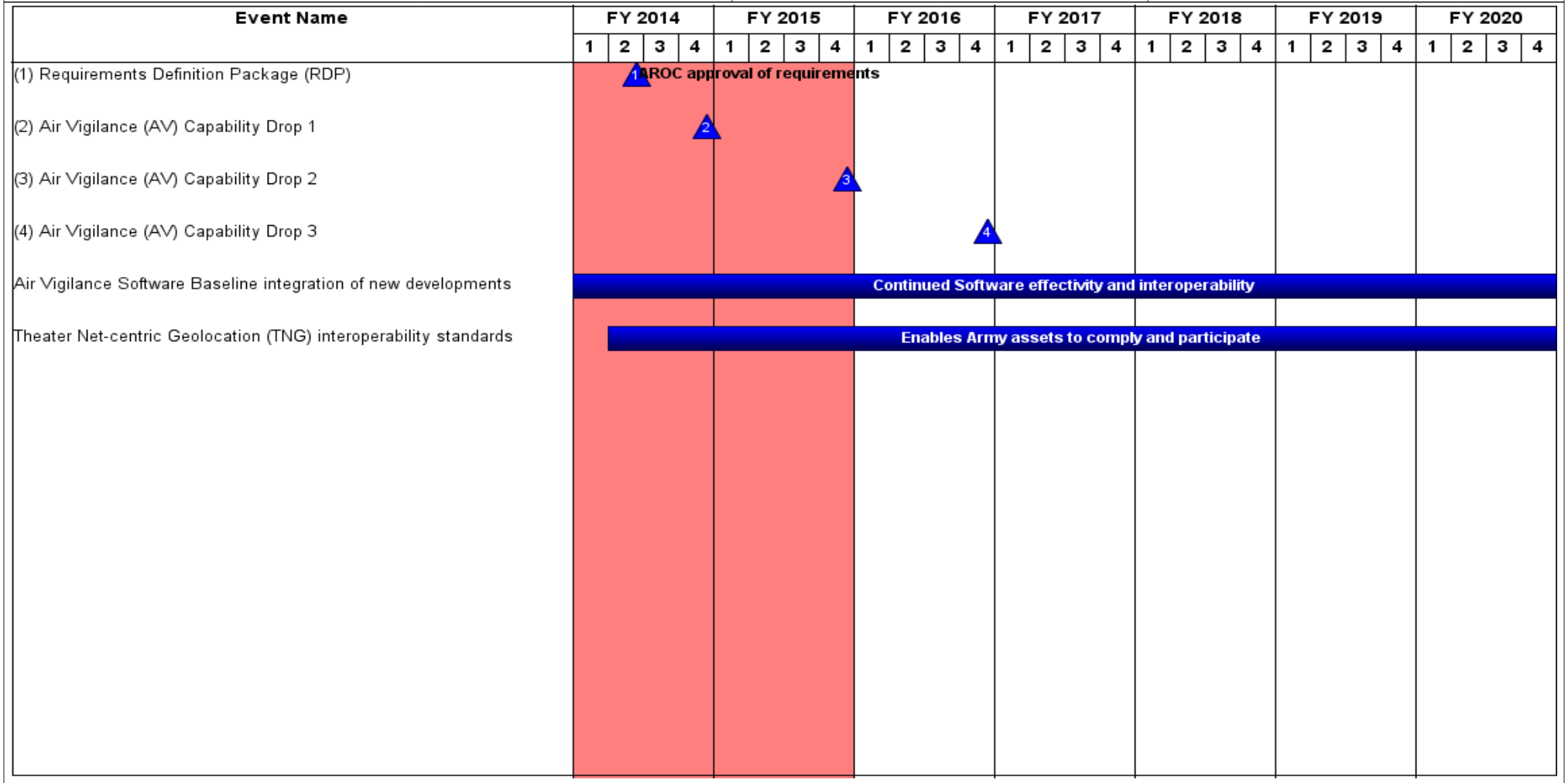

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605766A / *National Capabilities Integration (MIP)*	**Project (Number/Name)** DX9 / *National Integration To Tactical Systems(MIP)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Requirements Definition Package (RDP)	2	2014	2	2014
Air Vigilance (AV) Capability Drop 1	4	2014	4	2014
Air Vigilance (AV) Capability Drop 2	4	2015	4	2015
Air Vigilance (AV) Capability Drop 3	4	2016	4	2016
Air Vigilance Software Baseline integration of new developments	4	2013	4	2022
Theater Net-centric Geolocation (TNG) interoperability standards	2	2014	1	2022

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0605812A / *Joint Light Tactical Vehicle - ED*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	-	81.388	45.694	32.486	-	32.486	25.566	3.213	3.085	3.143	Continuing	Continuing
VU9: *Joint Light Tactical Vehicle - ED*	-	81.388	45.694	32.486	-	32.486	25.566	3.213	3.085	3.143	Continuing	Continuing

Note

At the request of the House Armed Services Committee - Air and Land Forces, a separate and distinct funding line (0605812A-VU9) was established for JLTV, transition of Project L50 funding to this newly established Program Element (PE) occurred in FY 2013.

A. Mission Description and Budget Item Justification

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

Major FY 2016 budget activities include the continued monitoring of contractor performance, continued fabrication of Live Fire Test Assets, and the initialization of the Low-Rate Initial Production (LRIP) test program, to include: ballistic, performance, and Reliability, Availability, & Maintainability (RAM) testing.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	84.185	45.718	32.724	-	32.724
Current President's Budget	81.388	45.694	32.486	-	32.486
Total Adjustments	-2.797	-0.024	-0.238	-	-0.238
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-2.797	-			
• Adjustments to Budget Years	-	-0.024	-0.238	-	-0.238

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605812A / *Joint Light Tactical Vehicle - ED*	Project (Number/Name) VU9 / *Joint Light Tactical Vehicle - ED*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
VU9: *Joint Light Tactical Vehicle - ED*	-	81.388	45.694	32.486	-	32.486	25.566	3.213	3.085	3.143	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

FY 2012 funding for the Joint Light Tactical Vehicles (JLTV) program is under Program Element (PE) 0604804A, Project L50.
FY 2013 and out year funding is under Project Element (PE) 0605812A, Project VU9.

A. Mission Description and Budget Item Justification

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

Major FY 2016 budget activities include the continued monitoring of contractor performance, continued fabrication of Live Fire Test Assets, and the initiation of the Low-Rate Initial Production (LRIP) test program, to include: ballistic, performance, and Reliability, Availability, & Maintainability (RAM) testing.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Contract and support for development, fabrication, and test of live fire test assets. ***Description:*** Funding is provided for the contract award for live fire test assets. ***FY 2015 Plans:*** Funding provides for contract award of live fire test assets that will be destroyed during ballistic testing. Developed logistics documentation, GFE, management, and provided oversight of programmatic and contractual issues related to logistics. ***FY 2016 Plans:*** Funding provides testing of Live Fire Test Assets that will be destroyed during ballistic testing and support for live fire testing. Continue logistics support, development of logistics documentation and oversight of programmatic and contractual issues related to logistics.	-	27.280	10.355
Title: Joint Light Tactical Vehicles (JLTV) program management support	9.442	11.722	1.032

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605812A / *Joint Light Tactical Vehicle - ED*	**Project (Number/Name)** VU9 / *Joint Light Tactical Vehicle - ED*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Description: Funding is provided for the support of program management government operations. ***FY 2014 Accomplishments:*** Funding was provided for continued Engineering and Manufacturing Development (EMD) prototype Joint Light Tactical Vehicles development and fabrication. Key events included the continued monitoring of the contract performance of the EMD vendors, as well as preparation of analysis and documentation in support of Milestone C. ***FY 2015 Plans:*** Continue support for the completion of the EMD phase to include program management, level of effort reports, test evaluation analyses, integrated logistics support, government furnished equipment management, building maintenance, building utilities, vehicle leases, close out of the EMD contracts, preparation of analysis and documentation in support of Milestone C, and LRIP source selection. ***FY 2016 Plans:*** Support for LRIP phase to include program management and monitoring of vendor performance for the live fire asset effort.			
Title: Test and Evaluation Events and Analysis. ***Description:*** Test and Evaluation Events ***FY 2014 Accomplishments:*** Completed EMD prototype testing to include (but not limited to) Automated Fire Extinguishing System (AFES), ballistic, corrosion, performance and RAM testing and initiated LUT testing upon the completion of the previous test events. ***FY 2015 Plans:*** Completion of LUT testing and finalize the EMD test reports in support of Milestone C, LRIP source selection, and ballistic hulls in preparation of LRIP test. ***FY 2016 Plans:*** Finalize the LRIP test plan and continue the LRIP test program to include (but not limited to) AFES, ballistic, corrosion, performance, RAM testing, logistics demonstration and operational testing.	31.208	6.692	21.099
Title: Engineering and Manufacturing Development (EMD) prototype contract and support for development and fabrication. ***Description:*** Funding is provided for EMD prototype contract award for development and fabrication. ***FY 2014 Accomplishments:***	40.738	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605812A / *Joint Light Tactical Vehicle - ED*	**Project (Number/Name)** VU9 / *Joint Light Tactical Vehicle - ED*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Funding was provided for continued EMD prototype Joint Light Tactical Vehicles development and fabrication. Test events included performance, reliability, live fire, and roof crush.			
Accomplishments/Planned Programs Subtotals	81.388	45.694	32.486

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• PM JLTV PRODUCTION D15603: *Joint Light Tactical Vehicles (JLTV), D15603, Army OPA 1*	-	164.615	308.336	-	308.336	598.546	837.043	1,092.066	1,113.019	Continuing	Continuing
• PM JLTV PROJECT 3209 0605812M: *Marine Corps Ground Combat/Support Systems, RDTE Project 3209 0605812M*	50.251	9.445	36.656	-	36.656	23.614	2.109	2.892	1.965	Continuing	Continuing
• PM JLTV PRODUCTION 5095: *Marine Corps Ground Combat/ Support Systems, Production 5095*	-	7.500	79.429	-	79.429	155.280	540.770	615.741	678.749	Continuing	Continuing

Remarks

D. Acquisition Strategy

Joint Light Tactical Vehicle (JLTV) is a Joint Service Program with the U.S. Army and Marine Corps as the two main components. The U.S. Army is the JLTV service lead. In addition, the Navy anticipates procuring JLTV vehicles upon successful Full Rate Production (FRP) decision.

The program will use an evolutionary approach to deliver capabilities in increments based on program priorities. All technologies entering the Engineering and Manufacturing Development (EMD) phase were Technology Readiness Level 6 or higher to achieve Capabilities Development Document (CDD) requirements. Increment I will produce two Mission Role Variant (MRV) configurations (Combat Tactical Vehicle (CTV) and Combat Support Vehicle (CSV)) with mission packages (General Purpose, Heavy Guns Carrier, Close Combat Weapons Carrier, and Utility/Shelter Carrier). Increment 2 is undefined.

The program revised the acquisition strategy in the first quarter of FY 2012, addressing better buying power initiatives and reduced the program schedule by fifteen (15) months to enable a 33-month Non-Development Item approach for EMD, with Milestone B approved on 9 August 2012. The program anticipates Milestone C decision in July 2015.
Through a full and open competition, the program awarded three fixed price contracts for EMD phase on 22 August 2012 to AM General, Lockheed Martin, and Oshkosh Corporations.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605812A / *Joint Light Tactical Vehicle - ED*	**Project (Number/Name)** VU9 / *Joint Light Tactical Vehicle - ED*

EMD vendors fabricated a total of 66 vehicles (22 test assets per vendor) representing mission packages for both MRVs, which the Government will fully test during EMD.

Vehicles were delivered in the fourth quarter of FY 2013 to begin the fourteen (14) month government performance and reliability testing, which will focus on demonstrating Key Performance Parameters/Key System Attributes (KPP/KSA) and safety requirements. Test strategy represents a mix of vendor risk reduction testing and formal government testing.

The JLTV Joint Program Office (JPO) intends to award a Low Rate Initial Production (LRIP)/Full Rate Production (FRP) contract under a limited competition between the three JLTV EMD contractors. An approved Justification and Approval (J&A) signed by the Army Acquisition Executive on 8 May 2014, supported the release of the draft Request for Proposal (RFP) on 26 June 2014 and limited the competition for the LRIP/FRP contract to the three EMD vendors. The JLTV JPO made adjustments to the draft RFP as directed by the Defense Acquisition Executive and the OSD peer review. The final RFP was released on 12 December 2014 and the solicitation is scheduled to close on 10 February 2015. The Milestone C Defense Acquisition Board is scheduled for July 2015 and LRIP/FRP contract award in the 4th quarter of FY 2015. It will be a single award, fixed price contract consisting of a three year LRIP period with options for five additional years of FRP deliveries. The JLTV JPO requested separately priced firm fixed price (FFP) option(s) for purchase of the Technical Data Package (TDP) with appropriate data rights to allow for possible future competition for production vehicles as well as spares.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605812A / *Joint Light Tactical Vehicle - ED*	Project (Number/Name) VU9 / *Joint Light Tactical Vehicle - ED*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Joint Light Tactical Vehicles (JLTV)Contract Service Support	SS/CPFF	Booz-Allen Hamilton, : McLean, VA	2.725	7.466	Jan 2014	2.360	Jan 2015	-		-		-	Continuing	Continuing	Continuing
JLTV Contract Service Support and Performance-based logistics (PBL) / Business Case Analysis (BCA)	SS/CPFF	Camber Corporation, : Huntsville, AL	0.421	0.140	May 2014	0.300	Feb 2015	-		-		-	Continuing	Continuing	Continuing
JLTV Service Support	MIPR	US Army Combined Arms Support Commands - CASCOM, : Ft. Lee, VA	0.200	-		-		-		-		-	-	0.200	-
		Subtotal	3.346	7.606		2.660		-		-		-	-	-	-

Remarks

Funding for Management Services decreases between FY 2015 and FY 2016 due to the end of the development phase as well as programmatic support shifting from R&D to procurement.

