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 III, Budget Activity 6

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
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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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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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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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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

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Department of the Army
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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

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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

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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

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Department of the Army
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Total Obligational Authority
(Dollars in Thousands)

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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	

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Budget Activity 06: RDT&E Management Support
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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0604256A / *Threat Simulator 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	-	23.598	22.057	20.035	-	20.035	23.509	21.366	22.321	23.048	-	-
976: *Army Threat Sim (ATS)*	-	23.598	22.057	20.035	-	20.035	23.509	21.366	22.321	23.048	-	-

A. Mission Description and Budget Item Justification

This program supports the design, development, acquisition, integration and fielding of realistic mobile threat simulators and realistic threat simulation products utilized in Army training and developmental and operational tests. Project originally funded simulators representing Soviet equipment, but scope was expanded to address emerging world threats. Army Threat Simulator and Threat Simulation products are utilized to populate test battlefields for U.S. Army Test and Evaluation Command (ATEC), to conduct developmental and operational tests, and to support Program Executive Office (PEO) required user testing in System Integration Laboratories and hardware/simulation in-the-loop facilities. Army threat simulator and threat simulation products developed or fielded under this program support Army-wide, non-system specific threat product requirements. Each capability is pursued in concert and coordination with existing Army and tri-service capabilities to eliminate duplication of products and services, while providing the proper mix of resources needed to support Army testing and training. These battlefield simulators represent systems (e.g. missile systems, command, control and communications systems, electronic warfare systems, etc.) that are used to portray a realistic threat environment during testing of U.S. weapon systems. Simulator development is responsive to Office of the Secretary of Defense and General Accounting Office guidance for the Army to conduct operational testing in a realistic threat environment. Actual threat equipment is acquired when appropriate (in lieu of development) and total package fielding is still required (i.e., instrumentation, operations and maintenance, manuals, new equipment training, etc.). Threat simulator development is accomplished under the auspices of the Project Manager for Instrumentation, Targets and Threat Simulators (PM ITTS) and the Director, Operational Test and Evaluation, Threat Simulator Investment Working Group.

B. Program Change Summary ($ in Millions)	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**
Previous President's Budget	23.921	18.062	18.780	-	18.780
Current President's Budget	23.598	22.057	20.035	-	20.035
Total Adjustments	-0.323	3.995	1.255	-	1.255
• Congressional General Reductions	-	-0.005			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	4.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.043	-			
• SBIR/STTR Transfer	-0.280	-			
• Adjustments to Budget Years	-	-	1.255	-	1.255

Congressional Add Details ($ in Millions, and Includes General Reductions)	**FY 2014**	**FY 2015**
Project: 976: *Army Threat Sim (ATS)*		

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army	Date: February 2015
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0604256A / *Threat Simulator Development*

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2014	FY 2015
Congressional Add: *Integrated Threat Distributed Cyber Environments*	-	4.000
Congressional Add Subtotals for Project: 976	-	4.000
Congressional Add Totals for all Projects	-	4.000

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0604256A / *Threat Simulator Development*	Project (Number/Name) 976 / *Army Threat Sim (ATS)*	

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
976: *Army Threat Sim (ATS)*	-	23.598	22.057	20.035	-	20.035	23.509	21.366	22.321	23.048	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Advanced Network Electronic Support Threat Sensors (NESTS), Advanced Jammer Suite (Next Generation Electronic Attack (EA) and Threat Information Environment are new starts in FY16. Threat Intelligence and Electronic Warfare Environment (TIEW ENV) ends in FY15.

A. Mission Description and Budget Item Justification

This program supports the design, development, acquisition, integration and fielding of realistic mobile threat simulators and realistic threat simulation products utilized in Army training and developmental and operational tests. Project originally funded simulators representing Soviet equipment, but scope was expanded to address emerging world threats. Army Threat Simulator and Threat Simulation products are utilized to populate test battlefields for U.S. Army Test and Evaluation Command (ATEC), to conduct developmental and operational tests, and to support Program Executive Office (PEO) required user testing in System Integration Laboratories and hardware/simulation in-the-loop facilities. Army threat simulator and threat simulation products developed or fielded under this program support Army-wide, non-system specific threat product requirements. Each capability is pursued in concert and coordination with existing Army and tri-service capabilities to eliminate duplication of products and services, while providing the proper mix of resources needed to support Army testing and training. These battlefield simulators represent systems (e.g. missile systems, command, control and communications systems, electronic warfare systems, etc.) that are used to portray a realistic threat environment during testing of U.S. weapon systems. Simulator development is responsive to Office of the Secretary of Defense and General Accounting Office guidance for the Army to conduct operational testing in a realistic threat environment. Actual threat equipment is acquired when appropriate (in lieu of development) and total package fielding is still required (i.e., instrumentation, operations and maintenance, manuals, new equipment training, etc.). Threat simulator development is accomplished under the auspices of the Project Manager for Instrumentation, Targets and Threat Simulators (PM ITTS) and the Director, Operational Test and Evaluation, Threat Simulator Investment Working Group.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Network Exploitation Test Tool (NETT).	10.257	3.776	3.788
Description: Continues Engineering Manufacturing and Development (EMD) for the NETT as a comprehensive Computer Network Operations (CNO) tool. ***FY 2014 Accomplishments:*** Continued EMD for the NETT. NETT is a comprehensive Computer Network Operations (CNO) tool, designed for Test and Evaluation, (T&E) to portray evolving hostile and malicious Threat effects within the cyber domain. The program provided an integrated suite of open-source/open-method exploitation tools which was integrated with robust reporting and instrumentation capabilities. NETT was used by Threat CNO teams to replicate the tactics of state and non-state Threat and was supported by a robust CNO development environment. The Cyber domain is the most rapidly changing domain in which our systems operate.			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0604256A / *Threat Simulator Development*	**Project (Number/Name)** 976 / *Army Threat Sim (ATS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
The NETT program researched these new capabilities and used an in-depth process to clean, fix, and integrate required Threat tools, tactics, and techniques that will be needed during T&E. Focus areas include continued Threat integration, instrumentation, distributed collaboration, and remote agent development. ***FY 2015 Plans:*** Continues EMD for the NETT. NETT will be a comprehensive Computer Network Operations (CNO) tool, designed for T&E, to portray evolving hostile and malicious Threat effects within the cyber domain. The program provides an integrated suite of open-source/open-method exploitation tools which will be integrated with robust reporting and instrumentation capabilities. NETT isused by Threat CNO teams to replicate the tactics of state and non-state Threat and will be supported by a robust CNO development environment. The Cyber domain will be the most rapidly changing domain in which our systems operate. The NETT program researches these new capabilities and uses an in-depth process to clean, fix, and integrate required Threat tools, tactics, and techniques that are needed during T&E. Focus areas include continued Threat integration, instrumentation, distributed collaboration, and remote agent development. ***FY 2016 Plans:*** Will continue EMD for the NETT. NETT will be a comprehensive Computer Network Operations (CNO) tool, designed for T&E, to portray evolving hostile and malicious Threat effects within the cyber domain. The program will provide an integrated suite of open-source/open-method exploitation tools which will be integrated with robust reporting and instrumentation capabilities. NETT will be used by Threat CNO teams to replicate the tactics of state and non-state Threat and will be supported by a robust CNO development environment. The Cyber domain will be the most rapidly changing domain in which our systems operate. The NETT program will research these new capabilities and will use an in-depth process to clean, fix, and integrate required Threat tools, tactics, and techniques that will be needed during T&E. Focus areas will include continued Threat integration, instrumentation, distributed collaboration, and remote agent development.			
Title: Threat Systems Management Office's (TSMO) Threat Operations	2.868	2.838	2.959
Description: TSMO's Threat Operations program manages, maintains, and sustains a mission ready suite of threat systems within the Army's Threat inventory. ***FY 2014 Accomplishments:*** The Threat Operations program funded the operation, maintenance, management, and sustainment capability for Threat systems used to portray a realistic threat environment during Army testing and training within the Army's Threat inventory edmultiple Army test events including (Network Integration Evaluation - NIE/Capabilities Integration Evaluation - CIE) and anticipated excursion test events for numerous Systems Under Test (SUT)/Programs of Record (POR) currently identified through FY16. FY14 funding			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0604256A / *Threat Simulator Development*	**Project (Number/Name)** 976 / *Army Threat Sim (ATS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
provided for acquisition life cycle management support and operation, maintenance, spares, new equipment training, special tools and instrumentation, additional DIACAP updates, etc, of new threat systems fielded into the Army's Threat inventory. ***FY 2015 Plans:*** The Threat Operations program funds the operation, maintenance, management, and sustainment capability for Threat systems used to portray a realistic threat environment during Army testing and training within the Army's Threat inventory to support multiple Army test events including (Network Integration Evaluation - NIE/Capabilities Integration Evaluation - CIE) and anticipated excursion test events for numerous Systems Under Test (SUT)/Programs of Record (POR) currently identified through FY16. FY15 funding provides for acquisition life cycle management support and operation, maintenance, spares, new equipment training, special tools and instrumentation, additional DIACAP updates, etc, of new threat systems fielded into the Army's Threat inventory. ***FY 2016 Plans:*** The Threat Operations program will fund the operation, maintenance, management, and sustainment capability for Threat systems used to portray a realistic threat environment during Army testing and training within the Army's Threat inventory in order to support multiple Army test events including (Network Integration Evaluation - NIE/Army Warfighter Assessments - AWA) and anticipated excursion test events for numerous Systems Under Test (SUT)/Programs of Record (POR) currently identified through FY16.			
Title: Threat Intelligence and Electronic Warfare Environment (TIEW ENV). ***Description:*** Continues EMD for the TIEW ENV to simulate Electronic Warfare capabilities. ***FY 2014 Accomplishments:*** Continued EMD for the TIEW ENV: The TIEW ENV supported the establishment of a wrap-around threat environment required to evaluate, demonstrate, and employ the Electronic Warfare (EW) capabilities of Enemy Forces in simulated real-world test/ training events. The TIEW ENV provided the capability to import vignettes, established virtual entities, connected live assets, and interacted between the live, virtual, and constructive environments. The TIEW ENV fully integrated with the ITF to enable Opposing Forces (OPFOR) command of threat EW assets across Live, Virtual, and Constructive (LVC) domains. FY14 satisfied Army requirements by funding development, platform integration and sustainment of this capability. Program fields incremental capabilities in support of upcoming spin out events. Additional capabilities included the initial development of Threat Directed Energy Weapons (TDEW) model (which include threat Radio Frequency (RF) weapon simulators and instrumentation that employs next generation RF weapon capabilities against US Army systems that rely on survivable and robust sensors for Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance, continuous situational awareness, alert warning information and targeting) and continued integration with the ITF for robust LVC domain capability. The	3.813	3.736	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0604256A / *Threat Simulator Development*	**Project (Number/Name)** 976 / *Army Threat Sim (ATS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
TIEW ENV began the integration, via the ITF, with the live Directed Energy Weapon assets and the Threat Unmanned Device. Integration with the Network Exploitation Test Tool (NETT) also began in the latter part of FY14. ***FY 2015 Plans:*** Continues EMD for the TIEW ENV: The TIEW ENV supports the establishment of a wrap-around threat environment required to evaluate, demonstrate, and employ the Electronic Warfare (EW) capabilities of Enemy Forces in simulated real-world test/ training events. The TIEW ENV provides the capability to import vignettes, establish virtual entities, connect live assets, and interact between the live, virtual, and constructive environments. The TIEW ENV fully integrates with the Intergrated Threat Force (ITF) to enable Opposing Forces (OPFOR) command of threat EW assets across Live, Virtual, and Constructive (LVC) domains. FY15 satisfies Army requirements by funding development, platform integration and sustainment of this capability. Program fields incremental capabilities in support of upcoming spin out events. Continues development of Threat Directed Energy Weapons (TDEW) models as well as Intelligence, Surveillance, and Reconnaissance (ISR) & Camouflage, Concealment, Deception and Obscurants (CCD&O) models. In addition, the TIEW ENV will continue integration, via ITF, with the live Directed Energy Weapon assets, the Threat Unmanned Device and the Network Exploitation Test Tool (NETT).			
Title: Integrated Threat Force (ITF), formerly named Threat Battle Command Center (TBCC)	3.916	3.481	3.823
Description: Continues the EMD phase for the ITF program to continue hardware/software development and threat systems integration in support to the build-out of the threat force architecture. ***FY 2014 Accomplishments:*** Completed the EMD phase for Increment 3 of the ITF program to enhance the ITF's Threat Battle Command applications, the Command, Control and Communicatons (C3) interfaced with the Increment 1 and 2 threat systems as well as completed the integration of the Camouflage, Concealment, Deception, and Obscurants (CCD&O) assets. FY14 delivered the final instrumentation capability for the ITF as well as completed the integration of the Command and Control (C2) functionality into the TBCC. FY14 funding fulfilled the Key Performance Parameters (KPPs) for Increment 3 while ensuring that the ITF program continued to meet the C3 and data fusion needs required to successfully meet scalability and reconfigurability needs for current Test & Evaluation (T&E) requirements. ***FY 2015 Plans:*** Initiates the EMD phase for Increment 4 of the ITF program to enhance the ITF's Threat Battle Command applications, the C3 interfaces with the Increment 1 - 3 threat systems as well as enhance the C2 functionality of the Threat Battle Command Center (TBCC). FY15 supports the initial design and development of distributed C2 functionality from the TBCC. Fulfills the KPPs for Increment 4 while ensuring that the ITF program will continue to meet the C3 and data fusion needs required to successfully meet scalability and reconfiguring needs for current T&E requirements. ***FY 2016 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0604256A / *Threat Simulator Development*	**Project (Number/Name)** 976 / *Army Threat Sim (ATS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Will continue the EMD phase for Increment 4 of the ITF program to enhance the ITF's Threat Battle Command applications, the C3 interfaces with the Increment 1 - 3 threat systems as well as enhance the C2 functionality of the Threat Battle Command Center (TBCC). FY16 will support the initial design and development of distributed C2 functionality from the TBCC. Will fulfill the KPPs for Increment 4 while ensuring that the ITF program will continue to meet the C3 and data fusion needs required to successfully meet scalability and reconfiguring needs for current T&E requirements.			
Title: Threat Computer Network Operations Teams (TCNOT) ***Description:*** The TCNOT supports Army Test and Evaluation events by maintaining a team of highly qualified, trained, and certified Computer Network Operations (CNO) professionals who execute cyber operations against systems under test. The TCNOT program was designated a "Threat CNO Team" under AR 380-53 recognized as a USSTRATCOM/NSA certified "Red Team". ***FY 2014 Accomplishments:*** The Threat CNO Team program established and maintained a team of highly trained and certified CNO professionals qualified for the employment of Threat CNO in support of Army T&E. The Threat CNO Team mission is to accurately replicate the capabilities and hacker intent of state and non-state threats through identification of Army system vulnerabilities that could be exploited by threat forces, replicating loss of service, or exploiting network enabled systems to gain critical information or create a desired effect. The funding supports unique training, credentials, and authorizations involving organizations such as Army 1st IO Command, NSA, HQDA-G2, and industry. The FY14 funded requirements to include continued research of the intelligence-based TCNO Techniques, Tactics and Procedures (TTP) and threat portrayal capabilities up to the Nation State level; development of the necessary, highly specialized TCNO Training program; development, research, and analysis of continually emerging foreign threat capabilities; and data collection capability. ***FY 2015 Plans:*** Funding supports unique training, credentials, and authorizations involving organizations such as Army 1st IO Command, NSA, HQDA-G2, and industry. FY15 funds requirements such as continued research of the intelligence-based TCNO TTP and threat portrayal capabilities up to the Nation State level; development of the necessary, highly specialized TCNO Training program; development, research, and analysis of continually emerging foreign threat capabilities; and data collection capability. ***FY 2016 Plans:*** Funding will support unique training, credentials, and authorizations involving organizations such as Army 1st IO Command, NSA, HQDA-G2, and industry. FY16 will fund requirements such as continued research of the intelligence-based TCNO TTP and threat portrayal capabilities up to the Nation State level; development of the necessary, highly specialized TCNO Training program; development, research, and analysis of continually emerging foreign threat capabilities; and data collection capability.	2.744	2.946	3.003
Title: Threat Computer Network Operations (CNO) Fidelity Enhancements	-	1.280	1.312

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Description: Threat CNO Fidelity Enhancements is a new start project that will establish high-fidelity Threat malware and real-world tools, tactics, techniques, and procedures of Threat employment of CNO using commercial IT Technologies intended to engage complex U.S. operations. ***FY 2015 Plans:*** Program establishes validated high-fidelity Threat malware and real-world tools, tactics, techniques, and procedures of Threat employment of CNO using commercial IT technologies intended to engage complex U.S. operations. Develops state and non-state threat targeting packages that are "current", accurately profiling attack trends and timelines, intent, levels of sophistication, and threat training that will otherwise not be available to evaluate the exploitation of existing vulnerabilities in Enterprise Business Systems and network enabled systems. These threat packages range from "technological nomads" operating autonomously to state level forces using both active and passive network attack to selectively degrade or disrupt Army Command, Control, Communications, Computer, Intelligence, Surveillance and Reconnaissance (C4ISR) and Enterprise Business Systems. ***FY 2016 Plans:*** Program will continue to validate high-fidelity Threat malware and real-world tools, tactics, techniques, and procedures of Threat employment of CNO using commercial IT technologies intended to engage complex U.S. operations. Will develop state and non-state threat targeting packages that are "current", accurately profiling attack trends and timelines, intent, levels of sophistication, and threat training that will not be available to evaluate the exploitation of existing vulnerabilities in Enterprise Business Systems and network enabled systems. These threat packages range from "technological nomads" operating autonomously to state level forces using both active and passive network attack to selectively degrade or disrupt Army C4ISR and Enterprise Business Systems.			
Title: Advanced Networked Electronic Support Threat Sensors (NESTS) ***Description:*** Program will begin prototype design and implementation to deliver advanced threat Electronic Support (ES) platforms. ***FY 2016 Plans:*** The Advanced NESTS program will increase existing threat Electronic Support (ES) capabilities to match the U.S. Intelligence Community performance assessments of real-world threat capabilities. This program seeks to replicate emerging real-world threat capabilities targeting advanced U.S. communication systems operating up to 18GHz. Program will establish the detailed design and begin the integration effort.	-	-	2.392
Title: Advanced Jammer Suite (Next Generation Electronic Attack (EA))	-	-	1.758

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Description: Begin development of the infrastructure and testing capacity for persistent portrayal of operationally realistic threat network environments and expertise needed to accurately characterize, plan, and assess the effects of both US and adversary cyber capabilities. Enables ability to provide cyber attack capabilities from a realistic threat environment. ***FY 2016 Plans:*** The Advanced Jammer Suite expands the Army's open air and alternatives for EA in a test environment by using variations of jamming to include direct jamming, open air jamming and GPS jamming. This program will keep the current jamming threat as an asset to the Army for use in testing, at lower test costs. The Advanced Jammer Suite expands the Army alternative EA in a test environment by using appropriate jamming techniques for the applied testing environment. This program continues the threat representation for the Army in the jamming domain. This program will procure upgraded injection jamming units, as well as develop new and future jamming threats, to include satellite jamming threats. This threat development would include but is not limited to techniques such as Frequency Follower Direct Sequence Spread Spectrum (DSSS) threat jamming; Digital Radio Frequency Modulation (DRFM) "spoofing;" and, extended RF range into the Extremely High Frequency (EHF) range.			
Title: Threat Information Environment ***Description:*** Begin development of the infrastructure and testing capacity for persistent portrayal of operationally realistic threat network environments and expertise needed to accurately characterize, plan, and assess the effects of both US and adversary cyber capabilities. Enables ability to provide cyber attack capabilities from a realistic threat environment. ***FY 2016 Plans:*** This capability will provide the infrastructure and testing capacity for routine and consistent portrayal of operationally realistic, threat representative environments and expertise and the means to accurately characterize, plan, and assess the effects of cyber adversaries. This program will leverage partnerships across the Army (ARCYBER/1st IO CMD, RDECOM/ARL, AMRDEC) to ensure intellectual capital and manning is available to execute the capability. Army cost avoidance through this program due to corrected vulnerabilities and threat mitigation in Army systems, would be both common and substantial.	-	-	1.000
Accomplishments/Planned Programs Subtotals	23.598	18.057	20.035

	FY 2014	FY 2015
Congressional Add: Integrated Threat Distributed Cyber Environments	-	4.000
FY 2015 Plans: Development of these provisions will enable real-time cyber causality assessment against the realistic cyber threat environment while retaining the ability to rapidly reconfigure required environments as the cyber threat adapts and proliferates. This capability will utilize automated configuration and control of threat cyber environment operations in order to meet current demands. This capability is a solution to existing		

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
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	FY 2014	FY 2015
challenges of implementing, sustaining, and reconfiguring actual foreign network technology to replicate threat cyber environment requirements.		
Congressional Adds Subtotals	-	4.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

THREAT SIMULATOR Test Programs Supported: Aircraft (MH-47E) Follow On Operational Test II, MH-60K Aircraft, Aircraft (MH-60K) Follow On Operational Test II, RAH-66 Comanche EUTE, RAH-66 Comanche FDTE I, Suite of Integrated Radio Countermeasures (SIRFCM), Suite of Integrated Radio Countermeasures (SIIRCM), Unmanned Aerial Vehicle (UAV) - Payload, Force XXI Battle Command Brigade and Below, Army Airborne Command and Control, Army TACMS Block II/BAT, Bradley Fighting Vehicle-A3, Crusader FDTE, Extended Range MLRS, FAAD Block III, GPS in Joint Battle Space Environment, Guardrail/Common Sensor System II, Handheld Standoff Mine Field Detection System, IEW Tactical Proficiency Trainer, Joint Close Air Support HT&E, Joint Suppression of Enemy Air Defense (JSEAD), Land Warrior, Long Range Advanced Scout Surveillance System, Navigational Warfare Global Positioning System, OH-58D Kiowa Warrior, Patriot Advanced Capabilities PAC-3 Config-3, UH-60Q, Theater High Altitude Area Defense System.

E. Performance Metrics

N/A

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0604258A / *Target Systems 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	-	13.139	10.037	16.684	-	16.684	18.506	10.364	10.157	10.346	-	-
238: *Aerial Targets*	-	9.734	7.394	12.182	-	12.182	12.920	5.881	5.515	5.959	-	-
459: *Ground Targets*	-	3.405	2.643	4.502	-	4.502	5.586	4.483	4.642	4.387	-	-

Note

FY16 increase attributed to Army realignment to preserve Test Capability.

A. Mission Description and Budget Item Justification

This program funds aerial and ground target hardware and software development, maintenance, and upgrades. The overall objective is to ensure validation of weapon system accuracy and reliability by developing aerial and ground targets essential for test and evaluation (T&E). These targets are economical and expendable, remotely controlled or stationary, and often destroyed in use. The Army is the Tri-Service lead under Reliance for providing rotary wing, mobile ground, towed, and designated targets for T&E. The Army executes development of some Service-peculiar target requirements in support of quality assurance, lot acceptance, and training and continues development of Service-peculiar and on-going target materiel upgrades to maintain continuity with current weapons technology and trends in modern and evolving Army weapons.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	13.481	10.040	9.717	-	9.717
Current President's Budget	13.139	10.037	16.684	-	16.684
Total Adjustments	-0.342	-0.003	6.967	-	6.967
• Congressional General Reductions	-	-0.003			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.342	-			
• Adjustments to Budget Years	-	-	6.967	-	6.967

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0604258A / *Target Systems Development*	Project (Number/Name) 238 / *Aerial Targets*	

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
238: *Aerial Targets*	-	9.734	7.394	12.182	-	12.182	12.920	5.881	5.515	5.959	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

High Speed Aerial Target (HSAT) Replacement will begin in FY 2016.