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Joint Light Tactical Vehicles (JLTV) Engineering and Manufacturing Development (EMD) Contract	C/FFP	Oshkosh Corporation, : Oshkosh, WI	3.914	5.308	Nov 2013	-		-		-		-	-	9.222	55.698
JLTV Engineering and Manufacturing Development Contract	C/FFP	Lockheed Martin Corporation, : Grand Prairie, TX	0.106	4.225	Nov 2013	-		-		-		-	-	4.331	65.106

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605812A / *Joint Light Tactical Vehicle - ED*	Project (Number/Name) VU9 / *Joint Light Tactical Vehicle - ED*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JLTV Engineering and Manufacturing Development Contract	C/FFP	AM General, : South Bend, IN	27.560	2.490	Nov 2013	-		-		-		-	-	30.050	63.808
JLTV Live Fire Test Assets and support	C/FFP	TBD : TBD	0.000	-		11.200	Jul 2015	7.119	Dec 2015	-		7.119	Continuing	Continuing	Continuing
		Subtotal	31.580	12.023		11.200		7.119		-		7.119	-	-	-

Remarks

Joint Light Tactical Vehicles (JLTV) is a Joint Services Program with the U.S. Army and U.S. Marine Corps as the two main components. Total value of Engineering and Manufacturing Development (EMD) contracts is shared between the U.S. Army and the U.S. Marine Corps. Contract awards were funded in FY 2012, U.S. Army under PE 0604804A Project L50 and U.S. Marine Corps under PE 0603635M Project 3209.

Total estimated target value of the Live Fire Test contract is shared between the U.S. Army and the U.S. Marine Corps. The U.S. Marine Corps funds are under PE 0605812M Project 3209.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Joint Light Tactical Vehicles (JLTV) Program Management Support	Various	TACOM Life Cycle Management Command (LCMC), : Harrison Township, MI	6.866	9.442	Sep 2014	11.722	Sep 2015	1.032	Sep 2016	-		1.032	Continuing	Continuing	Continuing
GFE Management / GFE / Analysis	MIPR	Various : TBD	1.016	12.783	Feb 2015	3.150	Mar 2015	-		-		-	Continuing	Continuing	Continuing
JLTV EMD/LRIP phase.	MIPR	Tank-Automotive Reseach, Development, and Engineering Center - TARDEC : Warren, MI	4.517	5.153	Jan 2014	5.145	Jan 2015	1.260	Jan 2016	-		1.260	Continuing	Continuing	Continuing
JLTV Prototype EMD/LRIP - Cost and Systems, Legal,	MIPR	TACOM Life Cycle Management	2.586	3.173	Jan 2014	5.125	Jan 2015	1.976	Jan 2016	-		1.976	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605812A / *Joint Light Tactical Vehicle - ED*	Project (Number/Name) VU9 / *Joint Light Tactical Vehicle - ED*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Budget, Safety, Security, Contracting, Logistics		Command (LCMC), : Warren, MI													
		Subtotal	14.985	30.551		25.142		4.268		-		4.268	-	-	-

Remarks

Funding for Support Costs decreases between FY 2015 and FY 2016 due to the end of the development phase as well as programmatic support shifting from R&D to procurement.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Complete Engineering and Manufacturing Development (EMD) Test - Limited User Test (LUT)	Various	TBD : Various	9.294	31.208	Jun 2014	3.219	Feb 2015	-		-		-	-	43.721	-
Live Fire Test & Eval - ballistic hull test, Full Up Syst Level, Automatic Fire Extinguishing Syst	Various	TBD : Various	0.000	-		3.473	Feb 2015	21.099	Jan 2016	-		21.099	23.708	48.280	-
		Subtotal	9.294	31.208		6.692		21.099		-		21.099	23.708	92.001	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	59.205	81.388		45.694		32.486		-		32.486	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605812A / *Joint Light Tactical Vehicle - ED*	**Project (Number/Name)** VU9 / *Joint Light Tactical Vehicle - ED*

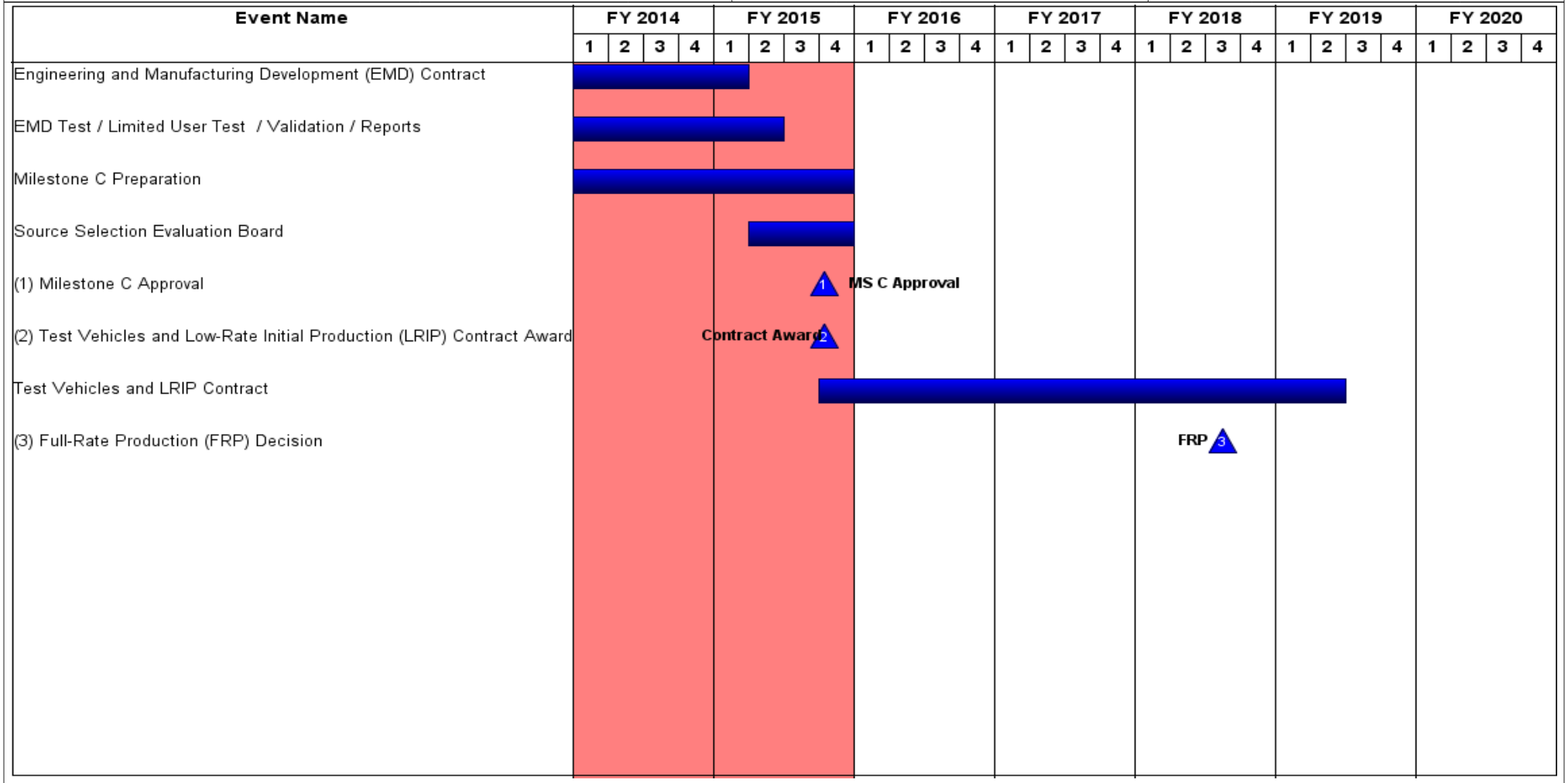

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605812A / *Joint Light Tactical Vehicle - ED*	**Project (Number/Name)** VU9 / *Joint Light Tactical Vehicle - ED*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Engineering and Manufacturing Development (EMD) Contract	4	2012	1	2015
EMD Test / Limited User Test / Validation / Reports	1	2013	2	2015
Milestone C Preparation	1	2014	4	2015
Source Selection Evaluation Board	2	2015	4	2015
Milestone C Approval	4	2015	4	2015
Test Vehicles and Low-Rate Initial Production (LRIP) Contract Award	4	2015	4	2015
Test Vehicles and LRIP Contract	4	2015	2	2019
Full-Rate Production (FRP) Decision	3	2018	3	2018

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0605830A / *Aviation Ground Support Equipment*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	-	-	10.036	8.880	-	8.880	7.880	7.000	7.161	-	Continuing	Continuing
EE5: *Aviation Ground Support Equipment*	-	-	10.036	8.880	-	8.880	7.880	7.000	7.161	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

This PE funds development of Aviation Ground Support Equipment (AGSE). The FY 2016 budget request funds for AGSE developmental testing and acquisition of prototypes to enhance the functionality of current and future aircraft maintenance equipment. This will be accomplished by identifying more effective aircraft maintenance equipment, validating new maintenance concepts, improving machine interfaces, updating aircraft maintenance processes, and replacing obsolete and unsupportable equipment with improved diagnostic technologies which will reduce Operation and Support costs. This program provides for the development of rapid battle repair procedures, tools development to speed the return of aircraft to a full mission status, and development of new equipment for aerial recovery of damaged aircraft. Included in this program are: Aircraft Cleaning and De-Icing System (ACDS), Aviation Ground Power Unit (AGPU) redesign and incorporation of AGPU modularity capabilities, Aviation Foot Locker (AFL), Self-propelled Crane Aircraft Maintenance and Positioning (SCAMP II), (formerly referred to as Family of Aviation Lifting Devices (F-ALD)), Aviation Unit Maintenance Shop Set (AVUM SS), Digital Flexible Engine Diagnostic System (DFEDS), Non-Destructive Test Equipment System (NDTE), and development support for tools required to provide maintenance support to modernized/future force aircraft.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	-	10.041	8.880	-	8.880
Current President's Budget	-	10.036	8.880	-	8.880
Total Adjustments	-	-0.005	-	-	-
• Congressional General Reductions	-	-0.005			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605830A / *Aviation Ground Support Equipment*	Project (Number/Name) EE5 / *Aviation Ground Support Equipment*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
EE5: *Aviation Ground Support Equipment*	-	-	10.036	8.880	-	8.880	7.880	7.000	7.161	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Beginning in FY 2015, funding on this Project was realigned from PE/Project 0603801A/B32 to reflect the program's development efforts in Budget Activity 05, System Development and Demonstration.

A. Mission Description and Budget Item Justification

This Project funds development of Aviation Ground Support Equipment (AGSE). The FY 2016 budget request funds for AGSE developmental testing and acquisition of prototypes to enhance the functionality of current and future aircraft maintenance equipment. This will be accomplished by identifying more effective aircraft maintenance equipment, validating new maintenance concepts, improving machine interfaces, updating aircraft maintenance processes, and replacing obsolete and unsupportable equipment with improved diagnostic technologies which will reduce Operation and Support costs. This program provides for the development of rapid battle repair procedures, tools development to speed the return of aircraft to a full mission status, and development of new equipment for aerial recovery of damaged aircraft. Included in this program are: Aircraft Cleaning and De-Icing System (ACDS), Aviation Ground Power Unit (AGPU) redesign and incorporation of AGPU modularity capabilities, Aviation Foot Locker (AFL), Self-propelled Crane Aircraft Maintenance and Positioning (SCAMP II), (formerly referred to as Family of Aviation Lifting Devices (F-ALD)), Aviation Unit Maintenance Shop Set (AVUM SS), Digital Flexible Engine Diagnostic System (DFEDS), Non-Destructive Test Equipment System (NDTE), and development support for tools required to provide maintenance support to modernized/future force aircraft.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Aircraft Cleaning and De-Icing System (ACDS)	-	0.750	0.600
Description: The ACDS will provide aviation maintenance units with a capability to clean external and internal aircraft surfaces and components as well as de-ice aircraft when in the field and deployed locations. ***FY 2015 Plans:*** Perform market survey, trade studies, and generate Purchase Item Description (PID) and Request For Proposal (RFP). Perform technical review of proposals, source selection, test sample procurement, systems performance test demonstration for evaluation, and conduct systems safety evaluation to certify and qualify the ACDS for Army aircraft operation. ***FY 2016 Plans:*** Complete systems performance test demonstration, complete preparation of the Request for Proposal, and obtain Milestone C decision.			
Title: Aviation Ground Power Unit (AGPU)	-	1.400	0.300