A. Mission Description and Budget Item Justification

Aerial Targets support Army Transformation by providing for development, acquisition, operation, storage, update, and maintenance of realistic surrogate or acquired threat high-performance, multi-spectral aerial targets and development of virtual target computer models of aerial targets. Modern weapons require test, evaluation, and training using threat representative aerial targets to assess their effectiveness on the battlefield. This program encompasses a family of rotary and fixed-wing targets; full-scale, miniature, and subscale targets; virtual targets; ancillary devices; and their control systems. These products are required to adequately stress weapon systems undergoing test and evaluation (T&E). In order to stress systems during T&E, aerial targets must have flight characteristics, signatures, and other performance factors that emulate the modern threat. This program includes long-range planning to determine future target needs and development of coordinated requirement documents; the management of target research, development, test and evaluation process; execution of the validation process to ensure that surrogate targets adequately represent the threat; development and acquisition of surrogate and acquired targets; and continuing maintenance, storage, and development/ enhancement/update via engineering services of the developed and acquired threat targets to ensure availability for the T&E customer. The Army is the Reliance lead for Rotary Wing Targets and towed target developments and the Tri-Service lead for procurement and enhancement of the MQM-107 fixed wing target.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Engineering and Manufacturing Development (EMD) phase contract activity for the High Speed Aerial Target Sustainment (HSAT).	1.375	1.054	1.132
Description: Continue EMD phase contract activities for the HSAT, MQM-107 equipment.			
FY 2014 Accomplishments: Continued EMD for the aging HSAT, MQM-107 that provided a realistic aerial target capable of simulating the performance of enemy aircraft to aid in the reseach, development, test, and evaluation of weapons systems and to aid in training operational units employing producton missile systems. Funds were required to overcome obsolescence for spare and repair parts, and to maintain equipment and documenation for safe operations supporting T&E programs such as Patriot, Stinger, Integrated Air and Missile Defense (IAMD), Sentinel Radar, Cruise Missile Defense Systems (CMDS) and classified programs for Army and Tri-Service customers.			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0604258A / *Target Systems Development*	**Project (Number/Name)** 238 / *Aerial Targets*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Continues EMD for the agingHSAT, MQM-107 that will provide a realistic aerial target capable of simulating the performance of enemy aircraft to aid in the reseach, development, test, and evaluation of weapons systems and to aid in training operational units employing producton missile systems. Funds required to overcome obsolescence for spare and repair parts, and to maintain equipment and documentation for safe operations. Supports all Army systems needing to test Intelligence Surveillance and Reconnaissance (ISR), kinetic, electronic warfare, infra-red or ISR capabilities against an aerial target with high speed, high altitude flight envelope. ***FY 2016 Plans:*** Will continue EMD for the aging HSAT, MQM-107 that will provide a realistic aerial target capable of simulating the performance of enemy aircraft to aid in the research, development, test, and evaluation of weapons systems and to aid in training operational units employing production missile systems. Funds will be required to overcome obsolescence for spare and repair parts, and to maintain equipment and documentation for safe operations supporting T&E programs such as Patriot, Stinger, IAMD, Sentinel Radar, CMDS and classified programs for Army and Tri-Service customers.			
Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Target Tracking Control Systems (TTCS) and aerial target control components. ***Description:*** Continue EMD phase contract activities for the TTCS and aerial target control components. ***FY 2014 Accomplishments:*** Continued EMD for the TTCS and aerial and ground target control components. Provided for design modifications to solve obsolescence problems and updates software to correct anomalies. Provided for software performance enhancement modifications to support T&E missions, improve test sets and develop upgraded operator displays. Updated documentation of the system and operations and maintenance manuals. Supported operational repair and maintenance with engineering analysis of target control system performance. Provide support to programs such as Patriot, MEADS, and others. ***FY 2015 Plans:*** Continues EMD for the TTCS and aerial target control components. Provides for design modifications to solve obsolescence problems and updates software to correct anomalies. Provides for software performance enhancement modifications to support T&E missions, improve test sets and develop upgraded operator displays. Updates documentation of the system and operations and maintenance manuals. Supports operational repair and maintenance with engineering analysis of target control system performance. ***FY 2016 Plans:*** Will continue EMD for the aerial and TTCS ground target control components. Will provide for design modifications to solve obsolescence problems and updates software to correct anomalies. Will provides for software performance enhancement modifications to support T&E missions, improve test sets and develop upgraded operator displays. Will update documentation of	0.644	0.602	0.584

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
the system and operations and maintenance manuals. Will support operational repair and maintenance with engineering analysis of target control system performance.			
Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Towed Targets/Ancillary devices. ***Description:*** Continue EMD phase contract activities for the Towed Targets/Ancillary devices. ***FY 2014 Accomplishments:*** Continued EMD for the Towed Targets/Ancillary devices. Continued development, enhancement, maintenance, and storage for all RDT&E aerial targets, towed targets, and ancillary devices. Continued development and testing of Low Cost Towed target systems (Cruise Missile Tow Target and Reduced Radar Tow Target) emulating current threats at a very low cost to Patriot, Joint Land Attack Cruise Missile Defense Elevated Netted Sensor System (JLENS) and classified customers. Signature modification and performance enhancement efforts for these targets is ongoing. Investigates/tests other cost-saving towed systems (Glide-Tow, Towed Spheres, Height-Keeping-Tow, and Tow Test Bed) for Air Defense Weapons System customers. ***FY 2015 Plans:*** Continues EMD for the Towed Targets/Ancillary devices. Continues development, enhancement, maintenance, and storage for all RDT&E aerial targets, towed targets, and ancillary devices. Continues development and testing of Low Cost Towed target systems (Cruise Missile Tow Target, Reduced Radar Tow Target, and the Special Low Altitude Tow Target) emulating current threats at a very low cost to Patriot, JLENS and classified customers. Signature modification and performance enhancement efforts for these targets is ongoing. Investigates/tests other cost-saving towed systems (Glide-Tow, Towed Spheres, Height-Keeping-Tow, and Tow Test Bed) for Air Defense Weapons System customers. ***FY 2016 Plans:*** Will continue EMD for the Towed Targets/Ancillary devices. Will continue development, enhancement, maintenance, and storage for all RDT&E aerial targets, towed targets, and ancillary devices. Continuation of development and testing of Low Cost Towed target systems (Cruise Missile Tow Target and Reduced Radar Tow Target) emulating current threats at a very low cost to Patriot, JLENS and classified customers. Signature modification and performance enhancement efforts for these targets is ongoing. Investigates/tests other cost-saving towed systems (Glide-Tow, Towed Spheres, Height-Keeping-Tow, and Tow Test Bed) for Air Defense Weapons System customers.	1.110	0.912	0.657
Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Integrated Avionics Package (IAP). ***Description:*** Continue EMD phase contract activities for the IAP. ***FY 2014 Accomplishments:***	0.269	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0604258A / *Target Systems Development*	**Project (Number/Name)** 238 / *Aerial Targets*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Completed the EMD for the IAP which provides the avionics for aerial targets to support multiple mission requirements for programs such as Patriot, and Medium Extended Air Defense System (MEADS).			
Title: Engineering and Manufacturing Development (EMD) phase contract activity for Aerial Virtual Targets.	1.089	0.753	0.949
Description: Continue EMD phase contract activities for Aerial Virtual Targets. ***FY 2014 Accomplishments:*** Continued EMD for Aerial Virtual Targets for evolving Army and DoD simulation standards and evolving implementation techniques; focused on simulation target models of airplanes, helicopters, missiles, unmanned aerial vehicles, and aerial targets in commonly used formats to support visualization, infrared analysis, and radar analysis simulations; supported verification and validation of models, and provided archiving and distribution of simulation target models to simulation developers throughout the Army and DoD T&E communities. Simulation target models were employed to facilitate simulations for developmental testing (DT) and operational testing (OT) test planning, test rehearsal, post-test analysis, hardware-in-the-loop testing, and execution of test events that are too costly or difficult to be conducted under actual field conditions. These models were used by multiple DoD agencies and multiple weapon systems such as Close Combat Weapon System (CCWS), Unmanned Aerial System, Lower Tier Program offices, and Longbow Hellfire. ***FY 2015 Plans:*** Continues EMD for Aerial Virtual Targets for evolving Army and DoD simulation standards and evolving implementation techniques; focuses on simulation target models of airplanes, helicopters, missiles, unmanned aerial vehicles, and aerial targets in commonly used formats to support visualization, infrared analysis, and radar analysis simulations; supports verification and validation of models and provides archiving and distribution of simulation target models to simulation developers throughout the Army and DoD T&E communities. Simulation target models are employed to facilitate simulations for developmental testing (DT) and operational testing (OT) test planning, test rehearsal, post-test analysis, hardware-in-the-loop testing, and execution of test events that are too costly or difficult to be conducted under actual field conditions. These models are used by multiple DoD agencies and multiple weapon systems such as Close Combat Weapon System (CCWS), Unmanned Aerial System, Lower Tier Program offices, and Longbow Hellfire. ***FY 2016 Plans:*** Will continue EMD for Aerial Virtual Targets for evolving Army and DoD simulation standards and evolving implementation techniques; focuses on simulation target models of airplanes, helicopters, missiles, unmanned aerial vehicles, and aerial targets in commonly used formats to support visualization, infrared analysis, and radar analysis simulations; will support verification and validation of models, will provide archiving and distribution of simulation target models to simulation developers throughout the Army and DoD T&E communities. Simulation target models are employed to facilitate simulations for developmental testing (DT) and operational testing (OT) test planning, test rehearsal, post-test analysis, hardware-in-the-loop testing, and execution of test			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
events that are too costly or difficult to be conducted under actual field conditions. These models will be used by multiple DoD agencies and multiple weapon systems such as Close Combat Weapon System (CCWS), Unmanned Aerial System, Lower Tier Program offices, and Longbow Hellfire.			
Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Army Ground Aerial Target Control System (AGATCS). ***Description:*** EMD phase contract activities for the Army Ground Aerial Target Control System (AGATCS). which will support a modern current technology target control system for control of both aerial and ground targets. ***FY 2014 Accomplishments:*** Continued EMD for AGATCS which provides remote control of aerial (both fixed and Rotary Wing), ground (heavy, medium, and light vehicles), and seaborne targets with a single control system in support of live fire testing necessary for lethality evaluation and sensor package testing for evaluation of suitability and effectiveness. Complies with DODI 8510.01 mandate/ DOD Information Assurance Certification and Accreditation Process (DIACAP) on all target control systems to ensure a secure operating posture. Meets surface target testing requirements to include formation, collision avoidance, and swarming capabilities for U.S. Army test ranges. Develops and maintains a small fleet of seaborne and Unmanned Helicopter Vehicle Targets (UHV-T) assets for use by the T&E community. Provides Test Centers and the T&E community with a versatile seaborne and rotary wing resource for use in conducting tests to include live fire testing, observation, signal repeater and cargo transportation. Acquires and sustains Surface Target Instrumentation to support all test ranges critical to Army Test and Evaluation Command's (ATEC) requirement for threat representative surface targets. ***FY 2015 Plans:*** Continues EMD for AGATCS which provides remote control of aerial (both fixed and Rotary Wing), ground (heavy, medium, and light vehicles), and seaborne targets with a single control system in support of live fire testing necessary for lethality evaluation and sensor package testing for evaluation of suitability and effectiveness. Complies with DODI 8510.01 mandate / DOD Information Assurance Certification and Accreditation Process (DIACAP) on all target control systems to ensure a secure operating posture. Meets surface target testing requirements to include formation, collision avoidance, and swarming capabilities for U.S. Army test ranges. Develops and maintains a small fleet of seaborne and UHV-T assets for use by the T&E community. Provides Test Centers and the T&E community with a versatile seaborne and rotary wing resource for use in conducting tests to include live fire testing, observation, signal repeater and cargo transportation. Acquires and sustains STI to support all test ranges critical to ATEC's requirement for threat representative surface targets. ***FY 2016 Plans:*** Will Continue EMD for AGATCS which provides remote control of aerial (both fixed and Rotary Wing), ground (heavy, medium, and light vehicles), and seaborne targets with a single control system in support of live fire testing necessary for lethality	4.673	3.621	7.275

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
evaluation and sensor package testing for evaluation of suitability and effectiveness. Complies with DODI 8510.01 mandate / DOD Information Assurance Certification and Accreditation Process (DIACAP) on all target control systems to ensure a secure operating posture. Meets surface target testing requirements to include formation, collision avoidance, and swarming capabilities for U.S. Army test ranges. Develops and maintains a small fleet of seaborne and UHV-T assets for use by the T&E community. Provides Test Centers and the T&E community with a versatile seaborne and rotary wing resource for use in conducting tests to include live fire testing, observation, signal repeater and cargo transportation. Acquires and sustains STI to support all test ranges critical to ATEC's requirement for threat representative surface targets.			
Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Unmanned Aerial System - Target (UAS-T). ***Description:*** Continue EMD phase contract activities for the UAS-T to provide threat representative support for test and experimentation missions. ***FY 2014 Accomplishments:*** Continued EMD for the UAS-T to operate and maintain a generic, tactical class unmanned aircraft system target to support a wide variety of test requirements by providing generic threat representative support for test and experimentation missions. Projects supported the Space and Missile Defense Command High Energy Laser project, the Stinger proximity fuse development and testing, other missile system upgrade projects, Joint Integrated Air and Missile Defense Organization (JIAMDO) sponsored Black Dart 2014, Littoral Combat Ship testing, and a variety of research and development efforts. Funds enabled the identification and correction of system anomalies identified during operations and the flight demonstration of system corrections. Funds provided for limited engineering capability to address minor enhancements to the basic target system to meet shortcomings identified during operations. ***FY 2015 Plans:*** Continues EMD for the UAS-T to operate and maintain a generic, tactical class unmanned aircraft system target to support a wide variety of test requirements by providing generic threat representative support for test and experimentation missions. Funds enable the identification and correction of system anomalies identified during operations and the flight demonstration of system corrections. Funds provide for limited engineering capability to address minor enhancements to the basic target system to meet shortcomings identified during operations. Funds also provide for updating of the system drawing package and systems documents to incorporate modifications made to the system. Supports all Army systems needing to test Intelligence, Surveillance and Reconnaissance (ISR), kinetic, Electronic Warfare, infrared or ISR capabilities against an unmanned aerial target with a medium flight envelope. ***FY 2016 Plans:***	0.574	0.452	0.585

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Will continue EMD for the UAS-T to operate and maintain a generic, tactical class unmanned aircraft system target to support a variety of test requirements by providing a generic threat representative aerial target to support test and experimentation missions. Projects to be supported include the Space and Missile Defense Command High Energy Laser project, the JIAMDO sponsored Black Dart 2015, Littoral Combat Ship operational and live fire testing, and a variety of research and development efforts. Funds will enable the identification and correction of anomalies identified during flight operations and the flight demonstration of the corrective actions. Funds will provide for limited engineering capability to address minor enhancements to the basic target system to meet shortcomings identified during operations.			
Title: Engineering and Manufacturing Development (EMD) phase contract activity for the High Speed Aerial Target Replacement. ***Description:*** EMD for the replacement of aging HSAT, MQM-107 to provide a realistic aerial target capable of simulating the performance of enemy aircraft. This will aid in the research, development, test, and evaluation of weapons systems and aid in training operational units employing production missile systems. Funds required for the replacement HSAT system to be cost effective and able to meet capabilities currently supported by the MQM-107. Program requires technical support for investigation, demonstration, and Integration of a more economical target. Technical oversight of the replacement targets' acquisition along with GSE and other activities related to getting it operational is essential. Supports T&E programs such as Patriot, Stinger, IAMD, Sentinel Radar, CMDS and classified programs for Army and Tri-Service customers. ***FY 2016 Plans:*** Will begin the EMD for the replacement of aging High Speed Aerial Target (HSAT, MQM-107) that will provide a realistic aerial target capable of simulating the performance of enemy aircraft to aid in the research, development, test, and evaluation of weapons systems and to aid in training operational units employing production missile systems. Funds are required for the replacement HSAT system that will need to be cost effective and able to meet capabilities currently supported by the MQM-107. This program will require technical support for investigation, demonstration, and integration of a more economical target. Technical oversight of the replacement targets' acquisition along with ground support equipment and other activities related to getting it operational is essential. This target will support T&E programs such as Patriot, Stinger, IAMD, Sentinel Radar, CMDS and classified programs for Army and Tri-Service customers.	-	-	1.000
Accomplishments/Planned Programs Subtotals	9.734	7.394	12.182

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0604258A / *Target Systems Development*	**Project (Number/Name)** 238 / *Aerial Targets*

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0604258A / *Target Systems Development*	Project (Number/Name) 459 / *Ground Targets*	

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
459: *Ground Targets*	-	3.405	2.643	4.502	-	4.502	5.586	4.483	4.642	4.387	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

FY 2016 New Start: Mobile Ground Targets Hardware (MGTH).

A. Mission Description and Budget Item Justification

This program funds Army efforts to support test and evaluation (T&E) of advanced weapon systems and supports Army Transformation by developing surrogates, acquiring foreign equipment and developing virtual target computer models of ground vehicle targets. These products are required to adequately stress weapon systems undergoing T&E. This tasking includes long-range planning to determine future target needs and development of coordinated requirement documents; the centralized management of the ground target research, development, test and evaluation processes; execution of the validation process; acquisition of foreign equipment; and continuing maintenance, storage, and development/enhancement/update via engineering services of developed and acquired targets to ensure availability for T&E customers. This program also manages use of current assets and operates centralized spare parts program. The US Army is the Tri-Service lead for providing mobile ground targets for T&E.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Mobile Ground Target Operations (MGTO)	2.703	2.072	1.861
Description: MGTO to provide oversight of five Primary Operating Centers to include operation, storage, maintenance, repair, safety and configuration management. Efforts support users such as Brigade Modernization Command (BMC), Apache 64E, Guided Multiple Launch Rocket System (GMLRS), PM Robotic Unmanned Sensor (PM RUS), Small Diameter Bomb (SDB II), PM Unmanned Aircraft Systems (PM UAS) and others.			
FY 2014 Accomplishments: MGTO provided five Primary Operating Centers to include operations, storage, maintenance, repair, safety and configuration management for Foreign Mobile Ground Target Vehicles, and acquisition of new material and spare parts. Efforts supported users such as Army Test and Evaluation Command (ATEC), Apache 64E, GMLRS, Brigade Modernization Command, KIOWA, Ground Combat Vehicle (GCV), Shadow, Joint Light Tactical Vehicle (JLTV), PM Force Protection System, Unmanned Aircraft System (UAS), Light Armored Vehicle and others.			
FY 2015 Plans: MGTO provides five Primary Operating Centers to include operations, storage, maintenance, repair, safety and configuration management for Foreign Mobile Ground Target Vehicles, and acquisition of new material and spare parts. Efforts will support			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0604258A / *Target Systems Development*	**Project (Number/Name)** 459 / *Ground Targets*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
users such as ATEC, Apache 64E, GMLRS, Brigade Modernization Command, KIOWA, GCV, Shadow, JLTV, PM Force Protection System, UAS, Light Armored Vehicle and others. ***FY 2016 Plans:*** MGTO will provide five Primary Operating Centers to include operations, storage, maintenance, repair, safety and configuration management for Foreign Mobile Ground Target Vehicles, and acquisition of new material and spare parts. Efforts will support users such as ATEC, Apache 64E, GMLRS, Brigade Modernization Command, KIOWA, GCV, Shadow, JLTV, PM Force Protection System, UAS, Light Armored Vehicle and others.			
Title: Ground Virtual Targets ***Description:*** Government System Test and Evaluation to support the research and development of Ground Virtual Targets. ***FY 2014 Accomplishments:*** Continued Government System Test and Evaluation to fund the research and development of Ground Virtual Targets for evolving Army and DoD simulation standards and implementation techniques. Focused on simulation target models of wheeled and tracked ground vehicles in commonly used model formats; developed simulation target models visualization simulations, infrared (IR) analysis simulations, and radio frequency (RF) analysis simulations; supported verification and validation of models, and provided archiving and distribution of simulation target models to simulation developers throughout the Army and DoD T&E communities. Simulation target models were employed to facilitate simulations for both developmental testing (DT) and operational testing (OT); Virtual Targets supported test planning, test rehearsal, post-test analysis, hardware-in-the-loop testing, and execution of test events that were too costly or difficult to be conducted under actual field conditions. These models were used by multiple DoD agencies and multiple weapon systems such as the Joint Air to Ground Missile (JAGM) and Longbow Hellfire offices. ***FY 2015 Plans:*** Continues Government System Test and Evaluation to fund the research and development of Ground Virtual Targets for evolving Army and DoD simulation standards and implementation techniques. Focuses on simulation target models of wheeled and tracked ground vehicles in commonly used model formats; develops simulation target models visualization simulations, IR analysis simulations, and RF analysis simulations; supports verification and validation of models, and provides archiving and distribution of simulation target models to simulation developers throughout the Army and DoD T&E communities. Simulation target models employed to facilitate simulations for both DT and OT; Virtual Targets support test planning, test rehearsal, post-test analysis, hardware-in-the-loop testing, and execution of test events that are too costly or difficult to be conducted under actual field conditions. These models will be used by multiple DoD agencies and multiple weapon systems. ***FY 2016 Plans:***	0.702	0.571	0.641

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0604258A / *Target Systems Development*	**Project (Number/Name)** 459 / *Ground Targets*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Will continue Government System Test and Evaluation to fund the research and development of Ground Virtual Targets for evolving Army and DoD simulation standards and implementation techniques. Will focus on simulation target models of wheeled and tracked ground vehicles in commonly used model formats; will develop simulation target models visualization simulations, IR analysis simulations, and RF analysis simulations; will support verification and validation of models, and provides archiving and distribution of simulation target models to simulation developers throughout the Army and DoD T&E communities. Simulation target models will be employed to facilitate simulations for both DT and OT; Virtual Targets support test planning, test rehearsal, post-test analysis, hardware-in-the-loop testing, and execution of test events that are too costly or difficult to be conducted under actual field conditions. These models will be used by multiple DoD agencies and multiple weapon systems such as the JAGM and Longbow Hellfire offices.			
Title: Mobile Ground Targets Hardware (MGTH) ***Description:*** MGTH is certified/safety confirmed cost effective Ground Target Hardware with multiband communications. It is required for DoD weapon system force-on-force scenarios, acquisition testing, lethality analysis, and sensor Intelligence, Surveillance and Reconnaissance (ISR) vulnerability. MGTH includes Camouflage, Concealment, Deception and Obscurant (CCDO), Real Time Casualty Assessment (RTCA) and Validated Precision Target Signature (PTS) surrogate systems. ***FY 2016 Plans:*** MGTH will provide cost effective solutions to actual threat assets in the visual, IR, and millimeter wave (MMW) spectrums. It will enhances Blue systems ability to recognize, react, and defeat threat forces and will stress weapon sensors. Additionally, MGTH will enhance Blue system performance by stressing them in T&E. It provides certified/safety confirmed mobile ground targets for use in T&E based on Emerging Threats and existing Test and Evaluation Master Plans (TEMPS) and Training Test Support Packages (TTSP)s for DT and OT events. These systems provide realistic maneuvers, force-on-force encounters and communications that is currently unavailable.	-	-	2.000
Accomplishments/Planned Programs Subtotals	3.405	2.643	4.502

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0604258A / *Target Systems Development*	**Project (Number/Name)** 459 / *Ground Targets*

E. Performance Metrics

N/A

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0604759A / *Major T&E Investment*							
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	-	38.534	56.285	62.580	-	62.580	55.243	67.568	66.023	68.707	-	-
983: *Reagan Test Site (RTS) T&E Investments*	-	7.500	5.912	7.529	-	7.529	7.222	7.287	7.467	7.507	-	-
984: *Major Developmental Testing Instrumentation*	-	25.544	47.849	48.093	-	48.093	36.863	48.101	49.748	52.207	-	-
986: *Major Operational Test Instrumentation*	-	5.490	2.524	6.958	-	6.958	11.158	12.180	8.808	8.993	-	-

Note

FY 2016 Resource Management Decision (RMD) to preserve Test Capability.

A. Mission Description and Budget Item Justification

This program funds the development and acquisition of major developmental test instrumentation for the U.S. Army Test and Evaluation Command's (ATEC) test activities: White Sands Test Center (WSTC), NM; Yuma Test Center, (YTC), AZ; Aberdeen Test Center (ATC), MD; Electronic Proving Ground (EPG), AZ; Redstone Test Center (RTC), AL; and for the Reagan Test Site (RTS) at the U.S. Army Kwajalein Atoll (USAKA), which is managed by the Space and Missile Defense Command. The program also funds development and acquisition of Operational Test Command's (OTC) major field instrumentation. Requirements for instrumentation are identified through a long range survey of project managers, Research Development and Engineering Centers (RDECs), and Battle Laboratories developing future weapon systems and the test programs that support these systems. Army testing facilities are also surveyed to determine major testing capability shortfalls.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	46.647	60.317	39.531	-	39.531
Current President's Budget	38.534	56.285	62.580	-	62.580
Total Adjustments	-8.113	-4.032	23.049	-	23.049
• Congressional General Reductions	-	-0.028			
• Congressional Directed Reductions	-	-4.004			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-6.697	-			
• SBIR/STTR Transfer	-1.416	-			
• Adjustments to Budget Years	-	-	23.049	-	23.049

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0604759A / *Major T&E Investment*	Project (Number/Name) 983 / *Reagan Test Site (RTS) T&E Investments*	

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
983: *Reagan Test Site (RTS) T&E Investments*	-	7.500	5.912	7.529	-	7.529	7.222	7.287	7.467	7.507	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Range in a box - simulation over live study - ends in FY 2015.

A. Mission Description and Budget Item Justification

This activity funds improvement and modernization (I&M) for the Ronald Reagan Ballistic Missile Defense Test Site (RTS). Funding upgrades and combats parts obsolescence of the radars, telemetry, optics, range safety, communications, command/control and other equipment essential to meet requirements of the Services and DoD agencies and are crucial for investment protection of the sensor suite. These upgrades are critical both to maintain the required instrumentation suite and to allow successful collection of required data supporting test and evaluation assessments and operational decisions for the Army; Navy; Air Force; U.S. Strategic Command (STRATCOM); Missile Defense Agency (MDA); Defense Advanced Research Projects Agency (DARPA); National Aeronautics and Space Administration (NASA); and other customers. Reagan Test Site (RTS) located in the Republic of the Marshall Islands, is a remote, secure activity of the Major Range and Test Facility Base (MRTFB).

FY 2016 funding will enable RTS to continue to meet customer objectives and sustain the required instrumentation suite.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Radar Open Systems Architecture Refresh	0.050	0.100	0.500
Description: Funding is provided for the following effort.			
FY 2014 Accomplishments: Ensures the continued operation of Kiernan Reentry Measurement System (KREMS) radar sites by refreshing the design of the subsystems and replaces stale components with modern replacements.			
FY 2015 Plans: Continues operation of Kiernan Reentry Measurement System (KREMS) radar sites by refreshing the design of the subsystems and replaces stale components with modern replacements.			
FY 2016 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0604759A / *Major T&E Investment*	**Project (Number/Name)** 983 / *Reagan Test Site (RTS) T&E Investments*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Will continue operation of Kiernan Reentry Measurement System (KREMS) radar sites by refreshing the design of the subsystems and replaces stale components with modern replacements.			
Title: RTS Optics Modernization Program (ROMP) ***Description:*** Funding is provided for the following effort ***FY 2014 Accomplishments:*** Completed the deployment of the ROMP program	0.200	-	-
Title: Radar Reliability Improvement Program (RRI). ***Description:*** Funding is provided for the following effort ***FY 2015 Plans:*** Address critical RADAR issues related to component obsolescence and sustainment that require significant re-design to incorporate commercially available options. ***FY 2016 Plans:*** Will continue to address critical RADAR issues related to component obsolescence and sustainment that require significant re-design to incorporate commercially available options.	-	0.337	0.300
Title: Radar Computer and Software Refresh ***Description:*** Funding is provided for the following effort ***FY 2014 Accomplishments:*** Completed the deployment and testing of the MRCR program.	0.100	-	-
Title: Telemetry (TM) Modernization Study. ***Description:*** Funding is provided for the following effort ***FY 2014 Accomplishments:*** Continued extended software radio approach. ***FY 2015 Plans:*** Continues extended software radio approach. ***FY 2016 Plans:***	0.510	2.050	2.840

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0604759A / *Major T&E Investment*	**Project (Number/Name)** 983 / *Reagan Test Site (RTS) T&E Investments*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Will continue extended software radio approach.			
Title: Multiple Simultaneous Engagement (MSE) Flight Safety. ***Description:*** Funding is provided for the following effort ***FY 2014 Accomplishments:*** Started designing and implementing Range Safety Systems (RSS) upgrade of safety control system replacement. ***FY 2015 Plans:*** Continues design and implement RSS upgrade of safety control system replacement. ***FY 2016 Plans:*** Will continue design and implement RSS upgrade of safety control system replacement.	0.610	0.600	0.200
Title: Legacy Servo Upgrade Program. ***Description:*** Funding is provided for the following effort ***FY 2014 Accomplishments:*** Continued to replace and upgrade obsolete antenna serves and interlock systems at the RTS radars. ***FY 2015 Plans:*** Continues to replace and upgrade obsolete antenna serves and interlock systems at the RTS radars. ***FY 2016 Plans:*** Will continue to replace and upgrade obsolete antenna serves and interlock systems at the RTS radars	1.255	0.100	1.048
Title: Mission Data Network (MDN) Modernization. ***Description:*** MDN Modernization. ***FY 2014 Accomplishments:*** Continued new network architecture changes to improve on-toll bandwidth to support increasing custom requirements. ***FY 2015 Plans:*** Continues new network architecture changes to improve on-toll bandwidth to support increasing custom requirements. ***FY 2016 Plans:*** Will continue new network architecture changes to improve on-toll bandwidth to support increasing custom requirements.	0.906	0.350	0.500
Title: RTS Automation and Decision Support.	1.475	0.997	0.500

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0604759A / *Major T&E Investment*	**Project (Number/Name)** 983 / *Reagan Test Site (RTS) T&E Investments*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Description: Funding is provided for the following effort ***FY 2014 Accomplishments:*** Continued addition of automation measures and more sophisticated algorithms to improve operator efficiency. ***FY 2015 Plans:*** Continues addition of automation measures and more sophisticated algorithms to improve operator efficiency. ***FY 2016 Plans:*** Will continue addition of automation measures and more sophisticated algorithms to improve operator efficiency.			
Title: TRADEX L-Band Modulator ***Description:*** Funding is provided for the following effort ***FY 2014 Accomplishments:*** Continued replacement tube-based modulator and legacy high-voltage power supply with a commercial solid-state unit. ***FY 2015 Plans:*** Continues replacement tube-based modulator and legacy high-voltage power supply with a commercial solid-state unit. ***FY 2016 Plans:*** Will continue replacement tube-based modulator and legacy high-voltage power supply with a commercial solid-state unit.	2.044	0.703	0.075
Title: Net Centric Operations Upgrade ***Description:*** Funding is provided for the following effort ***FY 2014 Accomplishments:*** Started development of a Program Management Plan for the upgrade of Net Centric Operations. ***FY 2015 Plans:*** Continues development of a Program Management Plan for the upgrade of Net Centric Operations. ***FY 2016 Plans:*** Start implementation of the Net Centric Operations upgrade per the program plan.	0.100	0.100	0.366
Title: Transmitter Reliability Improvements ***Description:*** Funding is provided for the following effort.	0.050	0.075	0.100

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0604759A / *Major T&E Investment*	**Project (Number/Name)** 983 / *Reagan Test Site (RTS) T&E Investments*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
FY 2014 Accomplishments: Develops a Program Management Plan for the upgrade of Transmitter Reliability Improvements. ***FY 2015 Plans:*** Will continue to develop a Program Management Plan for the upgrade of Transmitter Reliability Improvements. ***FY 2016 Plans:*** Will continue implementation of the upgrade of Transmitter Reliability Improvements.			
Title: Optics Focal Plane Technology Replacement Study ***Description:*** Funding is provided for the following effort ***FY 2014 Accomplishments:*** Condcut study into the use of a digital-pixel Focal Plane Array (DFPA) based cameras providing the potential to extend the wavelength coverage of RTS optics and provide an order of magnitude increase in integrated target signal when compared to existing COTS cameras. ***FY 2015 Plans:*** Will continue the study and prototype effort into the use of DFPA based cameras. ***FY 2016 Plans:*** Will continue the study and prototype effort into the use of DFPA based cameras.	0.200	0.200	0.400
Title: Legacy Radar Replacement Study ***Description:*** Funding is provided for the following effort ***FY 2015 Plans:*** Design and prototype a multi-static system and an approach that would be used to replace the legacy radars at the Range. ***FY 2016 Plans:*** Will continue design and prototype of a multi-static system and an approach that would be used to replace the legacy radars at the Range.	-	0.100	0.100
Title: Self healing software and algorithms ***Description:*** Funding is provided for the following efforts ***FY 2015 Plans:***	-	0.100	0.600

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0604759A / *Major T&E Investment*	**Project (Number/Name)** 983 / *Reagan Test Site (RTS) T&E Investments*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Provide automatic software algorithms and hardware healing approach to the range sensor subsystems. ***FY 2016 Plans:*** Will continue to provide automatic software algorithms and hardware healing approach to the range sensor subsystems.			
Title: Range in a box - simulation over live study ***Description:*** Funding is provided for the following effort ***FY 2015 Plans:*** Conduct studies into the improvement of the current deployed simulation system capability and providing the necessary interface layer allowing the testing of asset software, hardware models, and simulation.	-	0.100	-
Accomplishments/Planned Programs Subtotals	7.500	5.912	7.529

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0604759A / *Major T&E Investment*	Project (Number/Name) 984 / *Major Developmental Testing Instrumentation*	

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
984: *Major Developmental Testing Instrumentation*	-	25.544	47.849	48.093	-	48.093	36.863	48.101	49.748	52.207	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

The following programs are New Starts for FY16: Test Network Modernization, Applied Environments Modernization Program,Telemetry Systems Modernization and Future Wireless Network Program.

The Systems Test and Integration Laboratory (STIL) program completes in FY15.

A. Mission Description and Budget Item Justification

This project develops and acquires major test instrumentation to perform developmental testing of weapon systems at U. S. Army Test and Evaluation Command's (ATEC) activities which include: Yuma Test Center (YTC), AZ; Aberdeen Test Center (ATC), MD; Electronic Proving Ground (EPG), AZ; White Sands Test Center (WSTC), NM; Redstone Test Center (RTC), AL.

Projects are designated as a major test program based on their visibility, assessed relative technical risk (medium-high), schedule risk, cost (greater than $1.5 Million per year or $7.5 Million for the total project) and applicability to other mission areas or services. These projects are technically demanding, state-of-the-art, unique instrumentation assets or suites to meet the technology shortfalls, and generally result from development programs managed by a professional project management team.

Range Radar Replacement Program (RRRP) will replace obsolete tracking radars at Redstone Test Center (RTC), Aberdeen Test Center (ATC), White Sands Missile Range (WSMR) and Yuma Proving Ground (YPG) with modern instrumentation radars. Electromagnetic Environmental Effects (E3) Electromagnetic Radiation Effects (EMRE) Systems Modernization will upgrade equipment at the WSMR EMRE site where E3 testing is performed to evaluate survivability and vulnerability of military systems. Project will upgrade and replace signal transmitters, refurbish an anechoic test chamber, replace data acquisition equipment and install a new turntable to support test items. Nuclear Effects Test Capability Modernization upgrades nuclear facilities at White Sands Missile Range (WSMR). These upgrades include the Relativistic Electron Beam Accelerator (REBA), Fast Burn Reactor, Gamma Range Facility, Linear Electron Accelerator (LINAC), Electromagnetic Pulse and the Solar Furnace. Common Range Integrated Instrumentation System (CRIIS) Objective Program provides precision location instrumentation which will significantly increase the T&E ranges' capability to meet the test instrumentation needs of the tri-service range users. Test Network Modernization will upgrade existing test data networks to ensure infrastructures are capable of providing reliable and secure transport of data and communications for ATEC test activities. Applied Environments Modernization program will upgrade antiquated Environmental labs for climatic and dynamic testing with new cascade refrigeration units, climatic chambers, vibration test systems, x-ray cameras, a real-time radiography system and full spectrum solar lights. Telemetry Systems Modernization program will upgrade/replace mobile and fixed site telemetry equipment and telemetry data processing equipment at Redstone Test Center (RTC), Aberdeen Test Center (ATC), White Sands Missile Range (WSMR) and Yuma Proving Ground (YPG). Future Wireless Network program will procure and integrate wireless network technologies across ATEC test activities which will provide

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0604759A / *Major T&E Investment*	**Project (Number/Name)** 984 / *Major Developmental Testing Instrumentation*

near real-time data collection support for Developmental Test and Operational Test events. Systems Test and Integration Laboratory (STIL) is the development of a systems integration and test lab for use in developmental testing and integration engineering, including a virtual test environment to support integration testing of aviation electronic systems as a part of modernization of army aircraft.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Range Radar Replacement Program (RRRP). ***Description:*** EMD phase contract activities for the RRRP. ***FY 2014 Accomplishments:*** Continued Engineering Manufacturing Development (EMD) for the RRRP for the Fly-out and Close-in Radars systems in preparation for replacement of equipment at Aberdeen Test Center (ATC), Redstone Test Center (RTC), White Sands Test Center (WSTC) and Yuma Test Center (YTC). ***FY 2015 Plans:*** Continues Engineering Manufacturing Development (EMD) for the RRRP for the Fly-out and Close-in Radars systems in preparation for replacement of equipment at Aberdeen Test Center (ATC), Redstone Test Center (RTC), White Sands Test Center (WSTC) and Yuma Test Center (YTC). ***FY 2016 Plans:*** Will continue Engineering Manufacturing Development (EMD) for the RRRP for the Fly-out and Close-in Radars systems in preparation for replacement of equipment at Aberdeen Test Center (ATC), Redstone Test Center (RTC), White Sands Test Center (WSTC) and Yuma Test Center (YTC).	16.846	30.979	17.411
Title: Engineering and Manufacturing Development (EMD) phase contract activity for the E3 Systems Modernization (EMRE) project. ***Description:*** EMD phase contract activities for the E3 Systems Modernization (EMRE) project. ***FY 2014 Accomplishments:*** EMD for the E3 Systems Modernization (EMRE) T2 and T3 transmitter systems. Project upgraded and replaced signal transmitters, refurbished an anechoic test chamber, replaced data acquisition equipment and installed a new turntable to support test items. ***FY 2015 Plans:***	2.687	5.317	17.740

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0604759A / *Major T&E Investment*	**Project (Number/Name)** 984 / *Major Developmental Testing Instrumentation*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Continues the EMD for the E3 Systems Modernization (EMRE) T2 and T3 transmitter systems. Project continues to upgrade and replace signal transmitters, refurbishes an anechoic test chamber, replaces data acquisition equipment and installs a new turntable to support test items. ***FY 2016 Plans:*** Will continue the EMD for the E3 Systems Modernization (EMRE) T2 and T3 transmitter systems. Project will continue to upgrade and replace signal transmitters, will refurbish an anechoic test chamber, will replace data acquisition equipment and will install a new turntable to support test items.			
Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Nuclear Effects Test Capability Modernization. ***Description:*** EMD phase contract activity for the Nuclear Effects Test Capability Modernization. ***FY 2014 Accomplishments:*** Started the Engineering and Manufacturing Development (EMD) phase contract activity for the Nuclear Effects Test Capability Modernization. This program upgraded nuclear facilities at White Sands Missile Range (WSMR). ***FY 2015 Plans:*** Continues the Engineering and Manufacturing Development (EMD) phase contract activity for the Nuclear Effects Test Capability Modernization. Program upgrades nuclear facilities at White Sands Missile Range (WSMR). ***FY 2016 Plans:*** Will continue the Engineering and Manufacturing Development (EMD) phase contract activity for the Nuclear Effects Test Capability Modernization. This program will upgrade nuclear facilities at White Sands Missile Range (WSMR).	0.802	1.976	10.176
Title: Engineering and Manufacturing Development (EMD) phase contract activity of the Common Range Integrated Instrumentation System (CRIIS) Objective Program. ***Description:*** EMD phase contract activities of the Common Range Integrated Instrumentation System (CRIIS) Objective Program. ***FY 2014 Accomplishments:*** Started EMD phase of the Common Range Integrated Instrumentation System (CRIIS) Objective Program. This will be a replacement system for the Advanced Range Data System (ARDS). This system will meet the critical need for measuring the precision location of units under test within the Time-Space domain. It will provide a significant increase to the Test & Evaluation ranges' capability to meet the test instrumentation needs of the tri-service range users. The improvements will be the data link, Time Space Position Information (TSPI) accuracy, miniaturization, standard interfaces, and system encryption. ***FY 2015 Plans:***	0.230	4.514	1.366

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0604759A / *Major T&E Investment*	**Project (Number/Name)** 984 / *Major Developmental Testing Instrumentation*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Continues EMD of the Common Range Integrated Instrumentation System (CRIIS) Objective Program. This is a replacement system for the Advanced Range Data System (ARDS). This system will meet the critical need for measuring the precision location of units under test within the Time-Space domain. It provides a significant increase to the Test & Evaluation ranges' capability to meet the test instrumentation needs of the tri-service range users. The improvements are the data link, TSPI accuracy, miniaturization, standard interfaces, and system encryption. ***FY 2016 Plans:*** Will continue EMD of the Common Range Integrated Instrumentation System (CRIIS) Objective Program. This will be a replacement system for the Advanced Range Data System (ARDS). This system will meet the critical need for measuring the precision location of units under test within the Time-Space domain. It will provide a significant increase to the Test & Evaluation ranges' capability to meet the test instrumentation needs of the tri-service range users. The improvements will be the data link, TSPI accuracy, miniaturization, standard interfaces, and system encryption.			
Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Systems Test and Integration Laboratory (STIL). ***Description:*** Continue EMD phase contract activities for the Systems Test and Integration Laboratory (STIL). ***FY 2014 Accomplishments:*** Continued EMD for the Systems Test and Integration Laboratory (STIL) for use in developmental testing and integration engineering, including a virtual test environment to support integration testing of aviation electronic systems as a part of modernization of Army aircraft. ***FY 2015 Plans:*** Completes EMD for the Systems Test and Integration Laboratory (STIL) for use in developmental testing and integration engineering, including a virtual test environment to support integration testing of aviation electronic systems as a part of modernization of Army aircraft. Planned Full Operational Capability in 4 Qtr.	4.979	5.063	-
Title: Engineering and Manufacturing Development (EMD) phase contract activity of the Test Network Modernization Program. ***Description:*** EMD phase contract activity for the Test Network Modernization. ***FY 2016 Plans:***	-	-	0.500

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0604759A / *Major T&E Investment*	**Project (Number/Name)** 984 / *Major Developmental Testing Instrumentation*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Will start the Engineering and Manufacturing Development (EMD) phase contract activity for the Test Network Modernization. This program will provide a modern test infrastructure capable of reliable, secure transport of test data and test communications for all ATEC developmental test ranges.			
Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Applied Environments Modernization program. ***Description:*** EMD phase contract activity for the Applied Environments Modernization program ***FY 2016 Plans:*** Will start the Engineering and Manufacturing Development (EMD) phase contract activity for the Applied Environments Modernization program. This program will upgrade antiquated Environmental labs for climatic and dynamic testing with new cascade refrigeration units, climatic chambers, vibration test systems, x-ray cameras, a real-time radiography system and full spectrum solar lights.	-	-	0.300
Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Telemetry Systems Modernization program ***Description:*** EMD phase contract activity for the Telemetry Systems Modernization program ***FY 2016 Plans:*** Will start the Engineering and Manufacturing Development (EMD) phase contract activity for the Telemetry Systems Modernization program. This program will upgrade/replace mobile and fixed site telemetry equipment and telemetry data processing equipment Redstone Test Center (RTC), Aberdeen Test Center (ATC), White Sands Missile Range (WSMR) and Yuma Proving Ground (YPG) .	-	-	0.300
Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Future Wireless Network program. ***Description:*** EMD phase contract activity for the Future Wireless Network program. ***FY 2016 Plans:*** Will start the Engineering and Manufacturing Development (EMD) phase contract activity for the Future Wireless Network program. This program will procure and integrate wireless network technologies across ATEC test activities which will provide near real-time data collection support for developmental test and operational test events.	-	-	0.300
Accomplishments/Planned Programs Subtotals	25.544	47.849	48.093

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0604759A / *Major T&E Investment*	**Project (Number/Name)** 984 / *Major Developmental Testing Instrumentation*

C. Other Program Funding Summary ($ in Millions)

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0604759A / *Major T&E Investment*	Project (Number/Name) 986 / *Major Operational Test Instrumentation*	

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
986: *Major Operational Test Instrumentation*	-	5.490	2.524	6.958	-	6.958	11.158	12.180	8.808	8.993	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Major Operational, Instrumentation and Modeling and Simulation (M&S) in support of Army Test and Evaluation Command (ATEC).

Analysis and development for Real-Time Casualty Assessment and instrumentation suite (RTCA) that delivers a high fidelity, realistic, real-time capability to measure hardware and personnel performance in modern combat environments. RTCA enables testing under tactical conditions for small and large-scale operations while integrating network operations and effects in support of the Army Equipment Modernization Plan. RTCA also allows the U.S. Army to test all Current-to-Future, weapon systems in a realistic operational environment. RTCA Research, Development, Test and Evaluation (RDTE) develops performance enhancements and technology upgrades to the operational test command, control, and communications , communications network, weapons system interfaces, vehicle and dismounted-troop kits and peripherals, Global Positioning Systems (GPS), encryption components, and integrates operational realistic digital battlefield data collection and analysis tools. These tools will collect, store and analyze data from the digital battlefield. Improvements will enable the RTCA system to measure and record accrued damage, levels of exposure, effects of countermeasures, evasive action, and instrument threat vehicles. This capability is required by the operational test community to integrate digital battlefield data collection and analysis tools into the Network Integration Evaluation (NIE), M1, M2, Stryker, Armored Multi Purpose Vehicle (AMPV), 64E, Gray Eagle and other operational tests.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Real-Time Casualty Assessment and Instrumentation Suite (RTCA)	2.616	2.524	6.958
Description: Develop technology initiatives in support of common Army test and training capability gaps.			
FY 2014 Accomplishments: Continued to support Trade-Off Studies, Analysis of Trade-Off Studies, Analysis of Alternatives, Cost Benefit Analyses, Test Technology Demonstrations or Technology Readiness Events to ensure the requirements and performance specifications for emerging/future instrumentation and tactical engagement simulation systems meet the needs of the operational test and evaluation community. The initiative helped develop and sustain an Army Test and Training Instrumentation Test Bed, as well as increased the rigor of testing and ensure that proposed solutions fulfill those requirements and thus reduced risk.			
FY 2015 Plans: Funds the development of hardware, software, interfaces, and new capabilities to ensure RTCA requirements for upcoming operational tests are satisfied. Develops efforts that will initially be directed toward RTCA. Funds will also be allocated for RTCA instrumentation and simulation systems to be used to support Force-on-Force Operational Tests. Development efforts include:			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0604759A / *Major T&E Investment*	**Project (Number/Name)** 986 / *Major Operational Test Instrumentation*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
integration with new tactical systems under test, integration with Live, Virtual, and Constructive (LVC) simulation environments, RTCA capabilities for active protection systems and countermeasures, RTCA capabilities for communications/sensor kills and degradations, development, integration, and testing of mission command effects and degradations, communications upgrade, new communications sub-systems, new encryption and RTCA capabilities for electronic warfare and countermeasures. ***FY 2016 Plans:*** Will continue to fund the development of hardware, software, interfaces, and new capabilities to ensure RTCA requirements for upcoming operational tests are satisfied. Will develop efforts that will initially be directed toward RTCA. Funds will also be allocated for RTCA instrumentation and simulation systems to be used to support Force-on-Force Operational Tests. Development efforts will include: integration with new tactical systems under test, integration with Live, Virtual, and Constructive simulation environments, RTCA capabilities for active protection systems and countermeasures, RTCA capabilities for communications/sensor kills and degradations, development, integration, and testing of mission command effects and degradations, communications upgrade, new communications sub-systems, new encryption and RTCA capabilities for electronic warfare and countermeasures.			
Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Operational Test Command (OTC) Advanced Simulation and Instrumentation System (OASIS) Enterprise Integration Solution. ***Description:*** EMD phase contract activities for the OASIS Enterprise Integration System (EIS) to include initial research and planning to achieve an Advanced Test and evaluation Enterprise Architecture (ATEA) to deliver a more comprehensive and sustainable operational test environment within current fiscal constraints. ***FY 2014 Accomplishments:*** Continued EMD into Army Test and Evaluation Command (ATEC) Test and evaluation Enterprise Architecture (ATEA). Funding supports integration of Federation members by ATEA into the larger ATEC community and supports an enterprise into a LVC environment to support testing requirements for Operational Testing and Network Integration Events (NIEs) in support of the Army Equipment Modernization Plan high priority weapon systems such as the Distributed Common Ground System-Army (DCGS-A), Warfighter Information Network (WIN-T) – Tactical and RTCA.	2.874	-	-
Accomplishments/Planned Programs Subtotals	5.490	2.524	6.958

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 / 6	**R-1 Program Element (Number/Name)** PE 0604759A / *Major T&E Investment*	**Project (Number/Name)** 986 / *Major Operational Test Instrumentation*

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0605103A / *Rand Arroyo Center*							
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	-	18.281	20.601	20.853	-	20.853	20.848	20.851	20.854	20.855	-	-
732: *Arroyo Center Spt*	-	18.281	20.601	20.853	-	20.853	20.848	20.851	20.854	20.855	-	-

Note

FY 2016 increase is attributed to realignment of funding for higher priority programs.