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605830A / *Aviation Ground Support Equipment*	**Project (Number/Name)** EE5 / *Aviation Ground Support Equipment*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Description: The AGPU provides the capability to meet Army helicopter servicing requirements into the next decade by providing a modular system with external hydraulic, pneumatic, and AC/DC electrical power to all Modernized Force Aircraft. ***FY 2015 Plans:*** Develop prototype AGPUs incorporating the redesigned hydraulic module, upgraded electrical system, and power generation replacement and perform prototype testing. ***FY 2016 Plans:*** Complete prototype AGPU redesign and hydraulic module, upgrade electrical system and power generation replacement, and perform prototype testing.			
Title: Aviation Foot Locker (AFL) ***Description:*** The AFL provides a standard Aviation Maintenance capability in a durable outer shell which augments the aviation maintainers' individual tool kits to maintain Army aircraft. ***FY 2015 Plans:*** Perform requirements analysis required to standardize AFL across the Force Structure. ***FY 2016 Plans:*** Complete requirements analysis for the AFL across the Force Structure.	-	0.200	0.100
Title: Aviation Unit Maintenance Shop Set (AVUM SS) ***Description:*** The AVUM SS consists of three deployable shelters which provide deployable tool loads required for unit-level aviation maintenance tasks. ***FY 2015 Plans:*** Procure test samples, perform both developmental and operational testing, and finalize acquisition documentation in preparation for procurement. ***FY 2016 Plans:*** Complete developmental and operational testing of test samples and finalize acquisition documentation in preparation for procurement.	-	2.309	1.303
Title: SCAMP II Flight Line/Expeditionary	-	2.745	4.406

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605830A / *Aviation Ground Support Equipment*	**Project (Number/Name)** EE5 / *Aviation Ground Support Equipment*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Description: SCAMP II maintenance lifting capability ranges from simple scheduled maintenance lifting on the flight line and other improved Aviation maintenance areas, to maintenance lifting required during contact maintenance and Downed Aircraft Recovery Team (DART) operations in unimproved environments. ***FY 2015 Plans:*** Perform Market Survey, prepare Statement of Work, create detailed test plan, prepare Contract Requirements Package, perform technical reviews of proposals, and procure samples for testing. ***FY 2016 Plans:*** Complete testing of product samples, complete Source Selection Evaluation Board, and complete acquisition documentation supporting a Milestone C decision.			
Title: Digital Flexible Engine Diagnostic System (DFEDS) ***Description:*** The DFEDS is an advanced technology engine test system designed to test and verify flight readiness of engines removed from aircraft for maintenance. ***FY 2016 Plans:*** Initiate and complete depot-level on-site calibration capability in order to increase accuracy and increase the mean time between overhaul. Evaluate support plan, decision brief & recommendations, and convert DFEDS Prototype to production with International Standard Organization.	-	-	0.500
Title: Common Aviation Tool System (CATS) ***Description:*** CATS consists of individual aviation mechanics tool kit containers, aerospace standard tools, foam shadowed drawers and a component listing with picture diagrams for ease of inventory and to minimize foreign object damage to aircraft. CATS provides standardized tools, kits and outfits which meet transformation modularity, flexibility and mobility requirements for repair of rotary wing aircraft during combat, contingency and training operations. ***FY 2015 Plans:*** Perform tool study analysis as required to determine whether Army Aviation Maintenance Units require further CATS modernization.	-	0.100	-
Title: Non-Destructive Test Equipment (NDTE) ***Description:*** NDTE provides Army Aviation Maintenance units with an electronic test instrument to inspect aircraft components and structures without complete disassembly or removal of components from the aircraft.	-	0.450	0.429

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605830A / *Aviation Ground Support Equipment*	**Project (Number/Name)** EE5 / *Aviation Ground Support Equipment*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
FY 2015 Plans: Begin research and development of Non-Destructive Test Equipment (eddy current, ultrasonic, harmonic bond, and radiography) for modernization and technology advancements, prepare Statement of Work, create detailed test plan, and prepare contract requirements package. ***FY 2016 Plans:*** Complete research and development and product samples and testing.			
Title: Unit Maintenance Aerial Recovery Kit (UMARK) ***Description:*** UMARK provides Aviation Support Company and Aviation Maintenance Company units with the ability to quickly rig for transport crash-damaged non-flyable modernized aircraft or aircraft undergoing maintenance for evacuation. ***FY 2015 Plans:*** Finalize UMARK Test Data Package, procedures and manuals.	-	0.800	-
Title: Management Support Services ***Description:*** Management Support Services in support of the Aviation Ground Support Equipment Product Management Office. ***FY 2015 Plans:*** Management Support Services. ***FY 2016 Plans:*** Management Support Services	-	0.350	0.637
Title: RDTE Project Test Support ***Description:*** RDTE Project Test Support for the Aviation Ground Support Equipment Product Management Office. ***FY 2015 Plans:*** RDTE Project Test Support. ***FY 2016 Plans:*** Project Test Support	-	0.490	0.215
Title: Technical Engineering Services ***Description:*** Technical Engineering Services in support of the Aviation Ground Support Equipment Product Management Office. ***FY 2015 Plans:***	-	0.442	0.390

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605830A / *Aviation Ground Support Equipment*	**Project (Number/Name)** EE5 / *Aviation Ground Support Equipment*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Technical Engineering Services. ***FY 2016 Plans:*** Technical Engineering Services			
Accomplishments/Planned Programs Subtotals	-	10.036	8.880

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• Aviation Ground Support Equipment: *Aviation Ground Support Equipment, SSN AZ3520*	-	29.231	64.867	-	64.867	64.447	71.285	63.008	62.471	-	355.309

Remarks

D. Acquisition Strategy

This project is an aggregate of advanced maintenance concepts related projects. While the detailed acquisition strategy varies from project to project, the general strategy for each individual project is to complete the development effort through Government test (developmental and operational). Program documentation for milestone decision is prepared, as appropriate, concurrently with the development effort.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605830A / *Aviation Ground Support Equipment*	Project (Number/Name) EE5 / *Aviation Ground Support Equipment*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Management Support Services	Various	PM AGSE : Redstone Arsenal, AL	0.000	-		0.350	Oct 2014	0.637	Oct 2015	-		0.637	Continuing	Continuing	Continuing
		Subtotal	0.000	-		0.350		0.637		-		0.637	-	-	-

Remarks

None.

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ACDS	Various	AATD, Ft. Eustis, VA, , Aberdeen Test Center (ATC), Aberdeen Proving Ground, MD : APB	0.000	-		0.750	Jul 2015	0.600	Mar 2016	-		0.600	-	1.350	-
AGPU	Various	UAH, RSA, AL; RTTC, Redstone Arsenal, AL; AMRDEC, RSA, AL; Aberdeen Test Center, : Aberdeen Proving Ground, MD	0.000	-		1.400	Apr 2015	0.300	Jul 2016	-		0.300	-	1.700	-
AFL	Various	AMCOM, SRA; TRADOC, : Fort Rucker, AL	0.000	-		0.200	Jan 2015	0.100	Jan 2016	-		0.100	-	0.300	-
AVUM SS	Various	AMRDEC, RSA; RTTC, RSA; Aberdeen Test Center, : Aberdeen Proving Ground, MD	0.000	-		2.309	Apr 2015	1.303	Jul 2016	-		1.303	-	3.612	-
SCAMP II Flight Line/ Expeditionary	Various	AMCOM, RSA; AMRDEC, RSA :	0.000	-		2.745	Jun 2015	4.406	Jul 2016	-		4.406	-	7.151	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605830A / *Aviation Ground Support Equipment*	Project (Number/Name) EE5 / *Aviation Ground Support Equipment*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Redstone Arsenal, AL													
DFEDS	Various	RTTC (RSA); AMDREDEC (RSA); : Redstone Arsenal, AL	0.000	-		-		0.500	Feb 2016	-		0.500	Continuing	Continuing	Continuing
CATS	MIPR	AMRDEC(RSA), AL; Aberdeen Test Center (ATC), : Aberdeen Proving Ground, MD	0.000	-		0.100	Aug 2015	-		-		-	-	0.100	-
NDTE	Various	AMRDEC, RSA, AL; ATC : Aberdeen Proving Ground, MD	0.000	-		0.450	Apr 2015	0.429	Jul 2016	-		0.429	-	0.879	-
UMARK	Various	AMRDEC, RSA, AL; Aberdeen Test Center, APG, MD; AATD : Fort Eustis, VA	0.000	-		0.800	Feb 2015	-		-		-	-	0.800	-
		Subtotal	0.000	-		8.754		7.638		-		7.638	-	-	-

Remarks

None.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Technical Engineering Services	MIPR	AATD : Ft. Eustis, VA	0.000	-		0.300	Apr 2015	0.200	Apr 2016	-		0.200	Continuing	Continuing	Continuing
Technical Engineering Services	MIPR	AED : Redstone Arsenal, AL	0.000	-		0.142	Apr 2015	0.190	Apr 2016	-		0.190	Continuing	Continuing	Continuing
		Subtotal	0.000	-		0.442		0.390		-		0.390	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605830A / *Aviation Ground Support Equipment*	Project (Number/Name) EE5 / *Aviation Ground Support Equipment*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract

Remarks

None.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
RDTE Project Test Support	MIPR	ATC : Aberdeen Proving Ground, MD	0.000	-		0.320	Jan 2015	0.100	Jan 2016	-		0.100	Continuing	Continuing	Continuing
RDTE Project Test Support	Various	AMRDEC : Redstone Arsenal, AL	0.000	-		0.115	May 2015	0.075	May 2016	-		0.075	Continuing	Continuing	Continuing
RDTE Project Test Support	Various	AMCOM, : Redstone Arsenal, AL	0.000	-		0.055	Jan 2015	0.040	Jan 2016	-		0.040	Continuing	Continuing	Continuing
		Subtotal	0.000	-		0.490		0.215		-		0.215	-	-	-

Remarks

None.

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	-		10.036		8.880		-		8.880	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605830A / *Aviation Ground Support Equipment*	**Project (Number/Name)** EE5 / *Aviation Ground Support Equipment*

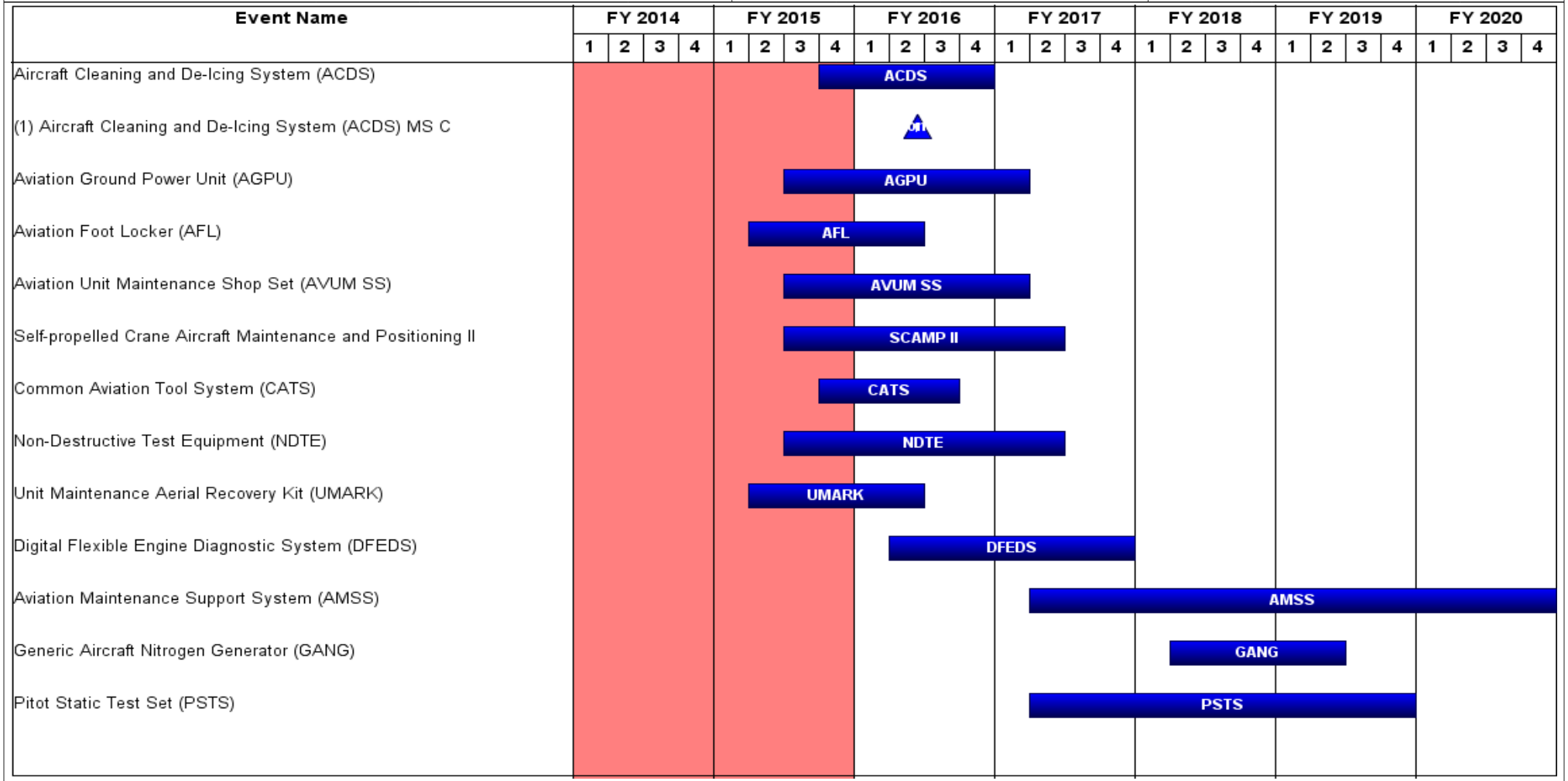

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605830A / *Aviation Ground Support Equipment*	**Project (Number/Name)** EE5 / *Aviation Ground Support Equipment*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Aircraft Cleaning and De-Icing System (ACDS)	4	2015	4	2016
Aircraft Cleaning and De-Icing System (ACDS) MS C	2	2016	2	2016
Aviation Ground Power Unit (AGPU)	3	2015	1	2017
Aviation Foot Locker (AFL)	2	2015	2	2016
Aviation Unit Maintenance Shop Set (AVUM SS)	3	2015	1	2017
Self-propelled Crane Aircraft Maintenance and Positioning II	3	2015	2	2017
Common Aviation Tool System (CATS)	4	2015	3	2016
Non-Destructive Test Equipment (NDTE)	3	2015	2	2017
Unit Maintenance Aerial Recovery Kit (UMARK)	2	2015	2	2016
Digital Flexible Engine Diagnostic System (DFEDS)	2	2016	4	2017
Aviation Maintenance Support System (AMSS)	2	2017	4	2021
Generic Aircraft Nitrogen Generator (GANG)	2	2018	2	2019
Pitot Static Test Set (PSTS)	2	2017	4	2019

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army												Date: February 2015
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0210609A / *Paladin Integrated Management (PIM)*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	-	-	80.263	152.288	-	152.288	42.060	6.112	-	-	-	280.723
ED8: *Paladin Integrated Management (PIM)*	-	-	80.263	152.288	-	152.288	42.060	6.112	-	-	-	280.723

A. Mission Description and Budget Item Justification

Paladin Integrated Management (PIM) is an ACAT 1D Acquisition Program. The program will replace the current fleet of M109 Family of Vehicles (FoV) consisting of the M109A6 Paladin Self Propelled Howitzer and M992A2 Field Artillery Ammunition Supply Vehicle (FAASV). PIM is an Army Modernization Program that addresses a critical capability gap created by the Non-Line of Sight Cannon termination in June of 2009 as well as obsolescence and Space, Weight,and Power (SWAP) issues in the M109 FoV current fleet. The PIM system integrates current Bradley Fighting Vehicle suspension and drive train items, Future Combat Systems (FCS) developed Electric Gun Drive systems and current fleet (M109A6) fire control systems into a new chassis providing better force protection, survivability and increases electrical power over the current fleet. PIM is a two vehicle system: The M109A7 Self Propelled Howitzer (SPH) and the M992A3 Carrier Ammunition Tracked (CAT). The SPH has all characteristics listed above. The CAT utilizes all these same components and traits less those that relate directly to the cannon system. The PIM system replaces the current M109 FoV on a one for one basis, in the cannon fires battalions in the Armored Brigade Combat Team Formations and the Echelons above Brigade (EAB). The overall intent is to increase Soldier force protection, vehicle survivability, provide an appropriate amount of SWAP capacity to add future capabilities, increase vehicle reliability, reduce life cycle costs and extend the life of the M109 FoV through FY 2050.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	-	83.300	152.440	-	152.440
Current President's Budget	-	80.263	152.288	-	152.288
Total Adjustments	-	-3.037	-0.152	-	-0.152
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-0.037			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	-0.152	-	-0.152
• Other Adjustments 1	-	-3.000	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0210609A / *Paladin Integrated Management (PIM)*	Project (Number/Name) ED8 / *Paladin Integrated Management (PIM)*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
ED8: *Paladin Integrated Management (PIM)*	-	-	80.263	152.288	-	152.288	42.060	6.112	-	-	-	280.723
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Paladin Integrated Management (PIM) is an ACAT 1D Acquisition Program. The program will replace the current fleet of M109 Family of Vehicles (FoV) consisting of the M109A6 Paladin Self Propelled Howitzer and M992A2 Field Artillery Ammunition Supply Vehicle (FAASV). PIM is an Army Modernization Program that addresses a critical capability gap created by the Non-Line of Sight Cannon termination in June of 2009 as well as obsolescence and Space, Weight,and Power (SWAP) issues in the M109 FoV current fleet. The PIM system integrates current Bradley Fighting Vehicle suspension and drive train items, Future Combat Systems (FCS) developed Electric Gun Drive systems and current fleet (M109A6) fire control systems into a new chassis providing better force protection, survivability and increases electrical power over the current fleet. PIM is a two vehicle system: The M109A7 Self Propelled Howitzer (SPH) and the M992A3 Carrier Ammunition Tracked (CAT). The SPH has all characteristics listed above. The CAT utilizes all these same components and traits less those that relate directly to the cannon system. The PIM system replaces the current M109 FoV on a one for one basis, in the cannon fires battalions in the Armored Brigade Combat Team Formations and the Echelons above Brigade (EAB). The overall intent is to increase Soldier force protection, vehicle survivability, provide an appropriate amount of SWAP capacity to add future capabilities, increase vehicle reliability, reduce life cycle costs and extend the life of the M109 FoV through FY 2050.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Paladin/FAASV Integrated Management (PIM) Development	-	57.091	73.367
Description: Funding is provided for the following Contractor developmental efforts: ***FY 2015 Plans:*** Finalization of developmental fixes, sub-system qualification, and testing for production as well as the completion of the System Level Developmental testing. Continuance of engineering development and testing for Corrective Actions, Producibility, and Obsolescence (CPOs) and Software Phase III efforts required for Low Rate Initial Production (LRIP) production. Continue Software Phase II maintenance efforts for CPO functionality and executing Software Formal Qualification Testing (FQT) for Software Phase III (SW PH III). Start the testing of an Objective Underbelly Kit per guidance of the Defense Acquisition Executive (DAE.) Execute the Log Demonstration (LOG DEMO) and Manual validation supporting Initial Operational Test (IOT) to meet requirements for fielding. Begin the execution of the Production Qualification Test (PQT) and Full Up System Live-Fire (FUSL) testing phase at Army test centers using LRIP platforms. ***FY 2016 Plans:*** Funding provides contractor support for the execution of the final Engineering and Manufacturing Development (EMD) testing for the M109A7 Self Propelled Howitzer (SPH) and the M992A3 Carrier Ammunition, Tracked (CAT). These tests include Production			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0210609A / *Paladin Integrated Management (PIM)*	**Project (Number/Name)** ED8 / *Paladin Integrated Management (PIM)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Qualification Test (PQT), Initial Operational Test and Evaluation (IOT&E), Full Up System Live Fire (FUSL), Threshold 2 (T2) and Under Belly Armor characterization testing. Threshold 1 (T1) is the base vehicle configuration without add-on armor. T2 is the vehicle with add-on armor kits to increase force protection/survivability. These events will be conducted at various test sites throughout the US including Yuma Proving Grounds (YPG), Aberdeen Proving Grounds (APG), White Sands Missile Range (WSMR), and the Cold Regions Test Center (CRTC). Software Phase III maintenance and Training Aids, Devices, Simulators and Simulations (TADSS) development will also be conducted during this year. New Equipment Training (NET) Programs of Instruction (POI) development and execution to support IOT&E will be accomplished during this period. All the listed events are required to complete the various documentation requirements and test reports that will determine the operational suitability of the system and support the Full Rate Production decision in 2nd QTR FY 2017.			
Title: Test and Evaluation ***Description:*** Funding is provided for the following government test efforts: ***FY 2015 Plans:*** Complete testing of developmental fixes, sub-system qualification, and System Level Developmental testing. Complete testing for Corrective Actions, Producibility, and Obsolescence (CPO) and Software Phase III efforts required for Low Rate Initial Production (LRIP) production- complete SW Ph III Formal Qualification Testing (FQT) for the SPH and the CAT platforms. Start the testing of an Objective Underbelly Kit per guidance of the Defense Acquisition Executive (DAE.) Execute the Log Demonstration and Manual validation effort supporting IOT and to meet requirements for fielding. Begin the execution of the PQT and Full Up Systems Live-Fire (FUSL) testing phase at Army test centers using LRIP platforms. ***FY 2016 Plans:*** Funding provides program support and execution of the final EMD testing for the M109A7 Self Propelled Howitzer (SPH) and the M992A3 Carrier Ammunition, Tracked (CAT). These tests include Production Qualification Test (PQT), Initial Operational Test and Evaluation (IOT&E), Full Up System Live fire (FUSL), T2 and the DAE directed Under Belly characterization testing. T2 is the vehicle with add-on armor kits to increase force protection/survivability. These events will be conducted at various test sites throughout the US including Yuma Proving Grounds (YPG), Aberdeen Proving Grounds (APG), White Sands Missile Range (WSMR), and the Cold Regions Test Center (CRTC).	-	9.485	71.311
Title: Program Management ***Description:*** Funding is provided for the following program management support: ***FY 2015 Plans:*** Continue the Government System Engineering and Program Management for the total program including: Original Equipment Manufacturer (OEM) management consisting of weekly, monthly, and quarterly program management reviews; continue	-	8.003	4.104

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0210609A / *Paladin Integrated Management (PIM)*	**Project (Number/Name)** ED8 / *Paladin Integrated Management (PIM)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
contract execution management for the EMD phase contract until completion of all efforts in FY 2016. Manages Government Developmental System Test and Evaluation program as it enters the LRIP testing phase. Management of the program cost, schedule, and performance metrics including making programmatic trade-off decisions. Management of Other Governmental Agencies (OGAs) that support the PIM program. ***FY 2016 Plans:*** Continue the Government System Engineering and Program Management for the total program including: Original Equipment Manufacturer (OEM) management consisting of weekly, monthly, and quarterly program management reviews; continue contract execution management for the EMD phase contract until completion of all efforts in FY 2017. Manages Government Developmental System Test and Evaluation program as it enters the LRIP testing phase. Management of the program cost, schedule, and performance metrics including making programmatic trade-off decisions. Management of Other Governmental Agencies (OGAs) that support the PIM program.			
Title: Training ***Description:*** Funding is provided for the following training government and contractor efforts: ***FY 2015 Plans:*** Complete basic training development to support LRIP Operational Test (OT), Maintenance training to support LOG DEMO and Technical Manual (TM) Validation efforts. Conduct training efforts to validate the training Programs of Instruction (POI's) for designated OT Army units. Complete Training Aids, Devices, Simulators and Simulations (TADSS) for OT designated units going into the Operational Test Phase of the program. ***FY 2016 Plans:*** Complete final development of training support packages and POI's to support IOT&E and LOG verification events. Complete Training Aids, Devices, Simulators and Simulations for Operational Test units in support of IOT&E.	-	4.879	2.796
Title: Data ***Description:*** Funding is provided for the following data contractor efforts: ***FY 2015 Plans:*** Maintain Contractor Technical Data Packages. Continue the validation of Technical Publications that support LOG DEMO and TM Validation as well as fielding's to active and reserve components organizations. ***FY 2016 Plans:***	-	0.805	0.710

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0210609A / *Paladin Integrated Management (PIM)*	**Project (Number/Name)** ED8 / *Paladin Integrated Management (PIM)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Maintain Contractor Technical Data Packages. Continue the Validation of Technical Publications that will support IOT&E and the future Active and Reserve component units during fielding.			
Accomplishments/Planned Programs Subtotals	-	80.263	152.288

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• Paladin Integrated Management: *Paladin Integrated Management*	199.477	247.400	273.850	-	273.850	473.107	667.525	661.758	658.739	3,479.964	6,661.820

Remarks

D. Acquisition Strategy

The PIM Program was initiated on 16 August 07 under the BAE Systems, Inc., System Technical Support (STS) Contract W56HZV-07-C-0096. Subsequent work directives were awarded under BAE STS contract W56HZV-07-C-0256 to further define the configuration of the PIM vehicles. On 14 August 2009, a Research, Development, Test and Evaluation (RDT&E) Contract W56HZV-09-C-0550 was awarded to BAE Systems Inc. for the Prototype Development and Fabrication of 7 prototype vehicles (5 PIM Self Propelled Howitzer (SPH) Systems and 2 PIM Carrier Ammunition Tracked (CAT) vehicles). A Comprehensive Contract Modification (CCM) award to the RDT&E contract was accomplished on 6 Jan 2012. This modification allows for the completion of the design engineering and initial developmental test portion of the Engineering and Manufacturing Development (EMD) Phase and transfers the system responsibility for the program from the Government to BAE Systems Inc. An additional modification to the EMD contract was awarded on 18 Jul 2014 to extend the contract until 31 Mar 2017 to cover contractor support to Production Qualification Testing (PQT), the Logistics Demonstration, and Initial Operational Test & Evaluation (IOT&E). The awarded Low-Rate Initial Production (LRIP) contract is of a Fixed Price Incentive Firm Target (FPIF) contract type for procurement of vehicles with a period of performance running from Nov 2013 through approximately Jun 2019. The LRIP contract will provide for three LRIP years with the initial base year including 19 SPHs and 18 CATs and the remaining two option years with 18 sets and 30 sets, respectively (each set consisting of one each SPH and CAT) of PIM vehicles. The Full Rate Production (FRP) contract is planned as a FPIF contract that converts to a Firm Fixed Price (FFP) contract after the second year of FRP. The FRP contract provides for the remaining PIM vehicles to fulfill the requirement up to the Army Acquisition Objective of 580 sets.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0210609A / *Paladin Integrated Management (PIM)*	Project (Number/Name) ED8 / *Paladin Integrated Management (PIM)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Data	SS/CPIF	BAE Systems : York, PA	0.000	-		0.805	Dec 2014	0.710	Dec 2015	-		0.710	-	1.515	-
Training	SS/CPIF	BAE Systems : York, PA	0.000	-		4.879	Dec 2014	2.796	Dec 2015	-		2.796	-	7.675	-
PIM Development-Government	MIPR	Various OGAs : Various	0.000	-		15.505	Dec 2014	7.687	Dec 2015	-		7.687	-	23.192	-
PIM Development-Contractor	SS/CPIF	BAE Systems : York, PA	0.000	-		37.370	Dec 2014	65.680	Dec 2015	-		65.680	-	103.050	-
		Subtotal	0.000	-		58.559		76.873		-		76.873	-	135.432	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMO/PEO Support	MIPR	PM/PEO Paladin/FAASV : Picatinny	0.000	-		1.901	Dec 2014	4.104	Dec 2015	-		4.104	-	6.005	-
		Subtotal	0.000	-		1.901		4.104		-		4.104	-	6.005	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
System Level Testing	MIPR	Various OGAs : Various	0.000	-		19.803	Dec 2014	71.311	Dec 2015	-		71.311	-	91.114	-
		Subtotal	0.000	-		19.803		71.311		-		71.311	-	91.114	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	-		80.263		152.288		-		152.288	-	232.551	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0210609A / *Paladin Integrated Management (PIM)*	Project (Number/Name) ED8 / *Paladin Integrated Management (PIM)*	