A. Mission Description and Budget Item Justification

This program funds the RAND Arroyo Center, the Department of the Army's Federally Funded Research and Development Center (FFRDC) for studies and analysis. The Arroyo Center draws its researchers from RAND's staff of nearly 700 professionals trained in a broad range of disciplines. Most staff members work in RAND's principal locations-Santa Monica, California; Arlington, Virginia; and Pittsburgh, Pennsylvania. The RAND Arroyo Center provides for continuing analytical research across a broad spectrum of issues and concerns, grouped in four major research areas: Strategy, Doctrine, and Resources; Military Logistics; Manpower and Training; and Force Development and Technology. The RAND Arroyo Center research agenda is primarily focused on mid/long-term concerns. Results and analytical findings directly affect senior leadership deliberations on major issues. Arroyo Center research is sponsored by the Chief of Staff, Vice Chief, the Deputy Chiefs of Staff of the Army; the Army Assistant Secretaries; and most of the Army's major commands. The Arroyo Center is provided guidance from the Army through the Arroyo Center Policy Committee (ACPC), which is co-chaired by the Vice Chief of Staff of the Army and the Assistant Secretary of the Army (Acquisition, Logistics and Technology). The ACPC reviews, monitors, and approves the annual Arroyo Center research plan. Each project requires General Officer (or SES equivalent) sponsorship and involvement on a continuing basis. RAND Arroyo provides the Army with a unique multidisciplinary capability for independent analysis.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	18.909	20.612	16.381	-	16.381
Current President's Budget	18.281	20.601	20.853	-	20.853
Total Adjustments	-0.628	-0.011	4.472	-	4.472
• Congressional General Reductions	-	-0.011			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.628	-			
• Adjustments to Budget Years	-	-	4.472	-	4.472

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605103A / *Rand Arroyo Center*	Project (Number/Name) 732 / *Arroyo Center Spt*	

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
732: *Arroyo Center Spt*	-	18.281	20.601	20.853	-	20.853	20.848	20.851	20.854	20.855	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This program funds the RAND Arroyo Center, the Department of the Army's Federally Funded Research and Development Center (FFRDC) for studies and analysis. The Arroyo Center draws its researchers from RAND's staff of nearly 700 professionals trained in a broad range of disciplines. Most staff members work in RAND's principal locations-Santa Monica, California; Arlington, Virginia; and Pittsburgh, Pennsylvania. The RAND Arroyo Center provides for continuing analytical research across a broad spectrum of issues and concerns, grouped in four major research areas: Strategy, Doctrine, and Resources; Military Logistics; Manpower and Training; and Force Development and Technology. The RAND Arroyo Center research agenda is primarily focused on mid/long-term concerns. Results and analytical findings directly affect senior leadership deliberations on major issues. Arroyo Center research is sponsored by the Chief of Staff, Vice Chief, the Deputy Chiefs of Staff of the Army; the Army Assistant Secretaries; and most of the Army's major commands. The Arroyo Center is provided guidance from the Army through the Arroyo Center Policy Committee (ACPC), which is co-chaired by the Vice Chief of Staff of the Army and the Assistant Secretary of the Army (Acquisition, Logistics and Technology). The ACPC reviews, monitors, and approves the annual Arroyo Center research plan. Each project requires General Officer (or SES equivalent) sponsorship and involvement on a continuing basis. RAND Arroyo provides the Army with a unique multidisciplinary capability for independent analysis.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Research addressing manpower and training	4.413	4.809	4.900
Description: Addresses key issues for the Army, including recruiting and personnel fill requirements; reserve component readiness; leader development; training (major combat operations and stability operations skills); distance learning, simulation training development and application; training support systems; retention (active command/reserve command); officer career fields, selection, assignment sequencing; and medical forces and operations.			
FY 2014 Accomplishments: The Planned Study program included numerous key issues for the Army such as recruiting and personnel fill requirements; reserve component readiness; leader development; training (major combat operations and stability operations skills); distance learning, simulation training development and application; training support systems; retention (active command/reserve command); officer career fields, selection, assignment sequencing; and medical forces and operations.			
FY 2015 Plans: The Planned Study program includes numerous key issues for the Army such asrecruiting and personnel fill requirements; reserve component readiness; leader development; training (major combat operations and stability operations skills); distance learning, simulation training development and application; training support systems; retention (active command/reserve command); officer career fields, selection, assignment sequencing; and medical forces and operations.			
FY 2016 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605103A / *Rand Arroyo Center*	**Project (Number/Name)** 732 / *Arroyo Center Spt*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
The Planned Study program will include numerous key issues for the Army such as recruiting and personnel fill requirements; reserve component readiness; leader development; training (major combat operations and stability operations skills); distance learning, simulation training development and application; training support systems; retention (active command/reserve command); officer career fields, selection, assignment sequencing; and medical forces and operations.			
Title: Research addressing force development and technology ***Description:*** Addresses key issues for the Army, including systems and technology analysis; networks and C4ISR; modeling and simulation; force and organizational development; acquisition policies; and assessment of tactics, techniques, and procedures. ***FY 2014 Accomplishments:*** The Planned Study Program in force development and technology included key issues for the Army such as systems and technology analysis; networks and C4ISR; modeling and simulation; force and organizational development; acquisition policies; and assessment of tactics, techniques, and procedures. ***FY 2015 Plans:*** The Planned Study Program in force development and technology includes key issues for the Army such as including systems and technology analysis; networks and C4ISR; modeling and simulation; force and organizational development; acquisition policies; and assessment of tactics, techniques, and procedures. ***FY 2016 Plans:*** The Planned Study Program in force development and technology will include key issues for the Army such as systems and technology analysis; networks and C4ISR; modeling and simulation; force and organizational development; acquisition policies; and assessment of tactics, techniques, and procedures.	4.315	4.704	4.792
Title: Research addressing Army logistics ***Description:*** Addresses key issues for the Army, including supply chain management; fleet management and modernization; logistics force development; and infrastructure management. ***FY 2014 Accomplishments:*** The Planned Study Program in Army logistics included key issues for the Army such as supply chain management; fleet management and modernization; logistics force development; and infrastructure management. ***FY 2015 Plans:*** The Planned Study Program in Army logistics includes key issues for the Army such as supply chain management; fleet management and modernization; logistics force development; and infrastructure management. ***FY 2016 Plans:***	3.830	4.175	4.254

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605103A / *Rand Arroyo Center*	**Project (Number/Name)** 732 / *Arroyo Center Spt*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
The Planned Study Program in Army logistics will include key issues for the Army such as supply chain management; fleet management and modernization; logistics force development; and infrastructure management.			
Title: Research addressing strategies, doctrine, and resources ***Description:*** Addresses key issues for the Army, including the evolving operating environment; capabilities to face new challenges; partner capabilities; capabilities for stability operations; improvement of resource management; learning from past and present operations; and supporting Army wargames and analysis. ***FY 2014 Accomplishments:*** The Planned Study Program in strategy, doctrine, and resources included key issues for the Army, such as the evolving operating environment; capabilities to face new challenges; partner capabilities; capabilities for stability operations; improvement of resource management; learning from past and present operations; and supporting Army wargames and analysis. ***FY 2015 Plans:*** The Planned Study Program in strategy, doctrine, and resources includes key issues for the Army such as the evolving operating environment; capabilities to face new challenges; partner capabilities; capabilities for stability operations; improvement of resource management; learning from past and present operations; and supporting Army wargames and analysis. ***FY 2016 Plans:*** The Planned Study Program in strategy, doctrine, and resources will include key issues for the Army such as the evolving operating environment; capabilities to face new challenges; partner capabilities; capabilities for stability operations; improvement of resource management; learning from past and present operations; and supporting Army wargames and analysis.	4.608	5.697	5.668
Title: Research addressing military health ***Description:*** Addresses key issues for the Army, including the impact of deployment on soldiers and families; quality of Army health care; medical manpower requirements; medical readiness of soldiers and programs; and implications of advances in medical technology. ***FY 2014 Accomplishments:*** The Planned Study Program in military health included key issues for the Army such as the impact of deployment on soldiers and families; quality of Army health care; medical manpower requirements; medical readiness of soldiers and programs; and implications of advances in medical technology. ***FY 2015 Plans:***	1.115	1.216	1.239

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605103A / *Rand Arroyo Center*	**Project (Number/Name)** 732 / *Arroyo Center Spt*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
The Planned Study Program in military health will includes key issues for the Army such as the impact of deployment on soldiers and families; quality of Army health care; medical manpower requirements; medical readiness of soldiers and programs; and implications of advances in medical technology. ***FY 2016 Plans:*** The Planned Study Program in military health will include key issues for the Army such as the impact of deployment on soldiers and families; quality of Army health care; medical manpower requirements; medical readiness of soldiers and programs; and implications of advances in medical technology.			
Accomplishments/Planned Programs Subtotals	18.281	20.601	20.853

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

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 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0605301A *I Army Kwajalein Atoll*							
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	-	187.225	175.956	205.145	-	205.145	189.452	208.904	215.639	197.173	-	-
614: *Army Kwajalein Atoll*	-	0.417	-	-	-	-	-	-	-	-	-	-
DW7: *Army Kwajalein Atoll Facilities Sustainment*	-	10.885	32.950	41.625	-	41.625	35.698	40.268	43.742	46.290	-	-
DW8: *Army Kwajalein Atoll Installation Services*	-	102.152	74.898	83.297	-	83.297	73.775	78.466	78.566	80.130	-	-
DW9: *Army Kwajalein Atoll Restoration And Modernization*	-	0.576	1.964	12.820	-	12.820	11.927	21.320	24.701	2.039	-	-
DX2: *Army Kwajalein Test Ranges and Mission Support*	-	73.195	66.144	67.403	-	67.403	68.052	68.850	68.630	68.714	-	-

Note

FY 2016 Increase is attributed to realignment of funding for higher priority programs.

A. Mission Description and Budget Item Justification

The U.S. Army Kwajalein Atoll/Ronald Reagan Ballistic Missile Defense Test Site (USAKA/RTS), located in the Republic of the Marshall Islands, is a remote, secure activity of the Major Range and Test Facility Base (MRTFB). Its function is to support test and evaluation of major Army and DoD acquisition programs and to provide space operations (surveillance and object identification) in support of U.S. Strategic Command (USSTRATCOM) and National Aeronautics and Space Administration (NASA) scientific and space programs. Programs supported include Army missile defense, Air Force and Navy Intercontinental Ballistic Missile (ICBM) developmental and operational tests; Army, Air Force and Defense Advanced Research Projects Agency (DARPA) hypersonic developmental tests; Missile Defense Agency (MDA) demonstration/validation tests; , USSTRATCOM space situational awareness requirements (inc contributions to the U.S. Space Surveillance Network); and NASA Space Shuttle and orbital debris experiments. USAKA/RTS is a government-managed/contractor-operated (GMCO) site and is dependent upon its associated support contractors for operations and maintenance (O&M). Program funds contractors to accomplish O&M for both the RTS instrumentation suite and installation/base operations and provides mission essential bandwidth via a fiber optics cable system. Funding is required to maintain O&M support, while accepting moderate risk of continued degradation of USAKA/RTS infrastructure (housing, offices, and facilities), higher future repair costs, and reduced logistical support capability. The instrumentation suite consists of a number of sophisticated, one-of-a-kind, radar, optical, telemetry, command/control/communications, safety, and data reduction systems. These systems include the four unique radars of the Kiernan Reentry Measurement Site (KREMS); Super Recording Automatic Digital Optical Tracker (SRADOT) long range video-metric tracking systems; high density data recorders for high data-rate telemetry collected by nine antennas; an underwater acoustic impact location system; and data analysis/reduction hardware/software. The Advanced Research Project Agency (ARPA) Long-Range Tracking and Instrumentation Radar (ALTAIR), and the Target Resolution Discrimination Experiment (TRADEX) radars located at USAKA/RTS, are two of only three radars world-wide that have deep-space tracking capability. The Millimeter Wave Radar (MMW) is the most powerful imaging radar in the world. Funding enables weapon system assessment of operational effectiveness and suitability for the Army, Air Force, Navy and MDA, which all have programs planned that have significant test and data gathering requirements at

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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605301A *I Army Kwajalein Atoll*

USAKA/RTS. This test data cannot be obtained except through the use of technical facilities available on and in the vicinity of USAKA/RTS. Program supports Army's PATRIOT air defense system and the Advanced Hypersonic Weapon technology development program; Air Force's Minuteman III ICBM and the Space and Missile Center's associated programs; MDA's Ballistic Missile Defense System, Flexible Target Family (FTF), and Family of Systems; NASA's Space Transportation System (STS), Small Expendable Deployer System and Orbital Debris Measurement Programs.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	193.555	176.041	179.830	-	179.830
Current President's Budget	187.225	175.956	205.145	-	205.145
Total Adjustments	-6.330	-0.085	25.315	-	25.315
• Congressional General Reductions	-	-0.085			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-6.330	-			
• Adjustments to Budget Years	-	-	25.315	-	25.315

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605301A / *Army Kwajalein Atoll*	Project (Number/Name) 614 / *Army Kwajalein Atoll*	

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
614: *Army Kwajalein Atoll*	-	0.417	-	-	-	-	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Project 614, 665301.614 is realigned to Project DX2, allocation 665301.DX2. Project Element 665301.614 is realigned to 5 Project Elements: 665301.614, 665301.DX2, 665301.DW7, 665301.DW8 and 665301.DW9.

A. Mission Description and Budget Item Justification

Funding for management and contracting personnel support (salaries and travel) to enable the management of the test and evaluation of major Army and DoD missile systems for the Ronald Reagan Ballistic Missile Defense Test Site (RTS) will be funded by Project Element 665301.DX2 starting FY15. The U.S. Army Kwajalein Atoll/ Ronald Reagan Ballistic Missile Defense Test Site (USAKA/RTS), located in the Republic of the Marshall Islands, is a remote, secure activity of the Major Range and Test Facility Base (MRTFB). Its function is to support test and evaluation of major Army and DoD acquisition programs and to provide space operations (surveillance and object identification) in support of U.S. Strategic Command (USSTRATCOM) and National Aeronautics and Space Administration (NASA) scientific and space programs. Programs supported include Army missile defense, Air Force and Navy Intercontinental Ballistic Missile (ICBM) developmental and operational tests; Army, Air Force and Defense Advanced Research Projects Agency (DARPA) hypersonics developmental tests; Missile Defense Agency (MDA) demonstration/validation tests; USSTRATCOM space situational awareness requirements (inc contributions to the U.S. Space Surveillance Network); and NASA Space Shuttle and orbital debris experiments. USAKA/RTS is a government-managed/contractor-operated (GMCO) site and is dependent upon its associated support contractors for operations and maintenance (O&M). Program funds contractors to accomplish O&M for both the RTS instrumentation suite and installation/base operations and provides mission essential bandwidth via a fiber optics cable system. Funding is required to maintain O&M support, while accepting moderate risk of continued degradation of USAKA/ RTS infrastructure (housing, offices, and facilities), higher future repair costs, and reduced logistical support capability. The instrumentation suite consists of a number of sophisticated, one-of-a-kind, radar, optical, telemetry, command/control/communications, safety, and data reduction systems. These systems include the four unique radars of the Kiernan Reentry Measurement Site (KREMS); Super Recording Automatic Digital Optical Tracker (SRADOT) long range video-metric tracking systems; high density data recorders for high data-rate telemetry collected by nine antennas; an underwater acoustic impact location system; and data analysis/ reduction hardware/software. The Advanced Research Project Agency (ARPA) Long-Range Tracking and Instrumentation Radar (ALTAIR), and the Target Resolution Discrimination Experiment (TRADEX) radars located at USAKA/RTS, are two of only three radars world-wide that have deep-space tracking capability. The Millimeter Wave Radar (MMW) is the most powerful imaging radar in the world. Funding enables weapon system assessment of operational effectiveness and suitability for the Army, Air Force, Navy and MDA, which all have programs planned that have significant test and data gathering requirements at USAKA/RTS. This test data cannot be obtained except through the use of technical facilities available on and in the vicinity of USAKA/RTS. Program supports Army's PATRIOT air defense system and the Advanced Hypersonic Weapon technology development program; Air Force's Minuteman III ICBM and the Space and Missile Center's associated programs; MDA's Ballistic Missile Defense System, Flexible Target Family (FTF), and Family of Systems; NASA's Space Transportation System (STS), Small Expendable Deployer System and Orbital Debris Measurement Programs.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Management and Contracting Support	0.417	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605301A / *Army Kwajalein Atoll*	**Project (Number/Name)** 614 / *Army Kwajalein Atoll*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Description: Funding is provided for the following effort ***FY 2014 Accomplishments:*** Continues to provide management support (salaries, training, travel, Space & Missile Defense Command (SMDC) matrix, etc) to support test and evaluation of major Army and DoD missile systems and to provide space operations-surveillance and object identification.			
Accomplishments/Planned Programs Subtotals	0.417	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605301A / *Army Kwajalein Atoll*	Project (Number/Name) DW7 / *Army Kwajalein Atoll Facilities Sustainment*	

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
DW7: *Army Kwajalein Atoll Facilities Sustainment*	-	10.885	32.950	41.625	-	41.625	35.698	40.268	43.742	46.290	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Program was previously in a different Program Element/Project-665301-DX2.

A. Mission Description and Budget Item Justification

Provides resources for maintenance and repair necessary to sustain Kwajalein facilities in good working order and in accordance with industry standards. The proposed FY16 funding of $41.625 million is 93% of the DoD Facility Sustainment Model 15.2 requirement of $44.587 million. Full sustainment model resourcing is required to prevent deterioration and corrosion of existing facilities. Kwajalein facilities currently exhibit significant deterioration due to harsh environmental climate and historical resource shortfalls.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Facility Sustainment	10.885	32.950	41.625
Description: Facilities Sustainment ***FY 2014 Accomplishments:*** Maintained facility infrastructure on US Army Garrison Kwajalein Atoll (USAGKA). ***FY 2015 Plans:*** Maintains facility infrastructure on US Army Garrison Kwajalein Atoll (USAGKA). ***FY 2016 Plans:*** Will Maintain facility infrastructure on US Army Garrison Kwajalein Atoll (USAGKA).			
Accomplishments/Planned Programs Subtotals	10.885	32.950	41.625

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605301A / *Army Kwajalein Atoll*	**Project (Number/Name)** DW7 / *Army Kwajalein Atoll Facilities Sustainment*

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605301A / *Army Kwajalein Atoll*	Project (Number/Name) DW8 / *Army Kwajalein Atoll Installation Services*	

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
DW8: *Army Kwajalein Atoll Installation Services*	-	102.152	74.898	83.297	-	83.297	73.775	78.466	78.566	80.130	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Program was previously in a different Program Element/Project-665301-DX2.

A. Mission Description and Budget Item Justification

This program resources Base Operations/Installation Services Support for U.S. Army Kwajalein (USAKA) located in the Republic of the Marshall Islands, a remote, secure activity designated as a Major Range and Test Facility Base. Kwajalein is a government-managed/contractor-operated site and is dependent upon its associated support contracts for the daily operations and maintenance of Base Ops/Installation Services Support. Installation Services Support consists of Medical/Dental Services; Education (K-12) Services; Food/Grocery Services; Contracted Security Guards; Aviation/Marine support; and logistical (fuel/transportation) operations support requirements. Base Operations/Installation Services Support resourcing is a critical enabler to ensure continuity of operations supporting Test and Evaluation and Space Operations of the Reagan Test Site in its role as a Major Range and Test Facility Base Activity.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Logistical Support	46.143	27.190	35.341
Description: Provides All Logistics Functions to include Water transportation and Air Field Operations along with Transportation, Supply, Laundry, Food Service and Maintenance. Supply provides for installation supply operations which include: Ammunition Supply Point services, secondary items and bulk petroleum for garrison and non-brigade tenant units, operation of a central receiving point for goods delivered to the installation, management of Organizational Clothing and Individual Equipment (OCIE), management of non-deployable installation property, and receipt, storage, issue, reutilization and tracking of hazardous materials. Maintenance includes DS/GS support maintenance (Non-Tactical Support). Provides funding for installation supply operations which include: Ammunition Supply Point services, secondary items and bulk petroleum for garrison and non-brigade tenant units, operation of a central receiving point for goods delivered to the installation, management of OCIE, management of non-deployable installation property, and receipt, storage, issue, reutilization and tracking of hazardous materials. Maintenance includes DS/GS support maintenance (Non-Tactical Support). Transportation includes the operation of transportation motor pools, installation transportation offices, intra-installation rail equipment, and cost of leased vehicles; also includes storage and movement of privately-owned household goods of military personnel (and civilian personnel in overseas areas) in connection with assignment, reassignment, or termination of government-furnished family housing when no PCS orders are issued. Excludes OSA and Watercraft. Laundry account funds Government Owned Government Operated (GOGO), Government Owned Contractor Operated (GOCO), and Contractor Owned Contractor Operated (COCO) facilities that provide laundry and dry cleaning service for			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605301A / *Army Kwajalein Atoll*	**Project (Number/Name)** DW8 / *Army Kwajalein Atoll Installation Services*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
OCIE items to units IAW AR 210-130. Food account funds the operation of Active, Guard, and Reserve dining facilities and Troop Issue Subsistence Activities (TISA), including pay of government and contract employees, food service supplies, and replacement equipment. ***FY 2014 Accomplishments:*** Transportation, Supply, Laundry, Food Service and Maintenance. Supply provides for installation supply operations which included: Ammunition Supply Point services, secondary items and bulk petroleum for garrison and non-brigade tenant units, operation of a central receiving point for goods delivered to the installation, management of OCIE, management of non-deployable installation property, and receipt, storage, issue, reutilization and tracking of hazardous materials. Maintenance included DS/GS support maintenance (Non-Tactical Support). Provided funding for installation supply operations which include: Ammunition Supply Point services, secondary items and bulk petroleum for garrison and non-brigade tenant units, operation of a central receiving point for goods delivered to the installation, management of OCIE, management of non-deployable installation property, and receipt, storage, issue, reutilization and tracking of hazardous materials. DS/GS support maintenance (Non-Tactical Support). Transportation includes the operation of transportation motor pools, installation transportation offices, intra-installation rail equipment, and cost of leased vehicles; also includes storage and movement of privately-owned household goods of military personnel (and civilian personnel in overseas areas) in connection with assignment, reassignment, or termination of government-furnished family housing when no PCS orders are issued. Excludes OSA and Watercraft. Laundry account funded Government Owned Government Operated (GOGO), Government Owned Contractor Operated (GOCO), and Contractor Owned Contractor Operated (COCO) facilities that provide laundry and dry cleaning service for OCIE items to units IAW AR 210-130. Food account funded the operation of Active, Guard, and Reserve dining facilities and Troop Issue Subsistence Activities (TISA), including pay of government and contract employees, food service supplies, and replacement equipment. ***FY 2015 Plans:*** Transportation, Supply, Laundry, Food Service and Maintenance. Supply provides for installation supply operations which include: Ammunition Supply Point services, secondary items and bulk petroleum for garrison and non-brigade tenant units, operation of a central receiving point for goods delivered to the installation, management of OCIE, management of non-deployable installation property, and receipt, storage, issue, reutilization and tracking of hazardous materials. Maintenance includes DS/GS support maintenance (Non-Tactical Support). Provides funding for installation supply operations which include: Ammunition Supply Point services, secondary items and bulk petroleum for garrison and non-brigade tenant units, operation of a central receiving point for goods delivered to the installation, management of OCIE, management of non-deployable installation property, and receipt, storage, issue, reutilization and tracking of hazardous materials. Maintenance includes DS/GS support maintenance (Non-Tactical Support). Transportation includes the operation of transportation motor pools, installation transportation offices, intra-installation rail equipment, and cost of leased vehicles; also includes storage and movement of privately-owned household goods of military personnel (and civilian personnel in overseas areas) in connection with assignment, reassignment, or termination			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605301A / *Army Kwajalein Atoll*	**Project (Number/Name)** DW8 / *Army Kwajalein Atoll Installation Services*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
of government-furnished family housing when no PCS orders are issued. Excludes OSA and Watercraft. Laundry account funds Government Owned Government Operated (GOGO), Government Owned Contractor Operated (GOCO), and Contractor Owned Contractor Operated (COCO) facilities that provide laundry and dry cleaning service for OCIE items to units IAW AR 210-130. Food account funds the operation of Active, Guard, and Reserve dining facilities and Troop Issue Subsistence Activities (TISA), including pay of government and contract employees, food service supplies, and replacement equipment. ***FY 2016 Plans:*** Transportation, Supply, Laundry, Food Service and Maintenance. Supply will provide for installation supply operations which include: Ammunition Supply Point services, secondary items and bulk petroleum for garrison and non-brigade tenant units, operation of a central receiving point for goods delivered to the installation, management of OCIE, management of non-deployable installation property, and receipt, storage, issue, reutilization and tracking of hazardous materials. Maintenance to include DS/GS support maintenance (Non-Tactical Support). Will provide funding for installation supply operations which include: Ammunition Supply Point services, secondary items and bulk petroleum for garrison and non-brigade tenant units, operation of a central receiving point for goods delivered to the installation, management of OCIE, management of non-deployable installation property, and receipt, storage, issue, reutilization and tracking of hazardous materials. Maintenance will include DS/GS support maintenance (Non-Tactical Support). Transportation will include the operation of transportation motor pools, installation transportation offices, intra-installation rail equipment, and cost of leased vehicles; also includes storage and movement of privately-owned household goods of military personnel (and civilian personnel in overseas areas) in connection with assignment, reassignment, or termination of government-furnished family housing when no PCS orders are issued. Excludes OSA and Watercraft. Laundry account will fund Government Owned Government Operated (GOGO), Government Owned Contractor Operated (GOCO), and Contractor Owned Contractor Operated (COCO) facilities that provide laundry and dry cleaning service for OCIE items to units IAW AR 210-130. Food account will fund the operation of Active, Guard, and Reserve dining facilities and Troop Issue Subsistence Activities (TISA), including pay of government and contract employees, food service supplies, and replacement equipment.			
Title: Base Operations Support ***Description:*** Provides for Base Operations to ensure the health, safety and welfare of Garrison and Tennant personnel and families. Functions supported, Installation Management, Administrative and Civil Law, Criminal Law and Discipline, Client Services, Claims, Religious Support, Public Affairs, Equal Employment Opportunity (EEO), Internal Review, Installation Safety and Occupational Health, Administrative Services, Program/Budget, Support Agreement/Memorandums of Understanding / Memorandums of Agreement (MOU/MOA) Management, Management Accounting, Installation Tables of Distribution and Allowance (TDA) Management, Management Analysis, Unaccompanied Personnel Housing and Basic Officers Quarters Management, Family Housing Management, Army Substance Abuse Program, Army Community Services, Child and Youth Sports, Recreation, and Libraries, Business Operations, Schools, Fire and Emergency Response Services, Custodial Services,	48.885	40.685	40.828

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605301A / *Army Kwajalein Atoll*	**Project (Number/Name)** DW8 / *Army Kwajalein Atoll Installation Services*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Refuse Removal, Maintenance - Grounds, Electrical Services, Heating/Cooling Services, Water Services, Waste Water Services, Other Utility Services, Compliance Programs, Conservation Programs, Pollution Prevention Programs, Indoor Pest Management, Outdoor Pest Management, Physical Security, Law Enforcement Services, Anti-Terrorism Services, Installation Security Program Management Support, Army Emergency Management Services, Military Personnel Services, Civilian Personnel Services, Continuing Education, Command and Control (Emergency Disaster Prep), Host Nation Services, and Protocol Services. ***FY 2014 Accomplishments:*** Provided for Base Operations to ensure the health, safety and welfare of Garrison and Tennant personnel and families. Functions supported, Installation Management, Administrative and Civil Law, Criminal Law and Discipline, Client Services, Claims, Religious Support, Public Affairs, Equal Employment Opportunity (EEO), Internal Review, Installation Safety and Occupational Health, Administrative Services, Program/Budget, Support Agreement/Memorandums of Understanding/Memorandums of Agreement (MOU/MOA) Management, Management Accounting, Installation Tables of Distribution and Allowance (TDA) Management, Management Analysis, Unaccompanied Personnel Housing and Basic Officers Quarters Management, Family Housing Management, Army Substance Abuse Program, Army Community Services, Child and Youth Sports, Recreation, and Libraries, Business Operations, Schools, Fire and Emergency Response Services, Custodial Services, Refuse Removal, Maintenance - Grounds, Electrical Services, Heating/Cooling Services, Water Services, Waste Water Services, Other Utility Services, Compliance Programs, Conservation Programs, Pollution Prevention Programs, Indoor Pest Management, Outdoor Pest Management, Physical Security, Law Enforcement Services, Anti-Terrorism Services, Installation Security Program Management Support, Army Emergency Management Services, Military Personnel Services, Civilian Personnel Services, Continuing Education, Command and Control (Emergency Disaster Prep), Host Nation Services, and Protocol Services. ***FY 2015 Plans:*** Provides for Base Operations to ensure the health, safety and welfare of Garrison and Tennant personnel and families. Functions supported, Installation Management, Administrative and Civil Law, Criminal Law and Discipline, Client Services, Claims, Religious Support, Public Affairs, Equal Employment Opportunity (EEO), Internal Review, Installation Safety and Occupational Health, Administrative Services, Program/Budget, Support Agreement/Memorandums of Understanding /Memorandums of Agreement (MOU/MOA) Management, Management Accounting, Installation Tables of Distribution and Allowance (TDA) Management, Management Analysis, Unaccompanied Personnel Housing and Basic Officers Quarters Management, Family Housing Management, Army Substance Abuse Program, Army Community Services, Child and Youth Sports, Recreation, and Libraries, Business Operations, Schools, Fire and Emergency Response Services, Custodial Services, Refuse Removal, Maintenance - Grounds, Electrical Services, Heating/Cooling Services, Water Services, Waste Water Services, Other Utility Services, Compliance Programs, Conservation Programs, Pollution Prevention Programs, Indoor Pest Management, Outdoor Pest Management, Physical Security, Law Enforcement Services, Anti-Terrorism Services, Installation Security Program Management			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605301A / *Army Kwajalein Atoll*	**Project (Number/Name)** DW8 / *Army Kwajalein Atoll Installation Services*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Support, Army Emergency Management Services, Military Personnel Services, Civilian Personnel Services, Continuing Education, Command and Control (Emergency Disaster Prep), Host Nation Services, and Protocol Services. ***FY 2016 Plans:*** Will provide for Base Operations to ensure the health, safety and welfare of Garrison and Tennant personnel and families. Functions supported, Installation Management, Administrative and Civil Law, Criminal Law and Discipline, Client Services, Claims, Religious Support, Public Affairs, Equal Employment Opportunity (EEO), Internal Review, Installation Safety and Occupational Health, Administrative Services, Program/Budget, Support Agreement/Memorandums of Understanding /Memorandums of Agreement (MOU/MOA) Management, Management Accounting, Installation Tables of Distribution and Allowance (TDA) Management, Management Analysis, Unaccompanied Personnel Housing and Basic Officers Quarters Management, Family Housing Management, Army Substance Abuse Program, Army Community Services, Child and Youth Sports, Recreation, and Libraries, Business Operations, Schools, Fire and Emergency Response Services, Custodial Services, Refuse Removal, Maintenance - Grounds, Electrical Services, Heating/Cooling Services, Water Services, Waste Water Services, Other Utility Services, Compliance Programs, Conservation Programs, Pollution Prevention Programs, Indoor Pest Management, Outdoor Pest Management, Physical Security, Law Enforcement Services, Anti-Terrorism Services, Installation Security Program Management Support, Army Emergency Management Services, Military Personnel Services, Civilian Personnel Services, Continuing Education, Command and Control (Emergency Disaster Prep), Host Nation Services, and Protocol Services.			
Title: Medical Support ***Description:*** Salaries for contractor, contractor oversight personnel and personnel performing inherently governmental missions for all Medical functions to include inspections of Medical facilities and calibration of equipment. ***FY 2014 Accomplishments:*** Funded salaries for contractor, contractor oversight personnel and personnel performing inherently governmental missions for all Medical functions to include inspections of Medical facilities and calibration of equipment. ***FY 2015 Plans:*** Salaries for contractor, contractor oversight personnel and personnel performing inherently governmental missions for all Medical functions to include inspections of Medical facilities and calibration of equipment. ***FY 2016 Plans:*** Will fund salaries for contractor, contractor oversight personnel and personnel performing inherently governmental missions for all Medical functions to include inspections of Medical facilities and calibration of equipment.	7.124	7.023	7.128
Accomplishments/Planned Programs Subtotals	102.152	74.898	83.297

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605301A / *Army Kwajalein Atoll*	**Project (Number/Name)** DW8 / *Army Kwajalein Atoll Installation Services*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605301A / *Army Kwajalein Atoll*	Project (Number/Name) DW9 / *Army Kwajalein Atoll Restoration And 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
DW9: *Army Kwajalein Atoll Restoration And Modernization*	-	0.576	1.964	12.820	-	12.820	11.927	21.320	24.701	2.039	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Program was previously in a different Program Element/Project-665301-DX2.

A. Mission Description and Budget Item Justification

Funds the restoration and modernization of U.S. Army Kwajalein Atoll degraded infrastructure (real property/facilities) to working condition and upgrades facilities to meet minimum standards. Restoration consists of repair and replacement work to fix facilities damaged by inadequate sustainment and excessive age. Modernization supports upgrade of facilities to meet current codes, accomodate new functions, and/or replace building components that exceed the overall service life of the facilities. The proposed funding levels support a fraction of critical infrastruture restoration and modernization project work required/current analysis of infrastructure identified.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Facility Restoration / Modernization	0.576	1.964	12.820
Description: Funding is provided for the following effort provides for updates and/or replacement of infrastructure critical to the mission and well being of the island tennants. Restores facilities at risk to the health and safety of the civilians, military, and families stationed on the island due to inadequate sustainment in past years.			
FY 2014 Accomplishments: Funding provided for updates and/or replacement of infrastructure critical to the mission and well being of the island tennants. Restores facilities at risk to the health and safety of the civilians, military, and families stationed on the island due to inadequate sustainment in past years.			
FY 2015 Plans: Funding provides for updates and/or replacement of infrastructure critical to the mission and well being of the island tennants. Will restore facilities currently at risk to the health and safety of the civilians, military, and families stationed on the island due to inadequate sustainment in past years.			
FY 2016 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605301A / *Army Kwajalein Atoll*	**Project (Number/Name)** DW9 / *Army Kwajalein Atoll Restoration And Modernization*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Will provide for updates and/or replacement of infrastructure critical to the mission and well being of the island tennants. Will restore facilities currently at risk to the health and safety of the civilians, military, and families stationed on the island due to inadequate sustainment in past years.			
Accomplishments/Planned Programs Subtotals	0.576	1.964	12.820

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605301A / *Army Kwajalein Atoll*	Project (Number/Name) DX2 / *Army Kwajalein Test Ranges and Mission Support*	

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
DX2: *Army Kwajalein Test Ranges and Mission Support*	-	73.195	66.144	67.403	-	67.403	68.052	68.850	68.630	68.714	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Project DX2 was created in 2013 as allocation for 665301.DX2, realigned from 665301.614. USNS Worthy - shipyar ends in FY 2015.

A. Mission Description and Budget Item Justification

A. Mission Description and Budget Item Justification: Space and Missile Defense Command-Army Forces Strategic Command (USASMDC-ARSTRAT) Funding for management and contracting personnel support (salaries and travel) to enable the management of the test and evaluation of major Army and DoD missile systems for the Ronald Reagan Ballistic Missile Defense Test Site (RTS) will be funded by Project Element 665301.DX2 starting FY15. The mission has increased two-fold since the beginning of FY14. Previously funded for 3 work-years to provide contracting support but now the mission requires 6 work-years. The Headquarters, Army Material Command (HQ AMC) would receive these funds for contracting support missions to the U.S. Army Kwajalein Atoll (USAKA)/(RTS). The contracting support was transferred from USASMDC-ARSTRAT to the United States Army Contracting Command (subordinate command to HQ AMC) in FY 2013. RTS is a tenant on the US Army Garrison – Kwajalein Atoll (USAG-KA), located within the Kwajalein Atoll in the Republic of the Marshall Islands, which is a remote, secure activity of the Major Range and Test Facility Base (MRTFB). Its function is to support test and evaluation of major Army and DoD acquisition programs and to provide space operations (Space Situational Awareness; object tracking & identification) in support of U.S. Strategic Command (USSTRATCOM) and National Aeronautics and Space Administration (NASA) scientific and unique space programs. Programs supported include Army missile defense, Air Force and Navy Intercontinental Ballistic Missile (ICBM) developmental and operational tests; Army, Air Force and Defense Advanced Research Projects Agency (DARPA) hypersonic Boost-Glide developmental tests; Missile Defense Agency (MDA) operational/demonstration/validation tests; USSTRATCOM space situational awareness requirements (including contributions to the U.S. Space Surveillance Network); and NASA ionospheric, space debris, and missile data collection experiments. RTS is a government-managed/contractor-operated (GMCO) site and is dependent upon its associated support contractors for operations and maintenance (O&M). Program funds drive civilian authorizations to accomplish the contracting support mission which provides end item procurement, life cycle acquisition planning, and solicitation, negotiation, award, execution and management for weapon systems contracts. Program funds contractors to accomplish O&M for RTS instrumentation suites and provides mission essential bandwidth via a fiber optics cable system. The instrumentation suite consists of a number of sophisticated, one-of-a-kind, radar, optical, telemetry, command/control/communications, safety, and data reduction systems. These systems include the four unique radars of the Kiernan Reentry Measurement Site (KREMS); Super Recording Automatic Digital Optical Tracker (SRADOT) long range video-metric tracking systems; high density data recorders for high data-rate telemetry collected by ten antennas; an underwater acoustic impact location system; and data analysis/reduction hardware/software and CONUS based mission control center. The Advanced Research Project Agency (ARPA) Long-Range Tracking and Instrumentation Radar (ALTAIR), and the Target Resolution Discrimination Experiment (TRADEX) radars located at RTS, are the only radar in this area of operation that have deep-space tracking capability. The Millimeter Wave Radar (MMW) is one of the highest resolution imaging radars in the world providing critical intelligence data. Funding enables weapon system assessment of operational effectiveness and suitability for the Army, Air Force, Navy and MDA, which all have programs planned that have significant test and data gathering requirements at RTS. This test data cannot be obtained except through the use of technical facilities available on and in the vicinity of RTS. Program supports Army's PATRIOT air defense system and the Advanced Hypersonic

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605301A / *Army Kwajalein Atoll*	**Project (Number/Name)** DX2 / *Army Kwajalein Test Ranges and Mission Support*

Weapon (Boost-Glide) technology development program; Air Force's Minuteman III ICBM and the Space and Missile Center's associated programs; MDA's Ballistic Missile Defense System, Flexible Target Family (FTF), and Layered Ballistic Missile Defense operational tests (including: PATRIOT, Terminal High-Altitude Area Defense (THAAD), and AEGIS weapon systems), and NASA's space experiments and Orbital Debris Measurement Programs.

NETCOM - The Network Enterprise Technology Command (NETCOM) funds Department of Army civilian pay, manpower service contracts, supporting IT equipment, and associated costs specifically identified and measurable to plan, manage, coordinate, and execute Information Technology Services Management. Provides Command, Control, Communications, Computers, and Information Management (C4IM) services in accordance with the DA PAM 25-1-1 and the Army C4IM Services List. Provides Base Communications Support (Service 701), Visual Information (Service 702), Information Assurance (Service 703), and Automation (Service 700). Includes the delivery of services consisting of secure and non-secure fixed voice communications, wireless voice, data and video connectivity services, and studio video conferencing services. Provides infrastructure support, including the design, installation, and maintenance of special circuits/systems in support of life safety/ security systems and monitoring/control systems. Provides Collaboration and Messaging Services including services and tools for workforce to communicate and share information. Provides Application and Web-hosting including operation and management services required to support web and application hosting. Provides Desktop Management Support including management and support for end-user hardware and software services and tools. Includes Service Desk Support, Continuity of Operations, and Disaster Recovery support.
Justification: Each of the baseline services provided with this funding are priority zero, must fund, IT utility requirements. Not funding or reducing the programmed funding will directly impact communications and mission command at all levels on Kwajalein Atoll.
Memorandum of Agreement (MOA) between USASMDC/ARSTRAT and NETCOM: The 16 August 2013 signed MOA between USASMDC/ARSTRAT and NETCOM formally transfers baseline C4IM functional Areas of Responsibility (Base Communications Support, Information Assurance, and Automation) to NETCOM. This MOA defines the roles and responsibilities between USASMDC/NETCOM as well as transfers all USAKA Network Enterprise Center missions, functions, support functions, and programmed resources to support execution of the baseline C4IM Services. Above baseline services will remain an SMDC responsibility to program and support.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Civilian Pay (RTS)	3.600	3.786	3.843
Description: Funding is provided for the following effort			
FY 2014 Accomplishments: Provided government personnel support (salaries, training, and travel, GPC) to enable the management of the test and evaluation of major Army and DoD missile systems.			
FY 2015 Plans: Continues to provide government personnel support (salaries, training, and travel, GPC) to enable the management of the test and evaluation of major Army and DoD missile systems.			
FY 2016 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605301A / *Army Kwajalein Atoll*	**Project (Number/Name)** DX2 / *Army Kwajalein Test Ranges and Mission Support*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Will continue to provide government personnel support (salaries, training, and travel, and Governmenr Purchase Card (GPC) requirements) to enable the management of the test and evaluation of major Army and DoD missile systems.			
Title: TDY/Training/Supplies - Military and Civilian ***Description:*** Funding is provided for the following effort ***FY 2014 Accomplishments:*** Provided government personnel support (training, and travel, GPC) to enable the management of the test and evaluation of major Army and DoD missile systems. ***FY 2015 Plans:*** Continues to provide government personnel support (training, and travel, GPC) to enable the management of the test and evaluation of major Army and DoD missile systems. ***FY 2016 Plans:*** Will continue to provide government personnel support (training, and travel, GPC) to enable the management of the test and evaluation of major Army and DoD missile systems.	0.200	0.277	0.281
Title: Outside Obligations/Other Government Agencies ***Description:*** Funding is provided for the following effort ***FY 2014 Accomplishments:*** Provideds support to test and evaluation of major Army and DoD missile systems. ***FY 2015 Plans:*** Continue to provide support to test and evaluation of major Army and DoD missile systems. ***FY 2016 Plans:*** Will continue to provide support to test and evaluation of major Army and DoD missile systems.	4.600	4.319	4.384
Title: Fiber Optic Cable (Kwajalein Cable System) ***Description:*** Funding is provided for the following effort ***FY 2014 Accomplishments:*** Provided funding for lease of the Kwajalein Cable System (KCS) fiber optic cable between Kwajalein Island and Guam, and for backup satellite. ***FY 2015 Plans:***	12.300	12.513	12.566

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605301A / *Army Kwajalein Atoll*	**Project (Number/Name)** DX2 / *Army Kwajalein Test Ranges and Mission Support*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Continues to provide funding for lease of the Kwajalein Cable System (KCS) fiber optic cable between Kwajalein Island and Guam, and for backup satellite. ***FY 2016 Plans:*** Will continue to provide funding for lease of the KCS fiber optic cable between Kwajalein Island and Guam, and for backup satellite.			
Title: RTS Contractor Prime Pay (KRS) ***Description:*** Funding is provided for the following effort ***FY 2014 Accomplishments:*** Provided technical Operations and Maintenance (O&M) support (test planning, instrumentation operations and maintenance, systems engineering, flight safety, launch ordnance, Kwajalein Mobile range Safety System (WORTHY, etc) to assure the capability of the Range to support test and space missions. ***FY 2015 Plans:*** Continues to provide technical Operations and Maintenance (O&M) support (test planning, instrumentation operations and maintenance, systems engineering, flight safety, launch ordnance, Kwajalein Mobile range Safety System (WORTHY, etc) to assure the capability of the Range to support test and space missions. ***FY 2016 Plans:*** Will continue to provide technical O&M support (test planning, instrumentation operations and maintenance, systems engineering, flight safety, launch ordnance, Kwajalein Mobile range Safety System (WORTHY, etc) to assure the capability of the Range to support test and space missions.	35.285	12.611	18.747
Title: Contractor Material ***Description:*** Funding is provided for the following effort ***FY 2014 Accomplishments:*** Provided critical non-labor materials to maintain critical range capabilities and prevent obsolescence in support of test operations. ***FY 2015 Plans:*** Continues to provide critical non-labor materials to maintain critical range capabilities and prevent obsolescence in support of test operations. ***FY 2016 Plans:***	6.610	5.958	6.488

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Will continue to provide critical non-labor materials to maintain critical range capabilities and prevent obsolescence in support of test operations.			
Title: FFRDC Contractor Pay (MIT/LL) ***Description:*** Funding is provided for the following effort ***FY 2014 Accomplishments:*** Provided technical advice to RTS leadership in support of Range operations, strategic planning, and technical execution of critical technology. ***FY 2015 Plans:*** Continues to provide technical advice to RTS leadership in support of Range operations, strategic planning, and technical execution of critical technology. ***FY 2016 Plans:*** Will continue to provide technical advice to RTS leadership in support of Range operations, strategic planning, and technical execution of critical technology.	7.000	4.602	4.685
Title: Contractor Pay Meteorological ***Description:*** Funding is provided for the following effort ***FY 2014 Accomplishments:*** Provided support for sustained weather sensing capabilities, including weather reporting via radar data. This capability provides critical data to test planning and execution. ***FY 2015 Plans:*** Continues to provide support for sustained weather sensing capabilities, including weather reporting via radar data. This capability provides critical data to test planning and execution. ***FY 2016 Plans:*** Will continue to provide support for sustained weather sensing capabilities, including weather reporting via radar data. This capability provides critical data to test planning and execution.	2.000	3.786	1.925
Title: Ground Transportation ***Description:*** Funding is provided for the following effort ***FY 2014 Accomplishments:***	1.300	1.446	1.490

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Provided mission specific material and passenger transportation via air (Air Mobility Command) and sea (SDDC) between Kwajalein Atoll and CONUS. ***FY 2015 Plans:*** Continues to provide mission specific material and passenger transportation via air (Air Mobility Command) and sea (SDDC) between Kwajalein Atoll and CONUS ***FY 2016 Plans:*** Will continue to provide mission specific material and passenger transportation via air (Air Mobility Command) and sea (SDDC) between Kwajalein Atoll and CONUS			
Title: Mission Specific Environmental ***Description:*** Funding is provided for the following effort ***FY 2014 Accomplishments:*** Provided the capability to assess and maintain the Range readiness and compliance with environmental requirements. ***FY 2015 Plans:*** Continues to provide the capability to assess and maintain the Range readiness and compliance with environmental requirements. ***FY 2016 Plans:*** Will continue to provide the capability to assess and maintain the Range readiness and compliance with environmental requirements.	0.300	0.310	0.314
Title: USNS Worthy - Shipyard ***Description:*** Funding is provided for the following effort ***FY 2015 Plans:*** Addresses obsolescence and maintenance requirements in support of upcoming test missions.	-	4.000	-
Title: Network Enterprise Technology Command (NETCOM) C4IM ***Description:*** Funding is provided for the following effort ***FY 2015 Plans:*** NETCOM - The Network Enterprise Technology Command (NETCOM) funds Department of Army civilian pay, manpower service contracts, supporting IT equipment, and associated costs specifically identified and measurable to plan, manage, coordinate, and execute Information Technology Services Management. Provides Command, Control, Communications, Computers, and	-	12.536	12.680

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605301A / *Army Kwajalein Atoll*	**Project (Number/Name)** DX2 / *Army Kwajalein Test Ranges and Mission Support*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Information Management (C4IM) services in accordance with the DA PAM 25-1-1 and the Army C4IM Services List. Provides Base Communications Support (Service 701), Visual Information (Service 702), Information Assurance (Service 703), and Automation (Service 700). Includes the delivery of services consisting of secure and non-secure fixed voice communications, wireless voice, data and video connectivity services, and studio video conferencing services. Provides infrastructure support, including the design, installation, and maintenance of special circuits/systems in support of life safety/security systems and monitoring/control systems. Provides Collaboration and Messaging Services including services and tools for workforce to communicate and share information. Provides Application and Web-hosting including operation and management services required to support web and application hosting. Provides Desktop Management Support including management and support for end-user hardware and software services and tools. Includes Service Desk Support, Continuity of Operations, and Disaster Recovery support. Justification: Each of the baseline services provided with this funding are priority zero, must fund, IT utility requirements. Not funding or reducing the programmed funding will directly impact communications and mission command at all levels on Kwajalein Atoll. ***FY 2016 Plans:*** NETCOM - The Network Enterprise Technology Command (NETCOM) will fund Department of Army civilian pay, manpower service contracts, supporting IT equipment, and associated costs specifically identified and measurable to plan, manage, coordinate, and execute Information Technology Services Management. Will provide Command, Control, Communications, Computers, and Information Management (C4IM) services in accordance with the DA PAM 25-1-1 and the Army C4IM Services List. Will provide Base Communications Support (Service 701), Visual Information (Service 702), Information Assurance (Service 703), and Automation (Service 700). Will include delivery of services consisting of secure and non-secure fixed voice communications, wireless voice, data and video connectivity services, and studio video conferencing services. Will provide infrastructure support, including the design, installation, and maintenance of special circuits/systems in support of life safety/ security systems and monitoring/control systems. Will rovide Collaboration and Messaging Services including services and tools for workforce to communicate and share information. Will provide Application and Web-hosting including operation and management services required to support web and application hosting. Will provide Desktop Management Support including management and support for end-user hardware and software services and tools. To include Service Desk Support, Continuity of Operations, and Disaster Recovery support. Justification: Each of the baseline services to be provided with this funding are priority zero, must fund, IT utility requirements. Not funding or reducing the programmed funding will directly impact communications and mission command at all levels on Kwajalein Atoll.			
Accomplishments/Planned Programs Subtotals	73.195	66.144	67.403

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605301A / *Army Kwajalein Atoll*	**Project (Number/Name)** DX2 / *Army Kwajalein Test Ranges and Mission Support*

C. Other Program Funding Summary ($ in Millions)

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0605326A / *Concepts Experimentation Program*							
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	-	21.563	19.430	19.430	-	19.430	33.788	30.722	29.055	58.595	-	-
312: *Army/Joint Experimentation*	-	5.599	2.454	0.506	-	0.506	0.514	0.521	0.532	0.548	-	-
317: *Current Force Capability Gaps*	-	14.096	15.862	17.265	-	17.265	31.736	28.639	26.939	56.435	-	-
33B: *Soldier-Centered Analyses For Future Force*	-	1.868	1.114	1.659	-	1.659	1.538	1.562	1.584	1.612	-	-

Note

FY 2016 reduction attributed to realignment to other higher priority programs.