	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0210609A / *Paladin Integrated Management (PIM)*	**Project (Number/Name)** ED8 / *Paladin Integrated Management (PIM)*

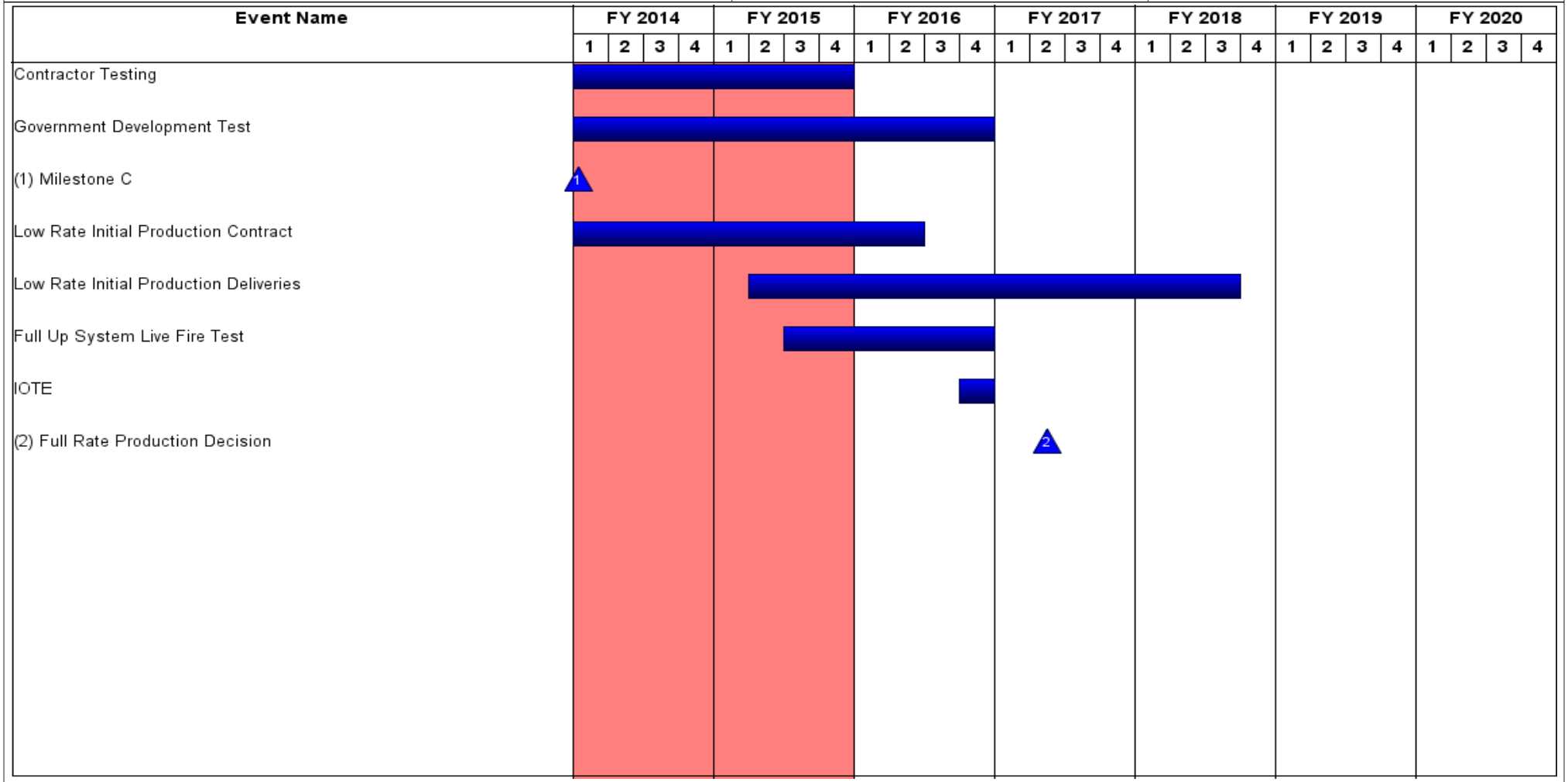

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0210609A / *Paladin Integrated Management (PIM)*	**Project (Number/Name)** ED8 / *Paladin Integrated Management (PIM)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Contractor Testing	4	2012	4	2015
Government Development Test	4	2012	4	2016
Milestone C	1	2014	1	2014
Low Rate Initial Production Contract	1	2014	2	2016
Low Rate Initial Production Deliveries	2	2015	3	2018
Full Up System Live Fire Test	3	2015	4	2016
IOTE	4	2016	4	2016
Full Rate Production Decision	2	2017	2	2017

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0303032A / *TROJAN - RH12*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	-	3.463	0.983	5.022	-	5.022	4.473	4.476	4.567	4.623	Continuing	Continuing
RH5: *TROJAN - RH12 - MIP*	-	3.463	0.983	5.022	-	5.022	4.473	4.476	4.567	4.623	Continuing	Continuing

Note

FY16 reduction attributed to realignment ot other higher priority Army programs.

A. Mission Description and Budget Item Justification

This project is a Military Intelligence Program (MIP). TROJAN research and development supports TROJAN Next Generation (TROJAN NexGEN), formerly TROJAN Classic XXI (TCXXI), future capabilities to fulfill the Army's need for a worldwide, deployable, remotable, intelligence, surveillance and reconnaissance support that can dynamically execute operations from sanctuary-based to deployed assets in theater. In support of Army Modernization and Army Force Generation, TROJAN NexGEN will provide soldiers with a real-world, hands-on, live and near-real time SIGINT training environment sustaining, maintaining and enhancing their military occupational specialty proficiencies and specific target expertise. This operational readiness training will fulfill the Army's larger intelligence training requirement via a secure, collaborative architecture.

A key factor for future force success is the ability to collect, process, and use information about an adversary while preventing similar information from being disclosed. TROJAN NexGEN is a combined operational and readiness mission system which uses advanced networking technology to provide seamless rapid radio relay, secure communications to include voice, data, facsimile, and electronic reconnaissance support to U.S. forces throughout the world. TROJAN NexGEN operations may be easily tailored to fit military intelligence unit training schedules and surged during specific events to involve every aspect of the tactical intelligence collection, processing, analysis and reporting systems. Engineers test and evaluate new digital intelligence collection, processing and dissemination technology using the fielded TROJAN NexGEN systems prior to the acquisition of those technologies. As part of the objective intelligence architecture, these capabilities will enable processing and dissemination of real-time intelligence data from various sources to form the intelligence needed to issue orders inside the threat decision cycle. To that end, it is imperative that TROJAN NexGEN keeps pace with digitization initiatives in order to respond aggressively to the emerging intelligence communication threat.

Funding of $5.022M in FY16 will allow TROJAN NexGEN to integrate and test specialized hardware/software to include the REDHAWK architecture and direction finding/geo-location technologies, improve bandwidth utilization for increased network throughput, continue the development of enhanced receiver packages and a smaller SATCOM capability, and resource labor for software engineers.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army					Date: February 2015
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*			R-1 Program Element (Number/Name) PE 0303032A / *TROJAN - RH12*		
B. Program Change Summary ($ in Millions)	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**
Previous President's Budget	3.463	0.983	5.059	-	5.059
Current President's Budget	3.463	0.983	5.022	-	5.022
Total Adjustments	-	-	-0.037	-	-0.037
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	-0.037	-	-0.037

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0303032A / *TROJAN - RH12*	Project (Number/Name) RH5 / *TROJAN - RH12 - MIP*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
RH5: *TROJAN - RH12 - MIP*	-	3.463	0.983	5.022	-	5.022	4.473	4.476	4.567	4.623	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Adjustment to FY15 funds the result of realignment to higher priorities.

A. Mission Description and Budget Item Justification

This project is a Military Intelligence Program (MIP). TROJAN research and development supports TROJAN Next Generation (TROJAN NexGEN), formerly TROJAN Classic XXI (TCXXI), future capabilities to fulfill the Army's need for a worldwide, deployable, remotable, intelligence, surveillance and reconnaissance support that can dynamically execute operations from sanctuary-based to deployed assets in theater. In support of Army Modernization and Army Force Generation, TROJAN NexGEN will provide soldiers with a real-world, hands-on, live and near-real time SIGINT training environment sustaining, maintaining and enhancing their military occupational specialty proficiencies and specific target expertise. This operational readiness training will fulfill the Army's larger intelligence training requirement via a secure, collaborative architecture.

A key factor for future force success is the ability to collect, process, and use information about an adversary while preventing similar information from being disclosed. TROJAN NexGEN is a combined operational and readiness mission system which uses advanced networking technology to provide seamless rapid radio relay, secure communications to include voice, data, facsimile, and electronic reconnaissance support to U.S. forces throughout the world. TROJAN NexGEN operations may be easily tailored to fit military intelligence unit training schedules and surged during specific events to involve every aspect of the tactical intelligence collection, processing, analysis and reporting systems. Engineers test and evaluate new digital intelligence collection, processing and dissemination technology using the fielded TROJAN NexGEN systems prior to the acquisition of those technologies. As part of the objective intelligence architecture, these capabilities will enable processing and dissemination of real-time intelligence data from various sources to form the intelligence needed to issue orders inside the threat decision cycle. To that end, it is imperative that TROJAN NexGEN keeps pace with digitization initiatives in order to respond aggressively to the emerging intelligence communication threat.

Funding of $5.022M in FY16 will allow TROJAN NexGEN to integrate and test specialized hardware/software to include the REDHAWK architecture and direction finding/geo-location technologies, improve bandwidth utilization for increased network throughput, continue the development of enhanced receiver packages and a smaller SATCOM capability, and resource labor for software engineers.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Integrate and test specialized hardware/software	0.705	0.203	0.900	-	0.900
Description: Integrate and test specialized hardware/software for classified pre-processing of new signals of interest utilizing enhanced signal processing algorithms. Resource development of GL Application Interface					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0303032A / *TROJAN - RH12*	**Project (Number/Name)** RH5 / *TROJAN - RH12 - MIP*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
for Virtual Environments (GLAIVE) software (SW). Integrated several new National Security Agency (NSA) SW packages. ***FY 2014 Accomplishments:*** Integrated and tested specialized hardware/software for classified pre-processing of new signals of interest utilizing enhanced signal processing algorithms. Resourced development of GLAIVE software. Integrated several new NSA SW packages. ***FY 2015 Plans:*** Integrate and test a scaled back suite of specialized hardware/software for classified pre-processing of new signals of interest utilizing enhanced signal processing algorithms and resource development of GLAIVE software. Conduct limited effort to develop TROJAN Intelligence Surveillance Reconnaissance enterprise. ***FY 2016 Base Plans:*** Will integrate and test specialized hardware/software for classified pre-processing of new signals of interest utilizing enhanced signal processing algorithms. Will resource development of GLAIVE software. Will continue efforts to develop TROJAN Intelligence Surveillance Reconnaissance enterprise. Continue efforts to integrate the REDHAWK architecture accross all platforms.					
Title: Improve bandwidth utilization to maximize efficiency (formerly Multi-bandwidth compression algorithms). ***Description:*** Acquire and apply multi-bandwidth compression algorithm technology to maximize TROJAN intelligence network throughput. ***FY 2014 Accomplishments:*** Acquired and applied multi-bandwidth compression algorithm technology to maximize TROJAN intelligence network throughput. ***FY 2015 Plans:*** Examine increasing efficiency and maximizing throughput via hardware consolidation and virtualization. ***FY 2016 Base Plans:*** Will improve bandwidth utilization and network architecture to maximize TROJAN intelligence network throughput.	0.307	0.089	0.960	-	0.960
Title: Development of receivers	0.245	0.071	0.330	-	0.330

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0303032A / *TROJAN - RH12*	**Project (Number/Name)** RH5 / *TROJAN - RH12 - MIP*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Description: Development of receiver packages for fixed and transportable TROJAN systems to acquire non-standard modulations using Digital System Processing (DSP) and Field Programmable Gate Arrays (FPGAs) technologies. ***FY 2014 Accomplishments:*** Conducted further development of receiver packages for fixed and transportable TROJAN systems to acquire non-standard modulations using DSP and FPGAs. ***FY 2015 Plans:*** Conduct a limited effort relating to the development of receiver packages for fixed and transportable TROJAN systems to acquire non-standard modulations using DSP and FPGAs. ***FY 2016 Base Plans:*** Will continue development of receiver packages for fixed and transportable TROJAN systems to acquire non-standard modulations using DSP and FPGAs.					
Title: Integrate Direction Finding and geo-location ***Description:*** Integrate Direction Finding (DF) and geolocation technologies into TROJAN Remote Receiving Groups. ***FY 2014 Accomplishments:*** Integrated Direction Finding (DF) and geolocation technologies into TROJAN Remote Receiving Groups. ***FY 2015 Plans:*** Continue to explore an effort to integrate Direction Finding (DF) and geolocation technologies into TROJAN Remote Receiving Groups. ***FY 2016 Base Plans:*** Will continue efforts to integrate Direction Finding (DF) and geolocation technologies into TROJAN Remote Receiving Groups.	0.653	0.225	1.263	-	1.263
Title: Development of Satellite Communication (SATCOM) dishes and receivers ***Description:*** Development of smaller more mobile Satellite Communication (SATCOM) dishes and receivers. Development of more efficient use of bandwidth, communications on the move and man-packable intelligence collection systems. ***FY 2014 Accomplishments:***	0.532	0.101	0.744	-	0.744

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0303032A / *TROJAN - RH12*	**Project (Number/Name)** RH5 / *TROJAN - RH12 - MIP*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Developed smaller and more mobile SATCOM dishes and receivers. Developed more efficient use of bandwidth, communications on the move and man-packable intelligence collection systems. ***FY 2015 Plans:*** Continue development of smaller more mobile SATCOM dishes. ***FY 2016 Base Plans:*** Will continue development of smaller more mobile SATCOM dishes.					
Title: Develop specialized software enhancements to the TROJAN audio streaming subsystems ***Description:*** Develop specialized software enhancements to the TROJAN audio streaming subsystems to improve system redundancy and throughput capacity and system management capabilities; Investigate compression/processing technologies to reduce communications bandwidth requirements for remoted TROJAN systems, including streaming audio technologies. ***FY 2014 Accomplishments:*** Developed specialized software enhancements to the TROJAN audio streaming subsystems to improve system redundancy and throughput capacity and system management capabilities; Investigated compression/ processing technologies to reduce communications bandwidth requirements for remoted TROJAN systems, including streaming audio technologies. ***FY 2015 Plans:*** Continue development of specialized software enhancements to the TROJAN audio streaming subsystems to improve system redundancy and throughput capacity. ***FY 2016 Base Plans:*** Will continue development of specialized software enhancements to the TROJAN audio streaming subsystems to improve system redundancy and throughput capacity.	0.246	0.071	0.050	-	0.050
Title: Labor cost software (SW) engineers ***Description:*** Labor for two software (SW) engineers at NSA in support of GLAIVE and other above applicable efforts. Labor for one Material Developer (MAT DEV) technologist, one MAT DEV software and one MAT DEV Hardware (HW) engineer. ***FY 2014 Accomplishments:***	0.775	0.223	0.775	-	0.775

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0303032A / *TROJAN - RH12*	**Project (Number/Name)** RH5 / *TROJAN - RH12 - MIP*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Resourced labor for two SW engineers at NSA in support of GLAIVE and other above applicable efforts. Resourced labor for one MAT DEV technologist, one MAT DEV software and one MAT DEV HW engineer. ***FY 2015 Plans:*** Resource labor for one part-time SW engineer at NSA in support of GLAIVE and other above applicable efforts. Resource labor for one part-time MAT DEV software and one part-time MAT DEV HW engineer. ***FY 2016 Base Plans:*** Will resource labor for two SW engineers at NSA in support of GLAIVE and other above applicable efforts. Will resource labor for one MAT DEV technologist, one MAT DEV software and one MAT DEV HW engineer.					
Accomplishments/Planned Programs Subtotals	3.463	0.983	5.022	-	5.022

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• BA0326: *TROJAN (MIP)* *(OPA SSN BA0326)*	18.171	15.214	13.929	6.542	20.471	15.897	13.253	13.951	14.407	Continuing	Continuing

Remarks

D. Acquisition Strategy

The Acquisition Strategy for the TROJAN NexGEN Systems supported by TROJAN RDT&E is to adapt and leverage from Commercial Off the Shelf (COTS) and Government Off the Shelf (GOTS) products. Additionally leverage off of development by DoD and other Government agencies to the greatest extent possible. TROJAN RDT&E is used to fund the development of enhancing these technologies to meet specific user requirements.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0303032A / *TROJAN - RH12*	Project (Number/Name) RH5 / *TROJAN - RH12 - MIP*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Labor Costs Software (SW) Engineers	Various	NSA : MD	1.789	0.775	Oct 2013	0.223	Oct 2014	0.775	Oct 2015	-		0.775	-	3.562	-
		Subtotal	1.789	0.775		0.223		0.775		-		0.775	-	3.562	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Improve bandwidth utilization to maximize efficiency	Various	APG : MD	0.733	0.307	Oct 2013	0.089	Oct 2014	0.960	Oct 2015	-		0.960	Continuing	Continuing	-
Development of Receivers	Various	APG : MD	0.700	0.245	Oct 2013	0.071	Oct 2014	0.330	Oct 2015	-		0.330	Continuing	Continuing	-
Integrate Direction Finding and geo-location	Various	APG : MD	0.759	0.653	Oct 2013	0.225	Oct 2014	1.263	Oct 2015	-		1.263	Continuing	Continuing	-
Develop Satellite Communications (SATCOM) Dishes and Receivers	Various	APG : MD	1.521	0.532	Oct 2013	0.101	Oct 2014	0.744	Oct 2015	-		0.744	Continuing	Continuing	-
Specialized Software Enhancements	Various	APG : MD	0.585	0.246	Oct 2013	0.071	Oct 2014	0.050	Oct 2015	-		0.050	Continuing	Continuing	-
Develop Hardware/ Software Interface	Various	APG : MD	0.445	-		-		-		-		-	-	0.445	-
		Subtotal	4.743	1.983		0.557		3.347		-		3.347	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Integration and Testing of Hardware/Software	Various	APG : MD	1.274	0.705	Oct 2013	0.203	Oct 2014	0.900	Oct 2015	-		0.900	-	3.082	-
		Subtotal	1.274	0.705		0.203		0.900		-		0.900	-	3.082	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0303032A / *TROJAN - RH12*	Project (Number/Name) RH5 / *TROJAN - RH12 - MIP*	

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	7.806	3.463		0.983		5.022		-		5.022	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0303032A / *TROJAN - RH12*	**Project (Number/Name)** RH5 / *TROJAN - RH12 - MIP*

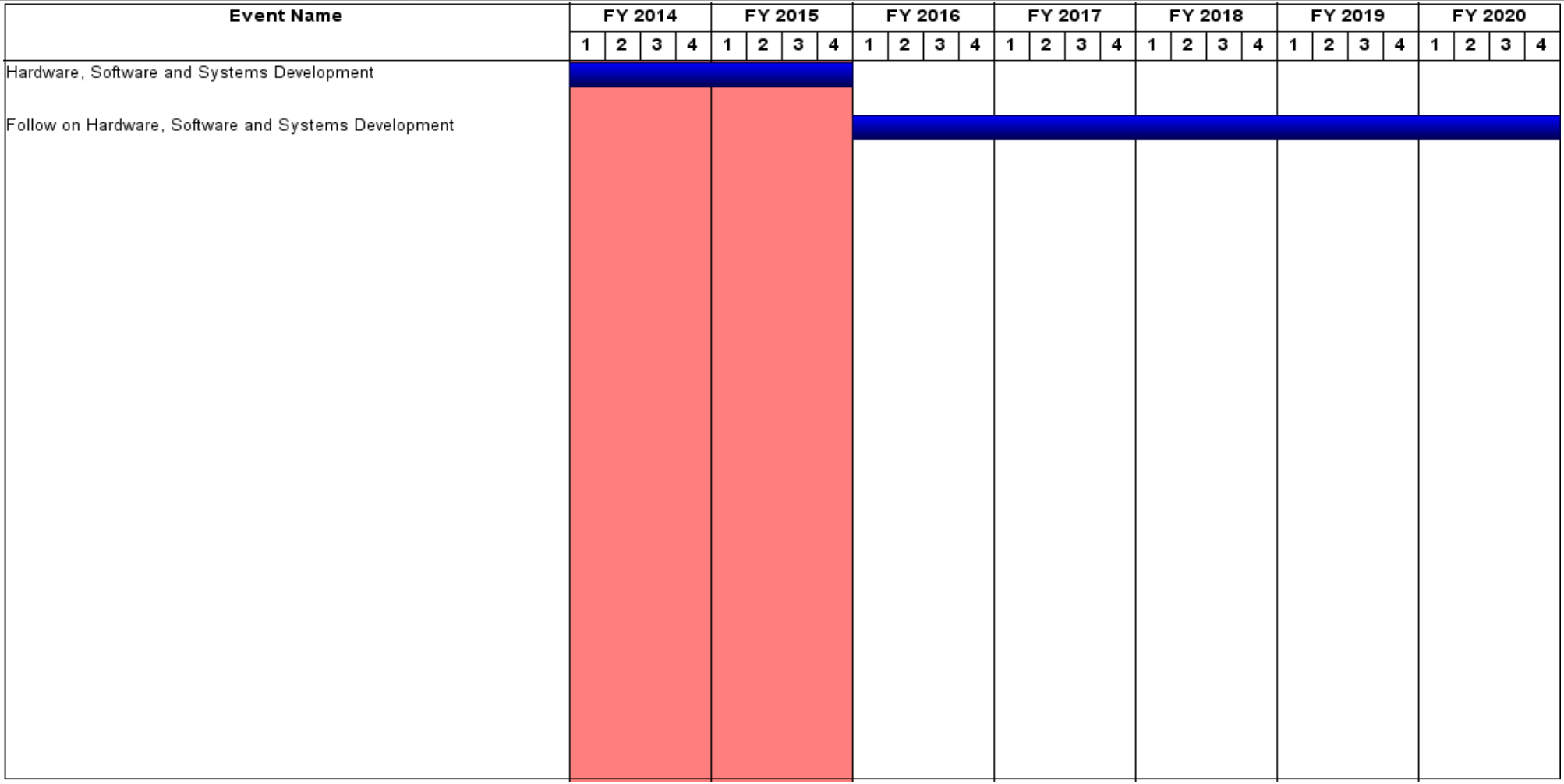

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0303032A / *TROJAN - RH12*	**Project (Number/Name)** RH5 / *TROJAN - RH12 - MIP*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Hardware, Software and Systems Development	1	2014	4	2015
Follow on Hardware, Software and Systems Development	1	2016	4	2020

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0304270A / *Electronic Warfare Development*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	-	10.801	8.961	12.686	-	12.686	15.598	14.223	14.059	14.324	Continuing	Continuing
EW5: *Electronic Warfare Development - MIP*	-	6.079	4.426	6.660	-	6.660	7.723	5.867	5.188	5.285	Continuing	Continuing
EW6: *ARAT-TSS - MIP*	-	4.722	4.535	6.026	-	6.026	7.875	8.356	8.871	9.039	Continuing	Continuing

A. Mission Description and Budget Item Justification

FY 2016 budget request funds Electronic Warfare Development. This program element (PE) encompasses engineering and manufacturing development for tactical electronic warfare (EW). EW encompasses the development of tactical EW equipment and systems mounted in both ground and air vehicles. The systems under this program provides the Army with the capability to degrade or deny hostile forces the effective use of their communications, countermortar/counterbattery radars, surveillance radars, infrared/optical battlefield surveillance systems and electronically fused munitions. Existing Army EW systems must be replaced or upgraded to maintain their capability in the face of threats. Prophet Enhanced (PE) is the current system under the Prophet Ground acquisition program. Its primary mission is to provide 24-hour Situation Development and Information Superiority to the supported maneuver brigade to enable the most effective engagement of enemy forces. PE provides a modular, scalable, open architecture-based system solution optimized for ease of use in a variety of configurations (Stationary-Fixed, Mobile and Manpack). The Army Reprogramming Analysis Team (ARAT) is a Department of the Army established project to develop techniques, methods, tools and architecture to reprogram mission software embedded in Army Electronic Warfare (EW) systems, Force Protection Systems (FPS), and Target Sensing Systems (TSS) in response to changes in threat signatures. ARAT Research and Development enables continuous development of: 1) automated threat analysis tools to rapidly detect (flag) threat changes within intelligence systems, 2) tools to minimize the time to develop Electronic Warfare (EW) Mission Software and Products (MSP) for both air and ground EW systems, 3) tools and technology to minimize the time required to test and validate MSPs, 4) improved communications conduits to transmit mission software changes to field users, and 5) enhanced mission-software uploading tools. These efforts allow for rapid threat analysis, simulation, mission software development, distribution and uploading of mission software changes directly to the supported Soldier in the field. The Army Reprogramming Analysis Team (ARAT) project will develop, test and equip an Army-wide infrastructure capable of rapidly reprogramming electronic combat software embedded in offensive and defensive weapon systems.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army					Date: February 2015
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*			R-1 Program Element (Number/Name) PE 0304270A / *Electronic Warfare Development*		
B. Program Change Summary ($ in Millions)	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**
Previous President's Budget	10.801	8.961	12.693	-	12.693
Current President's Budget	10.801	8.961	12.686	-	12.686
Total Adjustments	-	-	-0.007	-	-0.007
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	-0.007	-	-0.007

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0304270A / *Electronic Warfare Development*	Project (Number/Name) EW5 / *Electronic Warfare Development - MIP*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
EW5: *Electronic Warfare Development - MIP*	-	6.079	4.426	6.660	-	6.660	7.723	5.867	5.188	5.285	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Prophet Enhanced (PE) is the current system under the Prophet Ground acquisition program. Funds provide for development and integration of Pre-Planned Product Improvement (P3I) upgrades for Next Generation Signals and state-of-the-art Signals Intelligence (SIGINT) exploitation techniques to increase the capabilities of the PE and maintain operational relevance. The PE is the tactical commander's sole organic ground-based SIGINT/Electronic Warfare system for the Brigade Combat Team (BCT), Stryker Brigade Combat Team (SBCT), and Battlefield Surveillance Brigade (BfSB). Its primary mission is to provide 24-hour Situation Development and Information Superiority to the supported maneuver brigade to enable the most effective engagement of enemy forces. PE provides a modular, scalable, open architecture-based system solution optimized for ease of use in a variety of configurations (Stationary-Fixed, Mobile and Manpack). It also incorporates product modernization, integration, and test of equipment for rapid integration of Technical Insertions (TI) and product development to ensure operational relevance.