A. Mission Description and Budget Item Justification

Army Experimentation program supports current and future concepts and capabilities involving Soldiers and Leaders within live, virtual, and constructive environments of exploring concepts, capability requirements and solution across Doctrine, Organization, Training, Materiel, Leadership and Education, personnel, and Facilities (DOTMLPF) domains in order to learn and mitigate risk for current and future forces. Experiments inform Army future concepts and assess high-risk conceptual assumptions in order to focus required capabilities and represent the user's requirements in the future Army. Army experiments use the combined resources of Army battle laboratories, operational units, research labs, materiel developers, industry and academia to collaborate in the development, refinements, and assessment of future force concepts - to inform capability developments and validate concepts for current and future force. Due to significant reduction in funding, beginning in FY 2015, Research, Development, Test and Evaluation (RDT&E) funding will focus on Simulated Experiments (SIMEX) to integrate and assess Army Concepts, Force Designs phases, with Army level issues across the breadth of a campaign that highlights validation and integration of Force 2025 outcomes.

Training and Doctrine Command (TRADOC) lead for Accelerated Capability Developments (ACD) to address current critical operational needs. Enable development and deployment/employment of accelerated capabilities (both materiel and non-materiel) to the current force. Serve as TRADOC central coordinating organization for Headquarters Department of the Army (HQDA) staff support requirements related to accelerated capabilities developments. Integrate ACD activities to ensure unity and priority of effort and synchronization and optimization of resources. Integrate accelerated capabilities development activities between proponent force modernization domains to include Joint/Service coordination. Provide specialized capabilities development and integration at TRADOC Center of Excellence (CoE) Capabilities Development and Integration Directorates (CDIDs).

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army					Date: February 2015
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 6: *RDT&E Management Support*		R-1 Program Element (Number/Name) PE 0605326A / *Concepts Experimentation Program*			
B. Program Change Summary ($ in Millions)	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**
Previous President's Budget	22.246	19.439	22.149	-	22.149
Current President's Budget	21.563	19.430	19.430	-	19.430
Total Adjustments	-0.683	-0.009	-2.719	-	-2.719
• Congressional General Reductions	-	-0.009			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.683	-			
• Adjustments to Budget Years	-	-	-2.719	-	-2.719

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605326A / *Concepts Experimentation Program*	Project (Number/Name) 312 / *Army/Joint Experimentation*	

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
312: *Army/Joint Experimentation*	-	5.599	2.454	0.506	-	0.506	0.514	0.521	0.532	0.548	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

Army Experimentation program supports current and future concepts and capabilities involving Soldiers and Leaders within live, virtual, and constructive environments by exploring concepts, capability requirements and solutions across Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, and Facilities (DOTMLPF) domains in order to learn and mitigate risk for current and future forces. Experiments inform Army future concepts and assess high-risk conceptual assumptions in order to focus required capabilities and represent the user's requirements in the future Army. Army experiments use the combined resources of Army battle laboratories, operational units, research labs, materiel developers, industry and academia to collaborate in the development, refinements, and assessment of future force concepts - to inform capability developments and validate concepts for current and future force. Due to significant reduction in funding, beginning in FY 2015, Research, Development, Test and Evaluation (RDT&E) funding will partially funds the Army's Simulated Experiment to integrate and assess Army Concepts, Force Designs, and Capabilities. Specifically the Army's tool to support Force 2025 and Beyond (F2025B) Maneuvers to develop, refine, and validate requisite Force 2025 and Beyond Concepts, Operational and Organizational Plans, and DOTMLPF solution to achieve the vision of the Army's Force in the near (2014-2020), mid (2020-2030) and far (2030-2040) terms.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Experimentation - World Class Blue Force (WCBLUFOR) Analysts	3.208	-	-
Description: Experimentation with future concepts requires commanders who understand those concepts, but military personnel are generally proficient in current doctrine, not future Army concepts. The WCBLUFOR bridge this gap with experienced commanders who are versed in future Army concepts. These subject matter experts provide technical and tactical expertise, play senior blue roles in experiments, develop orders, train and mentor staff, and provide analytic expertise. Requisite skill sets that are not available on our Table of Distribution and Allowances (TDA). ***FY 2014 Accomplishments:*** WCBLUFOR assisted and mentored planning, execution and evaluation of experiments supporting Army capstone, operational and functional concepts to provide credible incorporation of concepts into experiments. WCBLUFOR also supported analysis and coordination for the Army's Campaign of Learning - both what we have learned and what remains to be learned.			
Title: Experimentation - Maneuver Brigade Experiments	1.200	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605326A / *Concepts Experimentation Program*	**Project (Number/Name)** 312 / *Army/Joint Experimentation*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Description: Perform maneuver brigade experiments that will address 1) integration of Army in 2020 initiatives; 2) development of future Infantry Bridgade Combat Team (IBCT), Stryker Bridgade Combat Team (SBCT), and Airborne Brigade Combat Team (ABCT) capability Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel and Facilities (DOTMLPF) requirements and DOTMLPF solutions; and 3) acceleration and integration of capabilities for current force Brigade Combat Teams (BCTs). ***FY 2014 Accomplishments:*** Conducted experiments to address learning demands supporting assigned Army Warfighting Challenges (AWFC). Results informed the Integrated Learning Plan for each AWFC; specifically supporting concepts and Formation Based Analysis.			
Title: Experimentation - High-Fidelity Live-Virtual-Constructive Experiments ***Description:*** Experiments address concept and capability developments including integration of capabilities for all BCT types; development of future Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel and Facilities (DOTMLPF) requirements and solutions; and acceleration and integration of capabilities for current force Brigade Combat Teams (BCTs) and above brigade. ***FY 2014 Accomplishments:*** Experiments continued to address learning demands supporting critical Army Warfighting Challenges (AWFC); capstone, operational and concepts; and Formation Based Analysis. Experiments supported learning in order to mitigate risk to Soldiers and developments providing tangible insurance against acquisition failure as well as a means to win the first battle of the next war. ***FY 2015 Plans:*** Simulated Experiments (SIMEX) become the focus to integrate and assess Army Concepts, Force Designs, and Capabilities. ***FY 2016 Plans:*** Simulated Experiments (SIMEX) will become the focus to integrate and assess Army Concepts, Force Designs, and Capabilities to support of Force 2025B Maneuvers to develop, refine, and validate rerequisite Force 2025 and Beyond Concepts, Operational and Organizational Plans, and DOTMLPF solutions to achieve the vision of the Army's Force in the near (2014-2020, mid (2020-2030), and far (2030-2040) terms.	1.191	2.454	0.506
Accomplishments/Planned Programs Subtotals	5.599	2.454	0.506

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 / 6	**R-1 Program Element (Number/Name)** PE 0605326A / *Concepts Experimentation Program*	**Project (Number/Name)** 312 / *Army/Joint Experimentation*

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605326A / *Concepts Experimentation Program*	Project (Number/Name) 317 / *Current Force Capability Gaps*	

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
317: *Current Force Capability Gaps*	-	14.096	15.862	17.265	-	17.265	31.736	28.639	26.939	56.435	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Programs not funded in FY 2016: Counter Improvised Explosive Device Adapt the Force (AtF), Robotics, Tunnel Detection (TD), Exploitation, Non-Standard Training Gap Initiative, and Squad Dismounted Network Enabled.

New starts in FY 2016: Maneuver Fires Center Integration Exercise (MFIX) and Manned Unmanned Teaming Ground (MUM-T(G)).

Operational Energy is renamed Net Zero Expeditionary Base Camp in FY 2016.

Contractor Year Equivalent (CME) Support to TRADOC Capability Development and Integration Directorates (CDIDs) - CME positions were previously realigned and FY14-18 funds transferred from a variety of RDT&E programs (i.e., PEs: 0605805A-F21; 0604804A-L43; 0604601A-S61; 0604270A-VS6; 0203744A-D17; 0604798A-DV1; 0603778A-090; 0605625A-FC8) into 0605326A-317 during the FY 14 PRESBUD cycle.

A. Mission Description and Budget Item Justification

Training and Doctrine Command (TRADOC) lead for Accelerated Capability Developments (ACD) to address current critical operational needs. Enable development and deployment/employment of accelerated capabilities (both materiel and non-materiel) to the current force. Serve as TRADOC central coordinating organization for Headquarters Department of the Army (HQDA) staff support requirements related to accelerated capabilities developments. Integrate ACD activities to ensure unity and priority of effort and synchronization and optimization of resources. Integrate accelerated capabilities development activities between proponent force modernization domains to include Joint/Service coordination. Provide specialized capabilities development and integration at TRADOC Centers of Excellence (CoE) Capabilities Development and Integration Directorates (CDIDs).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Counter Improvised Explosive Device Adapt the Force (AtF) (formerly Improvised Explosive Device (IED) Integrated Concept Development Team (ICDT))	0.800	1.000	-
Description: The IED ICDT is responsible for conducting Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, and Facilities (DOTMLPF) assessments; performs gap analyses identified by HQDA and Joint Urgent Operational Needs Statement (JUONS).			
FY 2014 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605326A / *Concepts Experimentation Program*	**Project (Number/Name)** 317 / *Current Force Capability Gaps*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Led the Adapt the Force efforts under Army Counter-IED (CIED) Strategy supporting development and maintenance of AtF CIED database and resolution of DOTMLPF issues associated with integration of various CIED initiatives. Was responsible for coordination and facilitating IED-Defeat Council of Colonels and General Officer Steering Committees producing guidance and directives for Army-wide IED-Defeat Training initiative and systems. Supported TRADOC CoEs with CIED SMEs and products for all CIED Lines of Effort. ***FY 2015 Plans:*** Lead the Adapt the Force efforts under Army Counter-IED (CIED) Strategy supporting development and maintenance of AtF CIED database and resolution of DOTMLPF issues associated with integration of various CIED initiatives. Responsible for coordination and facilitating IED-Defeat Council of Colonels and General Officer Steering Committees producing guidance and directives for Army-wide IED-Defeat Training initiative and systems. Support TRADOC CoEs with CIED SMEs and products for all CIED Lines of Effort.			
Title: Operational Energy (formerly Demo/Assess Operational Power and Energy) ***Description:*** Funding is needed for Operational Power and Energy ***FY 2014 Accomplishments:*** Continued acceleration of Operational Energy initiative for remote Combat Outposts and Soldier Power initiatives. Operational Energy provided the warfighter with increased levels of agility, flexibility, and interoperability when operating in the expeditionary environment. Operational energy solutions approach extended combat and tactical system's mission endurance and resilience, ensured uninterrupted and optimal energy to systems within the mission command network, and mitigate force risk by reducing energy demand. Phased two of a multi-phased approach, which supported the development of integrated operational energy solutions. This approach ensured that designs identified and addressed effects on the force when delivering solutions, provided the necessary employment guidance and assessed impacts on operational effectiveness. ***FY 2015 Plans:*** Continue acceleration of Operational Energy initiative for remote Combat Outposts and Soldier Power initiatives. Operational Energy provides the warfighter with increased levels of agility, flexibility, and interoperability when operating in the expeditionary environment. Operational energy solutions approach extends combat and tactical systems' mission endurance and resilience, ensure uninterrupted and optimal energy to systems within the mission command network, and mitigate force risk by reducing energy demand. Phase two of multi-phased approached supports development of integrated operational energy solutions, which require a system-of-systems engineering approach. This approach ensures that designs identify and address effects on the force when delivering solutions provide necessary employment guidance and assess impacts on operational effectiveness.	3.000	1.000	-
Title: Army Expeditionary Warrior Experiment (AEWE) (formerly Prototype Solution Demonstrations)	0.760	1.000	0.153

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605326A / *Concepts Experimentation Program*	**Project (Number/Name)** 317 / *Current Force Capability Gaps*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Description: AEWE addresses live, prototype experimentation requirements. ***FY 2014 Accomplishments:*** This campaign of experiments was critical at the Maneuver Center as we conduct research, development, and experimentation to ensure our future Maneuver Force is prepared and equipped to fight and win in a complex operating environment. Through doctrine development, leveraging emerging technology and partnering with industry, the Maneuver Center is an advocate for the Maneuver Force. FY14 campaign of experiments, Spiral I, is focused on technologies to support five primary study areas: Cellular Communications, Robotics, Solider Load and Protection, Power Solutions and Resupply. ***FY 2015 Plans:*** This campaign of experiments is critical at the Maneuver Center as we conduct research, development, and experimentation to ensure our future Maneuver Force is prepared and equipped to fight and win in a complex operating environment. Through doctrine development, leveraging emerging technology and partnering with industry, the Maneuver Center is an advocate for the Maneuver Force. FY15 campaign of experiments, Spiral J, will be focused on technologies to support five primary study areas: Cellular Communications, Robotics, Solider Load and Protection, Power Solutions and Resupply. ***FY 2016 Plans:*** This series of experiments is critical to promote research, development, and experimentation associated with Force 2025 and Beyond (F2025B) efforts. AEWE provides a live prototype experimentation venue to address current operational needs and F2025B requirements. FY16 campaign of experiments, Spiral K, is focused on technologies to support five primary study areas: Cellular Communications, Robics, Solider Load and Protection, Power Solutions, and Resupply.			
Title: Robotics ***Description:*** Testing and demonstration of increased unmanned ground vehicle capabilities. ***FY 2014 Accomplishments:*** Supported the Army robotics Campaign Plan development, and resolution of DOTMLPF issues associated with integration of various Robotics initiatives. Was responsible for the Joint Ground Robotics Integration Team meetings. Produced guidance and directives for Army-wide Robotic subject matter experts (SMEs) and products for applicable initiative being resourced and assessed. Included initiatives directly related to robotics such as operational control units (OCUs) like Tactical Robotic Controller and systems linked to the controllers. ***FY 2015 Plans:*** Support the Army robotics Campaign Plan development, and resolution of DOTMLPF issues associated with integration of various Robotics initiatives. Responsible for the Joint Ground Robotics Integration Team meetings. Producing guidance/directives for	2.165	1.000	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605326A / *Concepts Experimentation Program*	**Project (Number/Name)** 317 / *Current Force Capability Gaps*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Army-wide Robotic SMEs and products for applicable initiative being resourced and assessed. To include initiatives directly related to robotics such as operational control units (OCUs) like Tactical Robotic Controller and systems linked to the controllers.			
Title: Tunnel Detection (TD) ***Description:*** Test and demonstration of sensor technology. ***FY 2015 Plans:*** Test and demonstrate a suite of sensor technology systems capable of detecting, exploiting, and remediating, clandestine purpose-built tunnels.	-	1.000	-
Title: Exploitation ***Description:*** Document and Media Exploitation (DOMEX) is the collection and exploitation of captured equipment, documents, and media. ***FY 2015 Plans:*** Document and Media Exploitation (DOMEX) enables tactical, operational, and strategic leaders with accurate information about enemy forces through the rapid and accurate extraction, exploitation, and analysis of captured enemy documents, media, and materiel. Tactically, DOMEX is the collection and exploitation of captured equipment, documents, and media to generate actionable intelligence. The DOMEX is a critical part of target exploitation, especially as it relates to actions on the objective during site exploitation activities. Efforts in exploitation also support Special Operations Command (SOCOM) with DOTMLPF assessments of classified solutions supporting technical reconnaissance, and information operations associated with exploitation.	-	1.000	-
Title: Non Standard Training Gap Initiative (formerly Non-Standard Capability Training Gaps) ***Description:*** Training for accelerated capabilites is accomplished primarily through mandated New Equipment Training (NET) with no process for follow on efforts. This incongruity is detrimental to effective and consistent training for the force. ***FY 2014 Accomplishments:*** Led the Non Standard Equipment (NSE) training process initiative supporting the development, execution, evaluation, and maintenance of the 2nd pilot program to develop a standardized and effective NSE training process for deployed units. ARCIC Accelerated Capabilities Division (ACD) was responsible for facilitating and coordinating stakeholders in the execution, evaluation, and maintenance of Pilot Program 2 on the NSE training process. ***FY 2015 Plans:*** Lead the Non Standard Equipment (NSE) training process initiative supporting the development, execution, evaluation, and maintenance of the 2nd pilot program to develop a standardized and effective NSE training process for deployed units. ARCIC	3.129	1.162	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605326A / *Concepts Experimentation Program*	**Project (Number/Name)** 317 / *Current Force Capability Gaps*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Accelerated Capabilities Division (ACD) responsible for facilitating and coordinating stakeholders in the execution, evaluation, and maintenance of Pilot Program 2 on the NSE training process.			
Title: Tower Hawk ***Description:*** Provides support to development, integration, and equiping of solutions to the field for integrated base defense while providing long range pinpoint offensive action. ***FY 2014 Accomplishments:*** Provided support to development, integration, and equiping of solutions to the field for integrated base defense while providing long range pinpoint offensive action against insurgents identified in hostile acts. ACD provideds the integration efforts across DOTMLPF as part of coordination and facilitation efforts between Project Offices, TRADOC CoEs, and test agencies.	2.500	-	-
Title: Small Unit Learder Situational Awareness Tool (SULSAT) ***Description:*** Supports the Army Robotics Campaign Plan initiatives by addressing DOTMLPF issues associated with integration of emerging Robotics initiatives. ***FY 2014 Accomplishments:*** Provided support to the Army Robotics Campaign Plan initiatives by addressing DOTMLPF issues associated with integration of emerging Robotics initiatives such as Small Unit Leader Situational Awareness Tools (SULSAT). This required cutting-edge technology in multiple fields, including high speed graphics computing, 3-D imaging, virtual reality, and visualization. This capability help with visualizing internal and external structures of buildings as well as potential threats, and then disseminating that information to soldiers and small-unit leaders.	1.002	-	-
Title: Black Kite ***Description:*** Micro Air Vehicle (MAV) with increased sensor capability in support of Army Counter-IED (CIED) Strategy. ***FY 2014 Accomplishments:*** Micro Air Vehicle (MAV) with increased sensor capability in support of Army Counter-IED (CIED) Strategy associated with integration of various CIED initiatives. Supported Army-wide IED-Defeat Training initiatives and systems. Coordinated and integrated with TRADOC CoEs with CIED SMEs and products for all CIED Line of Efforts.	0.740	-	-
Title: Squad Dismounted Non-Network Enabled ***Description:*** Provides integration and assessment support across DOTMLPF. ***FY 2015 Plans:***	-	1.000	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605326A / *Concepts Experimentation Program*	**Project (Number/Name)** 317 / *Current Force Capability Gaps*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
TRADOC Accelerated Capability Developments initiative provides integration and assessment support across DOTMLPF domains to equip, train, and deploy capability support for OEF problem of isolated maneuver elements at Command Outposts (COPs)/ Forward Operating Bases (FOBs) which have difficulty locating ground targets and lack timely response to engage these targets in organic, lethal, effects while minimizing collateral damage and exposure of Soldiers to unnecessary risk.			
Title: Contractor Year Equivalent (CME) Support to TRADOC Capability Development and Integration Directorates (CDIDs) ***Description:*** Provides CMEs to CDIDs across TRADOC to develop and integrate capabilities. ***FY 2015 Plans:*** Provide approximately 45 CMEs to CDIDs across TRADOC to develop and integrate the capabilities for which the ASA(ALT) community is developing and fielding materiel solutions. FY14 would have been the first year of incremental funding until 100% of the requirement is funded in FY 2017 and beyond. ***FY 2016 Plans:*** Will provide approximately 87 CMEs to CDIDs across TRADOC to develop and integrate the capabilities for which the ASA(ALT) community is developing and fielding materiel solution. FY 2014 would have been the first year of incremental funding until 100% of the requirement is funded in FY 2017 and beyond.	-	7.700	16.434
Title: Maneuver Fires Center Integration Exercise (MFIX) ***Description:*** Maneuver Fires Center Integration Exercise (MFIX) will conduct Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, and Facilities (DOTMLPF) assessments. ***FY 2016 Plans:*** MFIX will conduct DOTMLPF assessments; test and certification training in support of small units across 5 domains (lethality, mission command, training and leader development, mobility and force protection). MFIX will integrate efforts to allow small units to operate in complex and uncertain environments, see and fight across a wide area, make contact with the enemy under favorable conditions, overmatch the enemy in encounter actions, maneuver rapidly to seize and retain the initiative, identify and act on opportunities, adapt rapidly to changing battle conditions, and operate as part of a combined arms, air-ground and Joint Team.	-	-	0.200
Title: Net Zero Expeditionary Base Camp (NET 0) (Formerly Operational Energy) ***Description:*** Continue acceleration of Operational Energy initiative for remote Combat Outposts and Soldier Power iniatives. ***FY 2016 Plans:***	-	-	0.275

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605326A / *Concepts Experimentation Program*	**Project (Number/Name)** 317 / *Current Force Capability Gaps*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Continue acceleration of Operational Energy initative for remote Combat Outposts and Soldier Power initiatives. Operational Energy provides the Warfighter with increased levels of agility, flexibility, and interoperability when operating in the expeditionary environment. Operational energy solutions will extend combat and tactical system's mission endurance and resilience, ensure uninterrupted and optimal energy to systems within the mission command network, and mitigate force risk by reducing energy demand. Phase two of multi-phased approached will support development of integrated operational energy solutions requiring a system-of-systems engineering approach. This approach will ensure that capability impacts are identified and addressed prior to delivering solutions, and that necessary employment guidance is provided and operational impacts are assessed.			
Title: Manned Unmanned Teaming Ground (MUM-T(G)) ***Description:*** Follow-on focused assessment to test interoperability, assess integration with manned systems, and evaluate advanced technologies. ***FY 2016 Plans:*** Follow-on focused assessment to test interoperability, assess integration with manned systems, and evaluate advanced technologies. MUM-T (G) capabilities will provide greater automation, improved performance, flexible use profiles, and greater survivability in contested environments. In addition, system will demonstrate improved communications, security from tampering, and streamlined system design. Capabilities must also demonstrate a reduction in manpower requirements to operate and support unmanned systems.	-	-	0.203
Accomplishments/Planned Programs Subtotals	14.096	15.862	17.265

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605326A / *Concepts Experimentation Program*	Project (Number/Name) 33B / *Soldier-Centered Analyses For Future Force*	

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
33B: *Soldier-Centered Analyses For Future Force*	-	1.868	1.114	1.659	-	1.659	1.538	1.562	1.584	1.612	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project will provide early application of human performance and human figure modeling tools in the development of Soldier-focused requirements to shape technology for Future Force development. Design analyses, constructive simulations and Soldier-in-the-loop assessments will ensure that manpower requirements and workload and skill demands are considered to avoid information and physical task overloads, and take optimum advantage of aptitudes, individual and collective training, and numbers of Soldiers for an affordable Future Force. The cited work is consistent with the Strategic Planning Guidance, the Army Science and Technology Master Plan (ASTMP), the Army Modernization Plan, and the Defense Technology Area Plan (DTAP). Work in this project is performed by the Army Research Laboratory (ARL).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Manpower and Personnel Integration (MANPRINT)	1.868	1.114	1.659
Description: Provide dedicated modeling and analysis cell for early and accurate MANPRINT estimates to Army Materiel Command (AMC), Research, Development, and Engineering Command (RDECOM) and its Research, Development, and Engineering Centers (RDECs), TRADOC Centers, Schools and Centers of Excellence (CoEs), Army Test and Evaluation Command (ATEC) and other service laboratories.			
FY 2014 Accomplishments: Developed and demonstrated model based links between Systems Engineering (SE) and MANPRINT tools and methods to leverage common data elements and resources to better inform acquisition tradeoff decisions.Developed an analysis methodology to link Human Systems Integratino (HSI) risk mitigation (i.e. specific system design changes) to manpower and health care cost avoidance.			
FY 2015 Plans: Develop analysis methodologies to quantitatively predict (in dollars and/or mission success) the effect of manpower, personnel, and training issues in system acquisition to inform optimization of Soldier-system performance and affordability.			
FY 2016 Plans: Will develop model-based predictive analyses of Dismounted Infantry (DI) missions that will provide DOD leadership with analytic data to inform requirements development and trade-off decisions as early as Milestone A. This analyses will integrate Human Systems Integration (HSI) and Systems Engineering (SE) inputs to generate critical tasks combinations that provide the necessary analytical data to support cognitive workload measurement, Measures of Effectiveness and Measures of Performance for DI.			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605326A / *Concepts Experimentation Program*	**Project (Number/Name)** 33B / *Soldier-Centered Analyses For Future Force*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Expand digital library by developing 3D models of Air Soldier Clothing and equipment items to perform early human figure modeling assessments of future aviation platform designs. Develop 3D models of mounted and dismounted Soldier clothing and equipment items that are sized and fitted to ANTHRO II based human figure model sets for early assessments of future ground vehicle platform designs.			
Accomplishments/Planned Programs Subtotals	1.868	1.114	1.659

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0605502A / *Small Business Innovative Research*							
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	-	182.958	-	-	-	-	-	-	-	-	-	-
861: *SMALL BUS TECH - AMC*	-	22.870	-	-	-	-	-	-	-	-	-	-
M40: *SMALL BUSINESS-AMC*	-	160.088	-	-	-	-	-	-	-	-	-	-

Note

FY14 adjustments attributed to internal Army reprogrammings (182.958 million) to support SBIR.

A. Mission Description and Budget Item Justification

There is no FY15 funding. This program is for SBIR only and only shows prior years.

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	182.958	-	-	-	-
Total Adjustments	182.958	-	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	182.958	-			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040 / 6					R-1 Program Element (Number/Name) PE 0605502A / *Small Business Innovative Research*				Project (Number/Name) 861 / *SMALL BUS TECH - AMC*			
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**
861: *SMALL BUS TECH - AMC*	-	22.870	-	-	-	-	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Small Business Innovation Research (or SBIR) program is a United States Government program, coordinated by the Small Business Administration, in which 2.6% of the total extramural research budgets of all federal agencies with extramural research budgets in excess of $100 million are reserved for contracts or grants to small businesses. A similar program, the Small Business Technology Transfer Program (STTR), uses a similar approach to the SBIR program to expand public/private sector partnerships between small businesses and nonprofit U.S. research institutions, and is funded at present at .35% of the relevant agencies' extramural research budgets.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040 / 6					R-1 Program Element (Number/Name) PE 0605502A / *Small Business Innovative Research*					Project (Number/Name) M40 / *SMALL BUSINESS-AMC*		
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**
M40: *SMALL BUSINESS-AMC*	-	160.088	-	-	-	-	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Small Business Innovation Research (or SBIR) program is a United States Government program, coordinated by the Small Business Administration, in which 2.6% of the total extramural research budgets of all federal agencies with extramural research budgets in excess of $100 million are reserved for contracts or grants to small businesses. A similar program, the Small Business Technology Transfer Program (STTR), uses a similar approach to the SBIR program to expand public/private sector partnerships between small businesses and nonprofit U.S. research institutions, and is funded at present at .35% of the relevant agencies' extramural research budgets.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0605601A / *Army Test Ranges and Facilities*							
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	-	335.270	274.980	277.646	-	277.646	258.464	257.963	267.441	272.691	-	-
F30: *Army Test Ranges & Facilities*	-	335.270	274.980	277.646	-	277.646	258.464	257.963	267.441	272.691	-	-

Note

FY 2016 OSD Resource Management Decision (RMD) fund restoration.

A. Mission Description and Budget Item Justification

This project provides the institutional funding required to operate test activities, in accordance with Section 232 of the FY2003 National Defense Authorization Act (NDAA FY03), required by Department of Defense (DOD) Program Executive Officers, Program and Product Managers, and Research, Development, and Engineering Centers. Resources provided by this project operate seven elements of the DOD Major Range and Test Facility Base (MRTFB): White Sands Test Center (WSTC),White Sands Missile Range, New Mexico; High Energy Laser System Test Facility (HELSTF), White Sands Test Center, White Sands Missile Range, New Mexico; Aberdeen Test Center (ATC), Aberdeen Proving Ground, Maryland; Electronic Proving Ground (EPG), Fort Huachuca, Arizona; and Yuma Test Center (YTC), Yuma Proving Ground, Arizona, Cold Regions Test Center (CRTC) Fort Greely, Alaska and Tropic Regions Test Center (TRTC) at various locations. This project also funds the Army's test capability at Redstone Test Center (RTC), Redstone Arsenal, Alabama.

This project finances the overhead (institutional) test operating costs not billable to DOD test customers per NDAA FY03, which include recurring test infrastructure/ capability sustainment requirements, replacement of test equipment, test operating procedures, and test revitalization/upgrade projects to maintain current testing capabilities and improvements to safety, environmental protection, efficiency of test operations, and technological advances. The test capabilities at these ranges have been uniquely established, are in place to support test and evaluation (T&E) requirements of funded weapons programs, and are required to assure technical performance, adherence to safety requirements, reliability, logistics supportability, Title 10 Live Fire Test and Evaluation, transportability, environmental effects, electromagnetic effects, and quality of materiel in development and in production.

This project sustains the T&E capability required to support Army as well as Joint Service or Other Service systems, materiel, and technologies. Types of systems scheduled for testing include: Aircraft, Air Delivery, Unmanned Aerial Systems, Unmanned Ground Vehicles, Air and Missile Defense Systems, Engineering Equipment, Direct fire, Indirect fire, Nonlethal weapons, Ammunition, Automotive Systems, Intelligence Surveillance and Reconnaissance, Ground Soldier System, Missiles, Rockets, Mission Command Network, and Tactical Command, Control, and Communication.

Specific systems supported in FY15 with continued support in FY16 include: Network Integration Evaluations (NIE), Joint Light Tactical Vehicle (JLTV), Stryker Engineering Change Proposals (ECPs), Guided Multiple Launch Rocket System (GMLRS), M270A1 Improved Armor Cab, Rifleman Radio, Joint Assault Bridge, Warfighter Information Network Tactical (WIN-T Inc 2), AN/TPQ53 Radar, Counter Rocket Artillery and Mortar System (CRAM), Distributed Common Ground System - Army (DCGS-A), Aviation Transformation (AH-64E), missile defense (PAC-3), Army Integrated Air and Missile Defense (AIAMD), Nett Warrior, XM25 Counter Defilade

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army	Date: February 2015
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605601A / *Army Test Ranges and Facilities*

Target Engagement (CDTE), Shadow Tactical Unmanned Aerial Systems, Gray Eagle, Joint Tactical Radio System (JTRS), Soldier Radio Waveform Applique, and Soldier Protective System M829E4 120MM Advanced Kinetic Energy.

Direct costs are borne by materiel developers in accordance with DoD Directive 3200.11 and DOD Financial Management Regulation 7000.14R.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	340.477	275.025	269.802	-	269.802
Current President's Budget	335.270	274.980	277.646	-	277.646
Total Adjustments	-5.207	-0.045	7.844	-	7.844
• Congressional General Reductions	-	-0.045			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-5.207	-			
• Adjustments to Budget Years	-	-	7.844	-	7.844

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605601A / *Army Test Ranges and Facilities*	Project (Number/Name) F30 / *Army Test Ranges & Facilities*	

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
F30: *Army Test Ranges & Facilities*	-	335.270	274.980	277.646	-	277.646	258.464	257.963	267.441	272.691	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Note applicable for this item.

A. Mission Description and Budget Item Justification

This project provides the institutional funding required to operate test activities, in accordance with Section 232 of the FY2003 National Defense Authorization Act (NDAA FY03), required by Department of Defense (DOD) Program Executive Officers, Program and Product Managers, and Research, Development, and Engineering Centers. Resources provided by this project operate seven elements of the DOD Major Range and Test Facility Base (MRTFB): White Sands Test Center (WSTC),White Sands Missile Range, New Mexico; High Energy Laser System Test Facility (HELSTF), White Sands Test Center, White Sands Missile Range, New Mexico; Aberdeen Test Center (ATC), Aberdeen Proving Ground, Maryland; Electronic Proving Ground (EPG), Fort Huachuca, Arizona; and Yuma Test Center (YTC), Yuma Proving Ground, Arizona, Cold Regions Test Center (CRTC) Fort Greely, Alaska and Tropic Regions Test Center (TRTC) at various locations. This project also funds the Army's test capability at Redstone Test Center (RTC), Redstone Arsenal, Alabama.

This project finances the overhead (institutional) test operating costs not billable to DOD test customers per NDAA FY03, which include recurring test infrastructure/ capability sustainment requirements, replacement of test equipment, test operating procedures, and test revitalization/upgrade projects to maintain current testing capabilities and improvements to safety, environmental protection, efficiency of test operations, and technological advances. The test capabilities at these ranges have been uniquely established, are in place to support test and evaluation (T&E) requirements of funded weapons programs, and are required to assure technical performance, adherence to safety requirements, reliability, logistics supportability, Title 10 Live Fire Test and Evaluation, transportability, environmental effects, electromagnetic effects, and quality of materiel in development and in production.

This project sustains the T&E capability required to support Army as well as Joint Service or Other Service systems, materiel, and technologies. Types of systems scheduled for testing include: Aircraft, Air Delivery, Unmanned Aerial Systems, Unmanned Ground Vehicles, Air and Missile Defense Systems, Engineering Equipment, Direct fire, Indirect fire, Nonlethal weapons, Ammunition, Automotive Systems, Intelligence Surveillance and Reconnaissance, Ground Soldier System, Missiles, Rockets, Mission Command Network, and Tactical Command, Control, and Communication.

Specific systems supported in FY15 with continued support in FY16 include: Network Integration Evaluations (NIE), Joint Light Tactical Vehicle (JLTV), Stryker Engineering Change Proposals (ECPs), Guided Multiple Launch Rocket System (GMLRS), M270A1 Improved Armor Cab, Rifleman Radio, Joint Assault Bridge, Warfighter Information Network Tactical (WIN-T Inc 2), AN/TPQ53 Radar, Counter Rocket Artillery and Mortar System (CRAM), Distributed Common Ground System - Army (DCGS-A), Aviation Transformation (AH-64E), missile defense (PAC-3), Army Integrated Air and Missile Defense (AIAMD), Nett Warrior, XM25 Counter Defilade

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605601A / *Army Test Ranges and Facilities*	**Project (Number/Name)** F30 / *Army Test Ranges & Facilities*

Target Engagement (CDTE), Shadow Tactical Unmanned Aerial Systems, Gray Eagle, Joint Tactical Radio System (JTRS), Soldier Radio Waveform Applique, and Soldier Protective System M829E4 120MM Advanced Kinetic Energy.

Direct costs are borne by materiel developers in accordance with DoD Directive 3200.11 and DOD Financial Management Regulation 7000.14R.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Mission Support	129.433	111.691	107.215

Description: Funds support test equipment upgrades and maintenance; test facility maintenance; routine calibration; handling and disposal of hazardous materials, transportation, postage, administrative supplies; tools; software; spare parts; test support vehicle maintenance; mission unique installation costs; temporary duty/training of civilian and contractor personnel; printing and reproduction; communications; land leases; and range road maintenance. Funding supports indirect cost previously paid by the customer for which funding was realigned, as approved by Assistant Secretary of the Army for Acquisition, Logistics and Technology and validated by Deputy Assistant Secretary of the Army for Cost and Economics, from the Army PEO/PMs and non-Army DOD customers.

FY 2014 Accomplishments:
Funds supported test equipment upgrades and maintenance; test facility maintenance; routine calibration; handling and disposal of hazardous materials, transportation, postage, administrative supplies; tools; software; spare parts; test support vehicle maintenance; mission unique installation costs; temporary duty/training of civilian and contractor personnel; printing and reproduction; communications; land leases; and range road maintenance. Funding supported indirect cost previously paid by the customer for which funding was realigned, as approved by Assistant Secretary of the Army for Acquisition, Logistics and Technology and validated by Deputy Assistant Secretary of the Army for Cost and Economics, from the Army PEO/PMs and non-Army DOD customers.

FY 2015 Plans:
Funds support test equipment upgrades and maintenance; test facility maintenance; routine calibration; handling and disposal of hazardous materials, transportation, postage, administrative supplies; tools; software; spare parts; test support vehicle maintenance; mission unique installation costs; temporary duty/training of civilian and contractor personnel; printing and reproduction; communications; land leases; and range road maintenance. Funds support indirect cost previously paid by the customer for which funding was realigned, as approved by Assistant Secretary of the Army for Acquisition, Logistics and Technology and validated by Deputy Assistant Secretary of the Army for Cost and Economics, from the Army PEO/PMs and non-Army DOD customers.

FY 2016 Plans:
Funds will support test equipment upgrades and maintenance; test facility maintenance; routine calibration; handling and disposal of hazardous materials, transportation, postage, administrative supplies; tools; software; spare parts; test support

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605601A / *Army Test Ranges and Facilities*	**Project (Number/Name)** F30 / *Army Test Ranges & Facilities*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
vehicle maintenance; mission unique installation costs; temporary duty/training of civilian and contractor personnel; printing and reproduction; communications; land leases; and range road maintenance. Funding will support indirect cost previously paid by the customer for which funding was realigned, as approved by Assistant Secretary of the Army for Acquisition, Logistics and Technology and validated by Deputy Assistant Secretary of the Army for Cost and Economics, from the Army PEO/PMs and non-Army DOD customers.			
Title: T&E Civilian Pay ***Description:*** This funding supports the overhead costs of the civilian labor for Program Budget Guidance (PBG) authorizations. The balance is customer funded. The test customer pays all direct costs that are directly attributable to the use of a test facility or resource for testing of a particular program. Funding is essential to maintain core T&E skills as part of the Government civilian workforce. ***FY 2014 Accomplishments:*** Funds supported the overhead costs of the civilian labor for Program Budget Guidance (PBG) authorizations. The balance is customer funded. The test customer pays all direct costs directly attributable to the use of a test facility or resource for testing of a particular program. Funding is essential to maintain core T&E skills as part of the Government civilian workforce. ***FY 2015 Plans:*** Funds support the overhead costs of the civilian labor for Program Budget Guidance (PBG) authorizations. The balance will be customer funded. The test customers pay all direct costs directly attributable to the use of a test facility or resource for testing of a particular program. Funding will be essential to maintain core T&E skills as part of the Government civilian workforce. ***FY 2016 Plans:*** Funds will support the overhead costs of the civilian labor for Program Budget Guidance (PBG) authorizations. The balance will be customer funded. The test customer will pay all direct costs directly attributable to the use of a test facility or resource for testing of a particular program. Funding will be essential to maintain core T&E skills as part of the Government civilian workforce.	117.006	112.365	113.488
Title: Contractor Support ***Description:*** This funding supports contractor labor costs not billable to the customer. Contract labor is essential to augment core civilian T&E personnel. Functions performed include range operations, automotive test support, radar maintenance, warehousing support, project management, maintenance of support fleet aircraft, recurring/general maintenance to test facilities and data acquisition support. ***FY 2014 Accomplishments:*** Funds supported contractor labor costs not billable to the customer. Contract labor is essential to augment core civilian T&E personnel. Functions performed included range operations, automotive test support, radar maintenance, warehousing support,	56.511	50.924	51.943

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605601A / *Army Test Ranges and Facilities*	**Project (Number/Name)** F30 / *Army Test Ranges & Facilities*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
project management, maintenance of support fleet aircraft, recurring/general maintenance to test facilities and data acquisition support. ***FY 2015 Plans:*** Funds support contractor labor costs not billable to the customer. Contract labor will be essential to augment core civilian T&E personnel. Functions performed include range operations, automotive test support, radar maintenance, warehousing support, project management, maintenance of support fleet aircraft, recurring/general maintenance to test facilities and data acquisition support. ***FY 2016 Plans:*** Funds will support contractor labor costs not billable to the customer. Contract labor will be essential to augment core civilian T&E personnel. Functions performed will include range operations, automotive test support, radar maintenance, warehousing support, project management, maintenance of support fleet aircraft, recurring/general maintenance to test facilities and data acquisition support.			
Title: Revitalization/Upgrade ***Description:*** Funds support the revitalization/upgrade of test infrastructure and capabilities. MRTFB elements are required to use institutional funding to sustain, upgrade or create capabilities that support multiple customers. Funding will be focused on improving test and evaluation capabilities for the highest priority Army programs. ***FY 2014 Accomplishments:*** Funds supported the revitalization/upgrade of test infrastructure and capabilities. MRTFB elements will be required to use institutional funding to sustain, upgrade or create capabilities that support multiple customers. Funds focused on improving test and evaluation capabilities for the highest priority Army programs. ***FY 2016 Plans:*** Funds will support the revitalization/upgrade of test infrastructure and capabilities. MRTFB elements will be required to use institutional funding to sustain, upgrade or create capabilities that support multiple customers. Funding will be focused on improving test and evaluation capabilities for the highest priority Army programs.	32.320	-	5.000
Accomplishments/Planned Programs Subtotals	335.270	274.980	277.646

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 / 6	**R-1 Program Element (Number/Name)** PE 0605601A / *Army Test Ranges and Facilities*	**Project (Number/Name)** F30 / *Army Test Ranges & Facilities*

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

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 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0605602A *I Army Technical Test Instrumentation and Targets*							
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	-	63.944	45.573	51.550	-	51.550	52.773	49.718	54.607	57.071	-	-
628: *Developmental Test Technology & Sustainment*	-	45.350	32.991	41.688	-	41.688	42.691	34.265	35.911	38.021	-	-
62C: *Modeling and Simulation Instrumentation*	-	18.594	12.582	9.862	-	9.862	10.082	15.453	18.696	19.050	-	-

Note

FY16 increase is required to preserve Test and Evaluation test capability.

A. Mission Description and Budget Item Justification

This Program Element provides critical front-end investments for development of new test methodologies; test standards; advanced test technology concepts for long range requirements; future test capabilities; advanced development of modeling and simulation (M&S) and instrumentation prototypes; and the full development of test instrumentation for the United States Army Test and Evaluation Command (ATEC), which includes the Operational Test Command (OTC) at Ft Hood, Texas; Aberdeen Test Center (ATC), Aberdeen Proving Ground, Maryland; White Sands Test Center (WSTC) at White Sands Missile Range (WSMR), New Mexico; Electronic Proving Ground (EPG), Fort Huachuca, Arizona; Yuma Test Center (YTC) at Yuma Proving Grounds (YPG), Arizona (including the Cold Regions Test Center (CRTC), Fort Greely, Alaska and the Tropics Regions Test Center (TRTC), at various locations); and Redstone Test Center (RTC), Redstone Arsenal, Alabama. OTC consists of three forward Test Directorates (Airborne and Special Operations Test Directorate, Fort Bragg, North Carolina; Integrated Test and Evaluation Directorate, Fort Bliss, Texas; and the Fires Test Directorate, Fort Sill, Oklahoma) together with four other Test Directorates (Aviation; Maneuver; Mission Command; Maneuver Support and Sustainment) at Ft Hood, Texas. These activities support the development and fielding cycle of all Army acquisition programs including rapid fielding initiatives. Sustainment funding maintains existing testing capabilities at all locations by replacing unreliable, uneconomical, and irreparable instrumentation, as well as incremental upgrades of hardware and software for modeling and simulation (M&S) and instrumentation systems to assure adequate test data collection capabilities. This data supports acquisition milestone decisions for all commodity areas throughout the Army including programs such as the Joint Light Tactical Vehicle (JLTV), Network Integration Evaluation (NIE), Patriot Advance Capability Phase 3 (PAC-3), Warfighter Information Network - Tactical (WIN-T), Stryker, Bradley, Guided Multiple Launch Rocket System (GMLRS), Joint Tactical Radio System (JTRS),and the Distributed Common Ground System - Army (DCGS-A).

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 6: *RDT&E Management Support*		R-1 Program Element (Number/Name) PE 0605602A *I Army Technical Test Instrumentation and Targets*			
B. Program Change Summary ($ in Millions)	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**
Previous President's Budget	66.025	45.596	42.618	-	42.618
Current President's Budget	63.944	45.573	51.550	-	51.550
Total Adjustments	-2.081	-0.023	8.932	-	8.932
• Congressional General Reductions	-	-0.023			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-2.081	-			
• Adjustments to Budget Years	-	-	8.932	-	8.932

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605602A / *Army Technical Test Instrumentation and Targets*	Project (Number/Name) 628 / *Developmental Test Technology & Sustainment*	

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
628: *Developmental Test Technology & Sustainment*	-	45.350	32.991	41.688	-	41.688	42.691	34.265	35.911	38.021	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Homemade Explosive Characterization Study ends in FY 2015.

A. Mission Description and Budget Item Justification

This program provides critical front-end investments for development of new test methodologies, test standards, advanced test technology concepts for long range requirements, future test capabilities, and advanced instrumentation prototypes for subordinate commands of the Army Test and Evaluation Command (ATEC). These capabilities are required to support developmental testing requirements of high priority Army systems supporting Army modernization efforts. Where practical, efficiencies will be gained through the common use of developmental instrumentation in operational testing. A key element is sustaining aging instrumentation which maintains existing capabilities at test facilities by replacing unreliable, uneconomical and irreparable instrumentation, as well as lifecycle replacement and incremental upgrades of instrumentation and software, reducing their average age to assure adequate testing capabilities. This project develops and sustains developmental test instrumentation and capabilities that provide the data necessary to support acquisition milestone decisions for all commodity areas throughout the Army. Significant examples include new instrumentation for the testing of body armor and other soldier protective equipment, advanced methods for testing the survivability of ground vehicles and aircraft, a new six degree-of-freedom vibration system to improve missile testing efficiency, and an expanded instrumentation suite in support of the growing mission to test Command, Control, Communication and Computer (C4) systems.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Developmental Test Technology Investment	41.446	30.549	41.688
Description: Develops, acquires and sustains critical test technology and instrumentation: Provides the necessary test instrumentation, computer and communications systems, data collection, analysis and reporting equipment and other test capabilities to successfully develop and test Army weapons and equipment. Provides the necessary live, virtual and constructive environment, hardware-in-the-loop capabilities and models and simulations needed for testing the Army materiel. Acquires instrumentation for reliability, availability and maintainability (RAM) data collection on tracked and wheeled vehicles; ballistic transducers for measuring chamber pressures during ammunition tests; supports development of common data collection instrumentation used in testing across all test commodity areas and test lifecycles; acquires instrumentation for electromagnetic environmental effects (E3) on ground and air systems; continues replacement and upgrade of range control instrumentation, radar, optics and telemetry equipment used in missile testing; acquires data recorders, signal conditioning equipment, data processing equipment and other instrumentation for various aircraft tests; upgrades natural environments test instrumentation used for testing weapon systems, vehicles, munitions and support equipment in extreme hot desert plus tropic environments as			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605602A / *Army Technical Test Instrumentation and Targets*	**Project (Number/Name)** 628 / *Developmental Test Technology & Sustainment*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
well as extreme cold conditions; continues upgrade of survivability/vulnerability test capabilities in support of live fire, and active protection systems; upgrades and replaces mobile range communications equipment and digital end devices; and develops advanced test technologies and instrumentation for testing next generation materiel such as advanced armor protection, multi-spectral sensors, and advanced soldier systems. ***FY 2014 Accomplishments:*** Continued to provide, acquire and upgrade instrumentation for RAM, ballistic, missile, aviation and environmental testing across all test commodity areas and support the test capability of live fire survivability testing. ***FY 2015 Plans:*** Continue to provide, acquire and upgrade instrumentation for RAM, ballistic, missile, aviation and environmental testing across all test commodity areas and support the test capability of live fire survivability testing. ***FY 2016 Plans:*** Will continue to provide, acquire and upgrade instrumentation for RAM, ballistic, missile, aviation and environmental testing across all test commodity areas and support the test capability of live fire survivability testing. Will complete enhancements to body armor testing methods and instrumentation in accordance with recommendations from the National Institute of Standards and Technology (NIST). Initiate development of next-generation communications and network testing tools.			
Title: Homemade Explosive Characterization Study ***Description:*** Homemade explosives are the prevalent underbody threat in Operation Enduring Freedom area of operation. Currently live fire testing cannot use Army G2-validated homemade explosive surrogate because its performance has varied greatly from test-to-test. This study will characterize subscale and full scale repeatability of Army G2-validated surrogate homemade explosive charge for use in live fire test events and compare the performance relative to TNT standard. Results from this homemade explosive characterization will inform efforts to improve combat vehicle survivability. ***FY 2014 Accomplishments:*** Continued to obtain data to quantify target responses of homemade explosive surrogates and additional standard TNT mine threats used in live fire testing and provide data set to support future verification, validation, and accreditation (VV&A) of underbody blast modeling and simulation tools. ***FY 2015 Plans:***	3.462	2.442	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605602A / *Army Technical Test Instrumentation and Targets*	**Project (Number/Name)** 628 / *Developmental Test Technology & Sustainment*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Complete the quantification of target responses of homemade explosive surrogates and additional standard TNT mine threats used in live fire testing and provide data set to support future verification, validation, and accreditation (VV&A) of underbody blast modeling and simulation tools.			
Title: Army Test and Evaluation Command (ATEC) Common Test Technology for Developmental Testing, Operational Testing, and Evaluation ***Description:*** Army Test and Evaluation Command (ATEC) Common Test Technology for Developmental Testing, Operational Testing, and Evaluation. Provides support for development of a Test and Evaluation Enterprise Architecture to facilitate use of common tools and standards; support for critical Test Technology Domain Focus Areas of Instrumentation, Modeling and Simulation, Threats, Data Management, and Networks; and support, implementation of ATEC Regulation 70-15 ***FY 2014 Accomplishments:*** Due to the consolidation of headquarters functions within ATEC, most efforts funded by this project have been transferred to the appropriate headquarters account. This project will continue to support the sustainment of the Starship instrumentation monitoring and control software.	0.442	-	-
Accomplishments/Planned Programs Subtotals	45.350	32.991	41.688