Justification:
FY2016 Base dollars in the amount of $6.660 million supports the following activities: development of product upgrades for Next Generation Signals and SIGINT exploitation to increase the capabilities of the PE and maintain operational relevance.

Enhanced SIGINT Exploitation: H/W and/or S/W upgrades to increase system performance, to include but not limited to: enhanced Manpack capability (integration/test and accreditation of updates), tuner upgrade, processor upgrade, increase in memory, antenna upgrade, operating system upgrade and receiver software upgrade.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Next Generation Signals	3.008	2.173	3.239
Description: Prophet P3I effort ***FY 2014 Accomplishments:*** Prophet P3I effort ***FY 2015 Plans:*** Prophet P3I effort ***FY 2016 Plans:*** Prophet P3I effort			
Title: Enhanced SIGINT Exploitation	3.071	2.253	3.421

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0304270A / *Electronic Warfare Development*	**Project (Number/Name)** EW5 / *Electronic Warfare Development - MIP*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Description: Prophet P3I effort. ***FY 2014 Accomplishments:*** Prophet P3I effort. ***FY 2015 Plans:*** Prophet P3I effort. ***FY 2016 Plans:*** Prophet P3I effort.			
Accomplishments/Planned Programs Subtotals	6.079	4.426	6.660

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• SSN BZ7326: *Prophet Ground (OPA) - BZ7326*	55.398	55.896	64.179	-	64.179	18.538	32.825	44.034	47.608	Continuing	Continuing
• SSN 9751: *Special Purpose Systems (MIP OPA) (Prophet Only) - BZ9751*	1.927	3.901	4.011	-	4.011	4.120	4.244	4.520	9.278	Continuing	Continuing
• SSN 0605766A: *National Integration to Tactical Systems (MIP) - DX9 (TNG, PE 0605766A)*	0.450	0.450	0.500	-	0.500	0.526	0.526	2.026	2.526	-	7.004

Remarks

Enhanced SIGINT Exploitation: H/W and/or S/W upgrades to increase system performance, to include but not limited to: enhanced Manpack capability (integration/test and accreditation of updates), tuner upgrade, processor upgrade, increase in memory, antenna upgrade, operating system upgrade and receiver software upgrade.

D. Acquisition Strategy

The Prophet R&D Acquisition Strategy is structured to maintain operational relevancy of PE systems in a dynamic threat environment while reducing risk and streamlining business and engineering processes. The PE Pre-Planned Product Improvement (P3I) contract supports R&D and other developmental work, it also provides production and sustainment under the Indefinite-Delivery Indefinite-Quantity Contract. Follow-on contracting activities include the approved current contract period-of-performance (PoP) for two additional years to address modernization of initial PE Quick Reaction Capability (QRC) systems by the Original Equipment Manufacturer (OEM).

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0304270A / *Electronic Warfare Development*	**Project (Number/Name)** EW5 / *Electronic Warfare Development - MIP*

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0304270A / *Electronic Warfare Development*	Project (Number/Name) EW5 / *Electronic Warfare Development - MIP*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management	Various	PM Electronic Warfare : APG, MD	0.381	0.200	Oct 2014	0.200	Oct 2015	0.200	Oct 2016	-		0.200	Continuing	Continuing	Continuing
		Subtotal	0.381	0.200		0.200		0.200		-		0.200	-	-	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software SIL	C/CPFF	GD C4 Systems : Scottsdale, AZ	0.889	-		-		-		-		-	-	0.889	-
Radio/Receiver Inegration (integrate software defined receiver)	C/CPFF	GD C4 Systems : Scottsdale, AZ	4.037	-		-		-		-		-	Continuing	Continuing	Continuing
Integrate Electronic Warfare Systems	C/CPFF	TRAC : Ft. Leavenworth, KS	4.900	-		-		-		-		-	Continuing	Continuing	Continuing
Next Generation Signals (TOS)	C/CPFF	GD C4 Systems : Scottsdale, AZ	1.200	-		-		-		-		-	Continuing	Continuing	Continuing
Precision Geo-Location	C/CPFF	GD C4 Systems : Scottsdale, AZ	4.200	-		-		-		-		-	Continuing	Continuing	Continuing
Real-time Signal Processing architectural framework (software defined capabilities)	C/CPFF	GD C4 Systems : Scottsdale, AZ	6.706	-		-		-		-		-	Continuing	Continuing	Continuing
Next Generation Signals	C/CPFF	GD C4 Systems : Scottsdale, AZ	3.400	2.768	Mar 2014	2.070	Mar 2015	3.012	Mar 2016	-		3.012	Continuing	Continuing	Continuing
Enhance SIGINT Exploitation	C/CPFF	GD C4 Systems : Scottsdale, AZ	0.000	2.811	Mar 2014	2.156	Mar 2015	3.448	Mar 2016	-		3.448	Continuing	Continuing	-
		Subtotal	25.332	5.579		4.226		6.460		-		6.460	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0304270A / *Electronic Warfare Development*	Project (Number/Name) EW5 / *Electronic Warfare Development - MIP*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Matrix Support	Various	I2WD : APG, MD	0.664	0.300	Jan 2014	-		-		-		-	-	0.964	-
System Integration Lab	Various	I2WD : APG, MD	2.500	-		-		-		-		-	-	2.500	-
		Subtotal	3.164	0.300		-		-		-		-	-	3.464	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prepare and Conduct Delta Testing	MIPR	EPG/AEC : Huachuca, AZ	1.240	-		-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	1.240	-		-		-		-		-	-	-	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	30.117	6.079		4.426		6.660		-		6.660	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0304270A / *Electronic Warfare Development*	**Project (Number/Name)** EW5 / *Electronic Warfare Development - MIP*

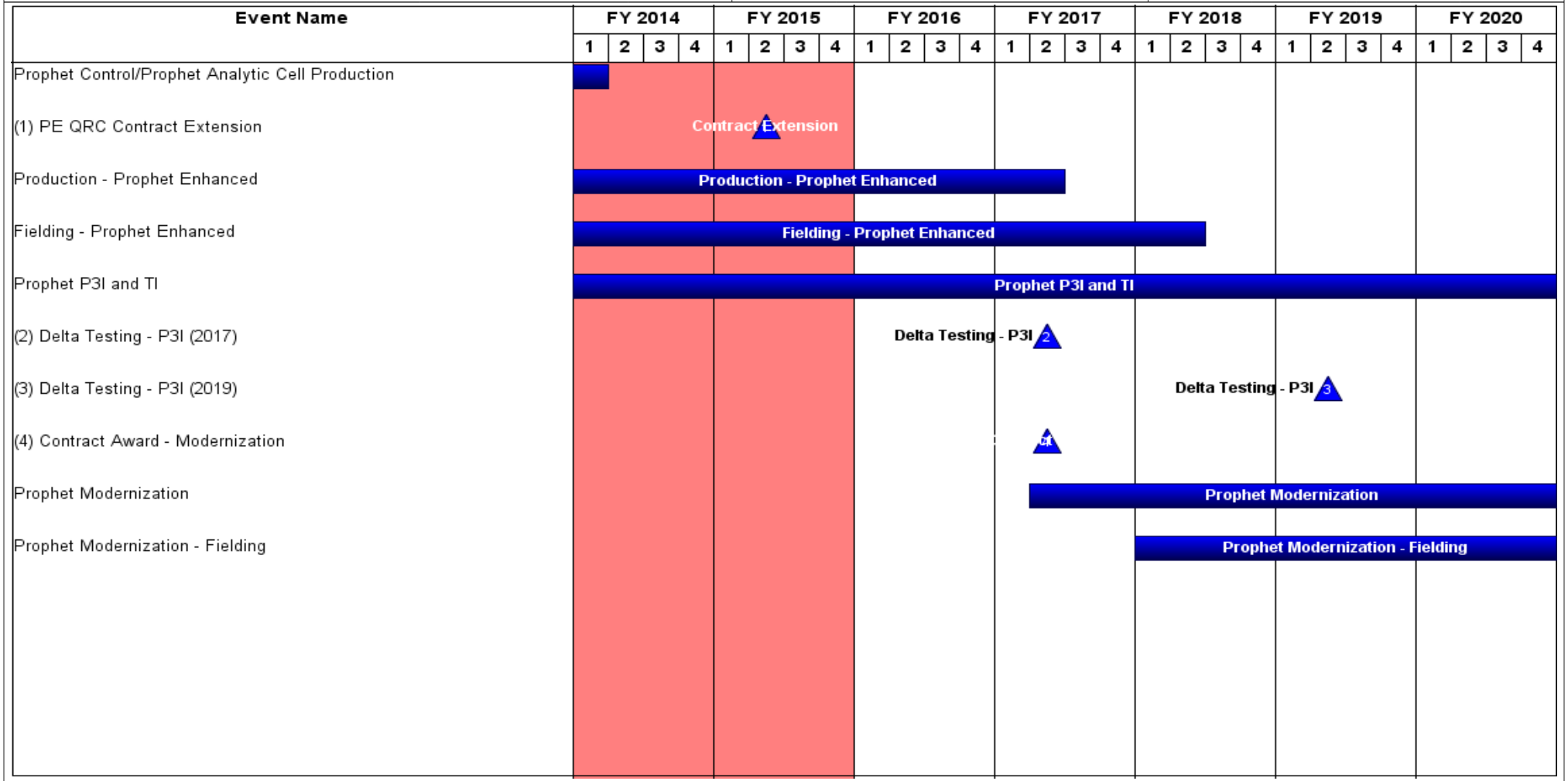

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0304270A / *Electronic Warfare Development*	**Project (Number/Name)** EW5 / *Electronic Warfare Development - MIP*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Prophet Control/Prophet Analytic Cell Production	4	2011	1	2014
PE QRC Contract Extension	2	2015	2	2015
Production - Prophet Enhanced	2	2009	2	2017
Fielding - Prophet Enhanced	2	2010	2	2018
Prophet P3I and TI	4	2008	4	2020
Delta Testing - P3I (2017)	2	2017	2	2017
Delta Testing - P3I (2019)	2	2019	2	2019
Contract Award - Modernization	2	2017	2	2017
Prophet Modernization	2	2017	4	2020
Prophet Modernization - Fielding	1	2018	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0304270A / *Electronic Warfare Development*	Project (Number/Name) EW6 / *ARAT-TSS - MIP*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
EW6: *ARAT-TSS - MIP*	-	4.722	4.535	6.026	-	6.026	7.875	8.356	8.871	9.039	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

The Army Reprogramming Analysis Team (ARAT) is a Department of the Army established program to develop techniques, methods, tools and architecture to rapidly reprogram mission software embedded in Army Electronic Warfare (EW) systems in response to changes in threat signatures. The regulatory guidance directing this mission is contained in AR 525-15, AR 525-22, and AR 95-1. The ARAT develops integrated technical solutions required to counter increasingly sophisticated EW threats to US Forces. The ARAT reprogramming infrastructure supports the Army Campaign Plan to provide the Regionally Aligned Forces tactical Commander timely rapid-reprogramming capability of EW systems with mission software. The ARAT mission responsibility is to develop and distribute Mission Software and Products to forward deployed combat forces. ARAT identifies and analyzes threat signature changes which affect EW systems; determines the impact of observed signature changes; develops new mission software to adapt friendly systems to detect enemy changes; disseminates the Mission Software and Products, and provides tools and software to upload new mission software into the affected EW systems.

A. Mission Description and Budget Item Justification

Current military operations are conducted in a rapidly changing threat environment, where Improvised Explosive Devices (IEDs), Infra Red (IR) man-portable air defense systems (MANPADS) seekers, radar guided surface-to-air-missiles (SAM), laser guided weapons, anti-helicopter mines, and targeting sensors are proliferating and evolving. Integrated solutions are required to counter increasingly sophisticated EW threats. The ARAT reprogramming infrastructure supports the tactical Commander by providing timely rapid reprogramming of mission software and information dissemination for Army supported, Joint and allied services. ARAT supports integrated reprogramming of target acquisition, target engagement, vehicle survivability, and Aircraft Survivability Equipment (ASE). ARAT rapid-reprogramming infrastructure supports tactical requirements for deployed aircraft and ground-based (e.g. CREW) survivability systems. ARAT identifies and analyzes threat signature changes which affect EW systems; determines the impact of observed signature changes; develops new mission software to adapt the system to the changes; disseminates the mission software; and provides methods to upload the new mission software into the affected EW systems. Each element within the ARAT infrastructure plays a specific role within the program's rapid reprogramming process, providing the Soldier with the capability to install mission and target identification software at the lowest possible level, thus maximizing flexibility for tactical commanders. ARAT participates in the operational and developmental test design of Army EW systems, and supports Joint Service Reprogramming Exercises in all theaters. ARAT Research and Development enables continuous development of: 1) automated threat analysis tools to rapidly detect (flag) threat changes within the intelligence system, 2) tools to minimize the time to develop Mission Software and Products (MSP), 3) tools and technology to minimize the time required to test and validate MSPs, 4) improved communications conduits to rapidly transmit mission software to upload into supported EW systems. These efforts allow for rapid threat analysis, threat modeling and simulation, mission software development and testing, distribution and uploading of mission software directly to the supported Soldier in the field.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Keeping Pace with the Enemy and Technology	3.423	3.258	3.987

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0304270A / *Electronic Warfare Development*	**Project (Number/Name)** EW6 / *ARAT-TSS - MIP*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Description: Funding is provided for the following effort ***FY 2014 Accomplishments:*** This effort: 1) analyzed the intelligence data requirements to support MSP development for EO/UV/IR spectrums and other multi-spectral sensors for aviation and non-aviation EW systems, 2) Developed government organic knowledge and application-base enabling reprogramming of future systems, 3)Performed requirements analysis and concept development for the reprogramming of multi-spectral EW systems. ***FY 2015 Plans:*** This effort continues to: 1) analyze the intelligence data requirements to support MSP development for EO/UV/IR spectrums and other multi-spectral sensors for aviation and non-aviation EW systems, 2) Develop government organic knowledge and application-base enabling reprogramming of future systems, 3)Perform requirements analysis and concept development for the reprogramming of multi-spectral EW systems. ***FY 2016 Plans:*** This effort will continue to: 1) analyze the intelligence data requirements to support MSP development for EO/UV/IR spectrums and other multi-spectral sensors for aviation and non-aviation EW systems, 2) Develop government organic knowledge and application-base enabling reprogramming of future systems, 3)Perform requirements analysis and concept development for the reprogramming of multi-spectral EW systems.			
Title: Infrastructure Improvements Multispectral ***Description:*** Funding is provided for the following effort ***FY 2014 Accomplishments:*** Conducted infrastructure improvements for Operational Flight Program (OFP) sustainment environment that enabled the USG to develop and deploy the OFP environment for Missile Warning Systems (MWS). Determined data and analyzed requirements for MANPADS characterization to establish an organic government analysis and sustainment process to support OFPs and subsequently adapt MWSs to new threats. Established initial government organic capability, decreasing the risk that systems cannot be readily adapted to changing threats. Currently, no government organic capability exists, increasing the risk that systems cannot be readily adapted to changing threats. ***FY 2015 Plans:*** Conduct infrastructure enhancements for an OFP sustainment environment to enable the USG to develop and deploy an OFP environment for MWS. Determine data and conduct analysis requirements for MANPADS characterization and establish an organic government analysis and sustainment process to support OFPs and subsequently adapt MWSs to new threats. Establish	0.646	0.746	1.323

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0304270A / *Electronic Warfare Development*	**Project (Number/Name)** EW6 / *ARAT-TSS - MIP*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
initial government organic capability, thereby decreasing the risk that systems cannot be readily adapted to changing threats. Currently, no government organic capability exists, increasing the risk that systems cannot be readily adapted to changing threats. ***FY 2016 Plans:*** Will conduct infrastructure enhancements for an OFP sustainment environment to enable the USG to develop and deploy an OFP environment for MWS. Will determine data and conduct analysis requirements for MANPADS characterization and establish an organic government analysis and sustainment process to support OFPs and subsequently adapt MWSs to new threats. Will establish government organic capability, thereby decreasing the risk that systems cannot be readily adapted to changing threats. Currently, no government organic capability exists, increasing the risk that systems cannot be readily adapted to changing threats.			
Title: Infrastructure Improvement Radio Frequency General ***Description:*** Funding is provided for the following effort ***FY 2014 Accomplishments:*** Enhanced the ARAT communications architecture to facilitate the rapid secure transmission of mission software changes to EW systems, with emphasis on remote user and highly mobile Soldier connectivity. Developed and implemented an initial integrated ASE development and test environment to ensure MSP and threat countermeasure integration on the respective airborne platform. ***FY 2015 Plans:*** Enhance the ARAT communications architecture to facilitate the rapid secure transmission of mission software changes to EW systems, with emphasis on remote user and highly mobile Soldier connectivity. Develop and implement an initial integrated EW development and test environment to ensure MSP and threat countermeasure integration on the respective EW platform. ***FY 2016 Plans:*** Will continue to enhance the ARAT communications architecture to facilitate the rapid secure transmission of mission software changes to EW systems, with emphasis on remote user and highly mobile Soldier connectivity. Will develop and implement an initial integrated EW development and test environment to ensure MSP and threat countermeasure integration on the respective EW platform.	0.463	0.419	0.507
Title: Threat Flagging and Mission Data Set Reprogramming Tool Development ***Description:*** Funding is provided for the following effort ***FY 2014 Accomplishments:*** Threat Flagging and Mission Software Developmental Tools- Conducted initial evaluations of the ARAT internal system specific threat flagging, threat analysis, MSP generation, and MSP testing processes. Enhanced threat flagging (threat performance	0.190	0.112	0.209

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0304270A / *Electronic Warfare Development*	**Project (Number/Name)** EW6 / *ARAT-TSS - MIP*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
change detection) and intelligence analytical tools, based on supported systems performance criteria, to rapidly identify and counter emerging and changing threats that adversely affect the performance of the EW systems. Created initial MSP development, testing and validation tools to decrease time from threat-change detection to the distribution of MSP products in order to increase the accuracy and fidelity of threat identification, and reduced the engineering involvement/workload associated with the manually intensive analysis and MSP development processes. Defined requirements to migrate to a data support infrastructure that employs Next Generation Electronic Warfare Integrated Reprogramming (EWIR) database. ***FY 2015 Plans:*** Develop requirements and spiral designs for ARAT internal system specific threat flagging, threat analysis, mission software generation and testing processes. Enhance threat flagging (threat performance change detection) and intelligence analytical tools, based on supported systems performance criteria, to rapidly identify and counter emerging and changing threats that adversely affect the performance of the EW systems. Conduct initial mission software development, develop testing and validation tools to decrease time from threat-change detection to the distribution of MSP in order to increase the accuracy and fidelity of threat identification, and reduce the engineering involvement/workload associated with the manually intensive analysis and MSP development processes. Define requirements and develop tools to migrate to a data support infrastructure that employs the EWIR database. ***FY 2016 Plans:*** Will continue to develop and enhance applications for ARAT internal system specific threat flagging, threat analysis, mission software generation and testing processes. Will continue to enhance threat flagging (threat performance change detection) and intelligence analytical tools, based on supported systems performance criteria, to rapidly identify and counter emerging and changing threats that adversely affect the performance of the EW systems. Will continue to enhance mission software development, testing and validation tools to decrease time from threat-change detection to the distribution of MSP in order to increase the accuracy and fidelity of threat identification, and reduce the engineering involvement/workload associated with the manually intensive analysis and MSP development processes. Will further define requirements and develop tools to enhance a data support infrastructure that employs the EWIR database.			
Accomplishments/Planned Programs Subtotals	4.722	4.535	6.026

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0304270A / *Electronic Warfare Development*	**Project (Number/Name)** EW6 / *ARAT-TSS - MIP*

D. Acquisition Strategy

The efforts to be funded in this project will require a combination of systems specific and high-tech knowledge. The contractual services portion for the project will be obtained from both the Communications-Electronics Command (CECOM) Software Engineering Center (SEC) competitive omnibus and the Research, Development and Engineering Command (RDECOM) and the Defense Technical Intelligence Center (DTIC) high tech contracts.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0304270A / *Electronic Warfare Development*	Project (Number/Name) EW6 / *ARAT-TSS - MIP*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Travel	Various	Various locations : .	0.481	0.173		0.184		0.270		-		0.270	Continuing	Continuing	Continuing
USG Labor	Various	ARAT Research and Development element Various locations : APG, MD	1.738	0.710		0.663		0.760		-		0.760	Continuing	Continuing	Continuing
		Subtotal	2.219	0.883		0.847		1.030		-		1.030	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Support (CECOM RDEC Test and Evaluation CECOM SEC Omnibus)	Various	Various : .	10.028	3.839		3.688		4.996		-		4.996	Continuing	Continuing	Continuing
		Subtotal	10.028	3.839		3.688		4.996		-		4.996	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	12.247	4.722		4.535		6.026		-		6.026	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0304270A / *Electronic Warfare Development*	**Project (Number/Name)** EW6 / *ARAT-TSS - MIP*

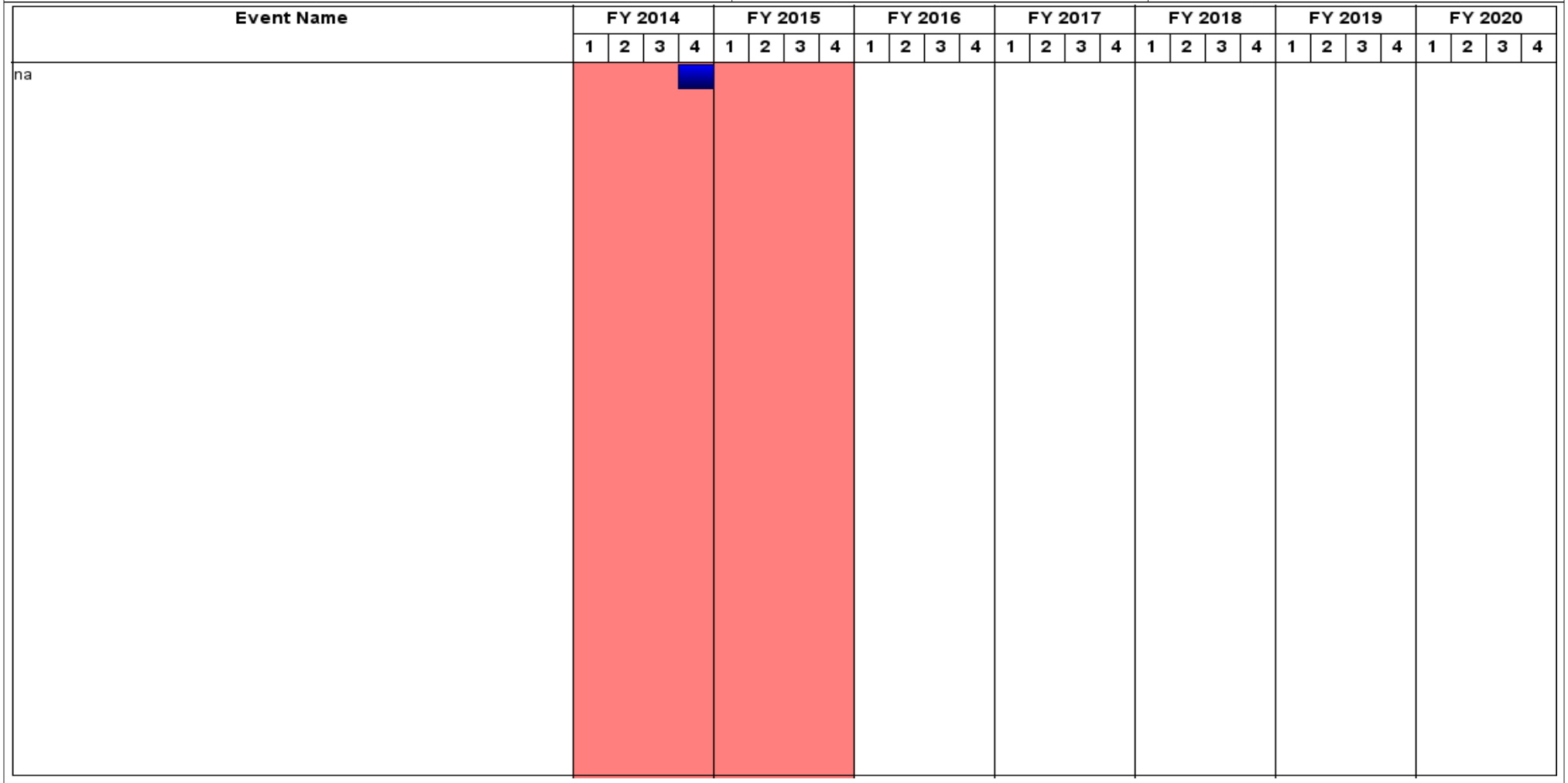

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0304270A / *Electronic Warfare Development*	**Project (Number/Name)** EW6 / *ARAT-TSS - MIP*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
na	4	2014	4	2014

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