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605602A / *Army Technical Test Instrumentation and Targets*	Project (Number/Name) 62C / *Modeling and Simulation Instrumentation*	

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
62C: *Modeling and Simulation Instrumentation*	-	18.594	12.582	9.862	-	9.862	10.082	15.453	18.696	19.050	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

The US Army Test and Evaluation Command (USATEC) plans, conducts and reports on operational tests, assessments and experiments in order to provide essential information for the acquisition and fielding of War Fighting Systems. Operational Test (OT) Instrumentation collects required data from both the systems being tested and the surrounding activities. OT simulation enhances the live forces conducting operational testing by simulating additional units, message traffic, effects, and terrain. The Army's OPTEMPO has reduced the number of tactical units and vehicles available to support OT, making augmentation through simulation needed at times to test in a realistic, operational environment. The Program Executive Office for Simulation, Training, and Instrumentation (PEO STRI) Project Manager for Instrumentation, Targets and Threat Simulators (PM ITTS) provides development of major simulation and instrumentation systems while ATEC adapts systems from other organizations, purchases off-the-shelf systems, develops minor new systems, and sustains all ATEC simulation and instrumentation systems. The OT Simulation and Instrumentation (S&I) (Sustainment and Minor Development) program funds the expertise and the adaptation, purchases, minor development and sustainment requirements that support systems undergoing OT. Costs unique to specific systems under test may require Program Manager (PM) funding.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Modeling, Simulation and Instrumentation	18.594	12.582	9.862
Description: Develop and enhance ATEC's simulation/stimulation of Mission Command, Fire Support, Air Defense, Reconnaissance and Surveillance, and Network systems. Improve and sustain our Real-Time Casualty Assessment (RTCA) (including geo-pairing) capabilities. Plus develop, enhance, and sustain our Performance Instrumentation Systems, Time Space Positioning Information (TSPI) and Telemetry Systems, and Imaging Systems together with their associated data management.			
FY 2014 Accomplishments: FY14 Planned Programs - Sustain and develop ATEC's simulation/stimulation of Mission Command, Fire Support, Air Defense, Reconnaissance and Surveillance, and Network systems. Begin an effort to improve our Real-Time Casualty Assessment (RTCA) (including geo-pairing) capabilities to support future AMPV and the Bradley Performance Improvement Program (PIP), Stryker PIP, and Abrams PIP OTs. Plus develop and sustain our Performance Instrumentation Systems and associated data			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605602A / *Army Technical Test Instrumentation and Targets*	**Project (Number/Name)** 62C / *Modeling and Simulation Instrumentation*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
management, Time Space Positioning Information (TSPI) and Telemetry Systems and associated data management, and Imaging Systems and associated data management. ***FY 2015 Plans:*** FY15 Planned Programs - Continue to sustain and enhance ATEC's simulation/stimulation of Mission Command, Fire Support, Air Defense, Reconnaissance and Surveillance, and Network systems. Continue to improve our Real-Time Casualty Assessment (RTCA) (including geo-pairing) capabilities to support future AMPV and the Bradley Performance Improvement Program (PIP), Stryker PIP, and Abrams PIP OTs. Sustain and develop our Performance Instrumentation Systems and associated data management, Time Space Positioning Information (TSPI) and Telemetry Systems and associated data management, and Imaging Systems and associated data management. ***FY 2016 Plans:*** FY16 Planned Programs - Will continue to sustain and enhance ATEC's Fire Support, Air Defense, Reconnaissance and Surveillance, and Network systems. Continue to improve our Real-Time Casualty Assessment (RTCA) (including geo-pairing) capabilities to support future AMPV, and the Bradley Performance Improvement Program (PIP), Stryker PIP, and Abrams PIP OTs. Sustain and develop our Performance Instrumentation Systems, Time Space Positioning Information (TSPI) and Telemetry Systems, and Imaging Systems and associated data management.			
Accomplishments/Planned Programs Subtotals	18.594	12.582	9.862

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0605604A / *Survivability/Lethality Analysis*							
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	-	42.865	33.294	33.246	-	33.246	28.243	28.510	29.521	30.064	-	-
675: *Army Survivability Analysis & Evaluation Supp*	-	42.865	33.294	33.246	-	33.246	28.243	28.510	29.521	30.064	-	-

Note

FY 2016 increase attributed to realignment of funding for higher priority programs.

A. Mission Description and Budget Item Justification

This project funds analytical products necessary for inherently-governmental Army Test & Evaluation Command/Army Evaluation Center's (ATEC/AEC) mission. Products result from investigating, analyzing, assessing, and reporting on the survivability of Soldiers, and on the survivability, lethality and vulnerability (SLV) of the highest priority Army systems whether those systems are employed during stability, support, defensive, or offensive missions. Developed through measurement, experiment, test support, and modeling and simulation (M&S), the products funded by this project are used in many ways to make the Army force more survivable. The project provides quantitative lethality and survivability analyses and data for fielded and developmental systems as the Army makes the required choices to decisively transform into a modular Brigade Combat Team (BCT) based organization. Products concern Army fire support systems, direct fire munitions; Army air defense and missile defense systems; Army aviation systems including Unmanned Aerial Vehicles; network communications and other network enabled battle command and communication systems; and selected joint services systems particularly relevant to the Army's joint and expeditionary role. Products also include analysis and data concerning individual Soldier items including protective equipment such as helmets and vests. These survivability products are leveraged into rapid-equipping initiatives and other technical support for operational forces involved in the current fight. Continued development of these products also guarantees preservation of the Army's vitally needed technical corporate memory for expert survivability advice.

Survivability analyses funded by this project are conducted across the spectrum of battlefield threats to include guns, missiles, mines and other methods of inflicting physical damage; jammers, countermeasures, and other electronic warfare techniques; cybersecurity and computer network operations; and directed energy weapons. This survivability information enables developers, users, and decision makers to perform credible survivability tradeoffs for both Soldiers and materiel. These technical survivability details enable properly informed decisions concerning systems and tactics that maximize both the combat power and survivability of Army forces. Survivability data and analysis results funded by this project are efficiently leveraged for many different Army uses, reducing total cost to the Army by eliminating the need for duplicative capabilities funded by individual system developers. Central funding of this mission assures the Army accurate and consistent treatment of survivability across all classes of systems, across all formal system Evaluations, and across the Army's AR 5-5 studies process. Work program is prioritized principally by the ATEC/AEC and is used by them in the Army's formal Evaluation process in such a way that ATEC can comply with its legally mandated responsibility to assess system survivability along with effectiveness and suitability. Program Managers (PM) and the Program Executive Officers (PEO) use the survivability analyses and data funded by this project to make design decisions that are optimized for survivability, to direct specific weapon system development efforts that are needed for survivability enhancement, and to structure product improvement programs. Soldier survivability data and analysis is leveraged to support the survivability portion of the HQDA G1 MANPRINT program. TRADOC combat developers exploit the survivability products funded by this project to initiate and improve survivability/lethality requirements, and to develop and refine doctrine and tactics. Also, the quantitative analytical results funded by the project are leveraged as core inputs to formal AR 5-5 studies

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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605604A *I Survivability/Lethality Analysis*

and other studies as directed by Army leaders. While the Army is at war, analytical results funded by this project are also directly leveraged for survivability support to current operations. Finally, for particularly urgent or controversial survivability issues, data and analysis funded by this project are used directly by senior Army decision makers to assure technically sound program/production decisions.

This project also supports cybersecurity survivability analysis of Army battle command/networked systems as well as Army network architectures and technology. Supports ATEC and other electronic warfare vulnerability testers and evaluators by developing and providing highly technical specialized field countermeasure environments that threat forces may employ against Army communications networks, air defense and other systems. In conjunction with PMs and Army intelligence agencies, analyzes technical vulnerabilities of foreign weapons, network related systems, and intelligence Electronic Warfare (EW) systems to U.S. Army EW systems. Without the survivability products funded by this project, ATEC would not have a technically credible account of survivability issues at milestone decision points and systems could be fielded with unknown vulnerabilities leading to unnecessary US casualties. PMs would make design choices that failed to properly optimize survivability, TRADOC would generate requirements that were not technically credible, and the Army studies process would rest on an inaccurate and inconsistent basis.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	43.256	33.295	28.203	-	28.203
Current President's Budget	42.865	33.294	33.246	-	33.246
Total Adjustments	-0.391	-0.001	5.043	-	5.043
• Congressional General Reductions	-	-0.001			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.391	-			
• Adjustments to Budget Years	-	-	5.043	-	5.043

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605604A / *Survivability/Lethality Analysis*	Project (Number/Name) 675 / *Army Survivability Analysis & Evaluation Supp*	

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
675: *Army Survivability Analysis & Evaluation Supp*	-	42.865	33.294	33.246	-	33.246	28.243	28.510	29.521	30.064	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project funds analytical products necessary for inherently-governmental Army Test & Evaluation Command/Army Evaluation Center's (ATEC/AEC) mission. Products result from investigating, analyzing, assessing, and reporting on the survivability of Soldiers, and on the survivability, lethality and vulnerability (SLV) of the highest priority Army systems whether those systems are employed during stability, support, defensive, or offensive missions. Developed through measurement, experiment, test support, and modeling and simulation (M&S), the products funded by this project are used in many ways to make the Army force more survivable. The project provides quantitative lethality and survivability analyses and data for fielded and developmental systems as the Army makes the required choices to decisively transform into a modular Brigade Combat Team (BCT) based organization. Products concern Army fire support systems, direct fire munitions; Army air defense and missile defense systems; Army aviation systems including Unmanned Aerial Vehicles; network communications and other network enabled battle command and communication systems; and selected joint services systems particularly relevant to the Army's joint and expeditionary role. Products also include analysis and data concerning individual Soldier items including protective equipment such as helmets and vests. These survivability products are leveraged into rapid-equipping initiatives and other technical support for operational forces involved in the current fight. Continued development of these products also guarantees preservation of the Army's vitally needed technical corporate memory for expert survivability advice.

Survivability analyses funded by this project are conducted across the spectrum of battlefield threats to include guns, missiles, mines and other methods of inflicting physical damage; jammers, countermeasures, and other electronic warfare techniques; cybersecurity and computer network operations; and directed energy weapons. This survivability information enables developers, users, and decision makers to perform credible survivability tradeoffs for both Soldiers and materiel. These technical survivability details enable properly informed decisions concerning systems and tactics that maximize both the combat power and survivability of Army forces. Survivability data and analysis results funded by this project are efficiently leveraged for many different Army uses, reducing total cost to the Army by eliminating the need for duplicative capabilities funded by individual system developers. Central funding of this mission assures the Army accurate and consistent treatment of survivability across all classes of systems, across all formal system Evaluations, and across the Army's AR 5-5 studies process. Work program is prioritized principally by the ATEC/AEC and is used by them in the Army's formal Evaluation process in such a way that ATEC can comply with its legally mandated responsibility to assess system survivability along with effectiveness and suitability. Program Managers (PM) and the Program Executive Officers (PEO) use the survivability analyses and data funded by this project to make design decisions that are optimized for survivability, to direct specific weapon system development efforts that are needed for survivability enhancement, and to structure product improvement programs. Soldier survivability data and analysis is leveraged to support the survivability portion of the HQDA G1 MANPRINT program. TRADOC combat developers exploit the survivability products funded by this project to initiate and improve survivability/lethality requirements, and to develop and refine doctrine and tactics. Also, the quantitative analytical results funded by the project are leveraged as core inputs to formal AR 5-5 studies and other studies as directed by Army leaders. While the Army is at war, analytical results funded by this project are also directly leveraged for survivability support to current operations. Finally, for particularly urgent or controversial survivability issues, data and analysis funded by this project are used directly by senior Army decision makers to assure technically sound program/production decisions.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605604A / *Survivability/Lethality Analysis*	**Project (Number/Name)** 675 / *Army Survivability Analysis & Evaluation Supp*

This project also supports highly technical cybersecurity survivability analysis of Army battle command/networked systems as well as Army network architectures and technology. Supports ATEC and other electronic warfare vulnerability testers and evaluators by developing and providing highly technical specialized field countermeasure environments that threat forces may employ against Army communications networks, air defense and other systems. In conjunction with PMs and Army intelligence agencies, analyzes technical vulnerabilities of foreign weapons, network related systems, and intelligence Electronic Warfare (EW) systems to U.S. Army EW systems. Provides survivability analysis to SoS Network Vulnerability Assessments to CIO G6, Network Integration Evaluation (NIE)to triad (the Brigade Modernization Command (BMC), the Army Test and Evaluation Command (ATEC), and the System of Systems Integration (SoSI)Directorate). Without the survivability products funded by this project, ATEC would not have a technically credible account of survivability issues at milestone decision points and systems could be fielded with unknown vulnerabilities leading to unnecessary US casualties. PMs would make design choices that failed to properly optimize survivability, TRADOC would generate requirements that were not technically credible, and the Army studies process would rest on an inaccurate and inconsistent basis.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Survivability, Lethality, Vulnerability (SLV) Analyses for Ground, Aviation, Munitions, and Soldier Systems	20.127	15.477	14.654

Description: Conduct integrated survivability, lethality, vulnerability analyses for developmental aviation, ground, soldier and munition systems including Stryker, Ground Soldier System, Excalibur, and Intelligent Mine System (IMS). Completed ballistic survivability/vulnerability analysis for MRAP T&E, Guided Multiple Launch Rocket system (GMLRS) Alternative Warhead Initial Operational Test and Evaluation (IOT&E) and Excalibur Live Fire Test and Evaluation (LFT&E) System Engineering Test-P1 test events, which included providing pre-shot predictions, performing damage assessments after each live fire test, completing post-shot analyses, behind armor debris (BAD) test/analyses, and crew survivability analysis and providing technical data required by ATEC for the Systems Evaluation Reports. Additionally, results and recommendations from our crosswalk of MRAP LFT&E assessed casualty/selected Theater casualty incidents were briefed to MRAP PM & vendors, ATEC, HQDA and DOT&E resulting in vehicle design improvements for MRAP platforms.

FY 2014 Accomplishments:
Conducted vulnerability analysis for future helicopter systems, such as future vertical lift. Conducted analysis for Kiowa CASUP MS C evaluations to include ballistic survivability assessment, MANPADs threat assessments, and EW and cybersecurity assessments.

FY 2015 Plans:
Conduct ballistic SLVA on AEC's highest priority platform and weapon systems, supporting LFT&E pre-shot predictions, damage assessments, post-shot analysis, and crew survivability analysis and provide technical data for system evaluation reports. Provide vulnerability reduction recommendations to PMs for those systems supported. For systems analyzed will provide data to AMSAA for support of AR 5-5 and other Army studies. Conduct conventional and under-body blast vulnerability analyses for the M270A1

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605604A / *Survivability/Lethality Analysis*	**Project (Number/Name)** 675 / *Army Survivability Analysis & Evaluation Supp*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
MLRS. Perform pre-shot predictions and prepare for the start of Paladin Integrated Management program's FUSL live-fire in 1QFY16. ***FY 2016 Plans:*** Will conduct ballistic SLVA on AEC's highest priority platform and weapon systems, supporting LFT&E pre-shot predictions, damage assessments, post-shot analysis, and crew survivability analysis and providing technical data for system evaluation reports. Will provide vulnerability reduction recommendations to PMs for those systems supported. For systems analyzed will provide data to AMSAA for support of Army Analyses of Alternatives. Will make the necessary preparations for the start of AMPV and Bradley full-up system-level LFTE in FY17. Will perform damage and crew casualty assessments as well as post-shot analyses during the JLTV and the Joint Assault Bridge (JAB) LFTE programs; these data will inform the DOT&E live-fire report to Congress as well as the System Evaluation Reports prepared by ATEC.			
Title: Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) System Survivability Assessments ***Description:*** This effort produces assessments of the survivability of C4ISR systems in Electronic (EW) and cybersecurity threat environments and conducts Electronic Attack (EA) and Cybersecurity projects that reveal critical vulnerabilities in C4ISR systems. It also defines, demonstrates, and recommends mitigation options to proponents and evaluators of C4ISR. A cyber vulnerability database is maintained for the benefit of the community. ***FY 2014 Accomplishments:*** Conducted modeling and simulation on WIN-T Inc 3 in support of AEC's survivability evaluation of JC4ISR radio's Milestone C decision scheduled for FY15. Conducted priority modeling, testing and analyses of MNVR, Rifleman and Handheld, Manpack and Small Form Fit (HMS) systems. Conducted Electronic Protection (EP) and Cybersecurity survivability analysis investigations to help identify and mitigate capability gaps in areas such as: C4ISR, battlespace awareness, joint fires, intelligence fusion with secure data sharing and combat identification. Worked with AEC, product developer and TRADOC user communities to provide integrated SV solutions that are necessary to counter increasingly smart and sophisticated evolving EW and IW threats. Provided analysis of systems and networks during System-of-Systems Network Vulnerability Assessments and Network Integration Evaluations. ***FY 2015 Plans:*** Conduct Electronic Protection (EP) and Cybersecurity survivability analysis Investigations to help identify and mitigate capability gaps in areas such as: C4ISR, battle space awareness, joint fires, intelligence fusion with secure data sharing and combat identification. Work in conjunction with AEC, product developers and TRADOC user communities to provide integrated SV solutions that are necessary to counter increasingly smart and sophisticated evolving EW and cyber threats. Provide analysis of systems and networks during System-of-Systems Network Vulnerability Assessments and Network Integration Evaluations.	15.067	14.850	15.625

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605604A / *Survivability/Lethality Analysis*	**Project (Number/Name)** 675 / *Army Survivability Analysis & Evaluation Supp*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Conduct modeling, simulation and testing on WIN-T Inc 3 in support of AEC's survivability evaluation of JC4ISR radio's Milestone C decision scheduled for FY16. Conduct analysis on both legacy and new COTs radios and waveforms as required. Conduct EW and cyber studies on MARSS, DGCS, Prophet and UAS ISR, AFATDS and IPADS. Advance development of SAGE communication modeling environment in support of NIE and other field test environments. Develop a methodology to investigate and test GPS reliant systems in an anechoic chamber. Continue developing tools and techniques to conduct software code analysis and the subsequent development of potential exploits. Further development of a large-scale mobile ad-hoc network simulation environment to determine potential vulnerabilities in systems before DT/OT test events. ***FY 2016 Plans:*** Will analyze data for JTRS MNVR IOTE (NIE 16.1) and FOTE (NIE 16.2).Will analyze test data for the JTRS airborne radio systems. Conduct experimental and modeling analysis in support of Military GPS User Equipment (MGUE) Increment1/2 [support of ACD&P, Technical Risk Reduction, EMD / Production Phases, and MS_B/C] Will conduct experimental and modeling analysis in support of DCGS-A Development and Test Inc 2 Rel 1 Software, [support of DCGS-A(D07)Increment 2-Development Contract Award Increment 2 and MS_B 2QFY16]. Conduct experimental and modeling analysis in support of AFATDS Inc 2 V.7.0 Implementation / Deployment [support of Project DU5 Partial Deployment Decision (PDD) for V.7.0] Will conduct experimental and modeling analysis in support of Avenger Fire Control Computer (AFCC) software and hardware upgrades for FAAD [support AFCC-Revision (AFCC-R) Development ensure the system meets the latest Information Assurance (IA) requirements].			
Title: Survivability, Lethality, Vulnerability (SLV) Analyses for Developmental Air and Missile Defense Systems	5.905	1.554	1.554
Description: Conduct integrated SLV analyses for developmental air and missile defense systems, pre-planned product improvements of current systems, and recently fielded systems. These systems include the Ballistic Missile Defense System (BMDS), Terminal High Altitude Air Defense (THAAD), PATRIOT, Surface-Launched Advanced Medium Range Air-to-Air Missile (SLAMRAAM), Joint Land Attack Cruise Missile Defense Elevated Netted Sensor System (JLENS), and Sentinel. ***FY 2014 Accomplishments:*** Provided Patriot mobile flight simulator (FMS) with simulated advanced electronic attack countermeasure waveforms. Leveraged capability to support air and missile defense systems. Conducted LFT&E testing and lethality assessment of PATRIOT MSE missile assessing new lethality enhancers. Provided cybersecurity testing on multiple air and missile defense system, e.g. counter artillery rocket & mortar (C-RAM) and future efforts, e.g. integrated air & missile defense (IAMD). ***FY 2015 Plans:*** Design, develop, and employ advanced electronic attack countermeasures to assess AIAMD system of systems. Provide advanced EA for Patriot PDB-08 limited user testing. Conduct cybersecurity testing on next iteration of C-RAM. Complete live-fire test and evaluation lethality assessment of the Patriot MSE missile. ***FY 2016 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605604A / *Survivability/Lethality Analysis*	**Project (Number/Name)** 675 / *Army Survivability Analysis & Evaluation Supp*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Will design, develop, and employ advanced electronic attack countermeasures to assess AIAMD system of systems. Will provide advanced EA and cybersecurity testing for Patriot PDB-08 user operational test events. Will provided additional EA and cybersecurity testing on other AMD systems as needed.			
Title: System-of-systems survivability simulation (S4) ***Description:*** Develop and use an S4 tool to conduct system-of-systems vulnerability analysis supporting the evaluation of a full range of future military capabilities. This tool will allow SLAD to provide analytical information that extends beyond the reach of traditional single-thread analysis and addresses impacts on mission execution. ***FY 2014 Accomplishments:*** Supported Army Test and Evaluation Command (ATEC) electronic warfare analysis of software radio. Conducted decision making process development in the context of system of systems survivability analysis. ***FY 2015 Plans:*** Use the system-of-systems survivability simulation to investigate the effects of wide-ranging battlefield threats upon mission execution. Threat effects include ballistic vulnerability/lethality, cybersecurity, and electronic warfare. ***FY 2016 Plans:*** Will use the system-of-systems survivability simulation to investigate the effects of wide-ranging battlefield threats upon mission execution, with an improved level of engineering fidelity. Threat effects include ballistic vulnerability/lethality, cybersecurity, and electronic warfare.	1.766	1.413	1.413
Accomplishments/Planned Programs Subtotals	42.865	33.294	33.246

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0605606A / *Aircraft Certification*							
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	-	5.953	4.700	4.760	-	4.760	4.854	4.852	4.022	6.536	-	-
092: *Aircraft Certification*	-	5.953	4.700	4.760	-	4.760	4.854	4.852	4.022	6.536	-	-

A. Mission Description and Budget Item Justification

The Airworthiness Certification program ensures safe flight operation of Army aircraft and aviation systems by means of technical design approval and qualification of systems to appropriate airworthiness standards. It provides independent airworthiness qualification for all assigned developmental and in-production Army aircraft, both manned and unmanned, as required by AR 70-62, and is essential for ensuring the safe operation of Army aircraft. This program performs all engineering functions (design, analysis, testing, demonstrations, and system specification compliance) essential for certifying the airworthiness of assigned Army aircraft, to include performing safety-of-flight investigations/assessments, evaluating system risks, developing Airworthiness Impact Statements, developing Airworthiness Releases, and evaluating Safety of Flight Messages and Aviation Safety Action Messages for new and upgraded aircraft systems. This program also provides management/execution of the Army's Aeronautical Design Standards (ADS) program; management/execution of airworthiness approval for new systems and materiel changes for all assigned Army aircraft systems; airworthiness engineering support to the Program Executive Office for Aviation (PEO AVN) and the Technology Applications Program Office (TAPO, the Army's Special Operations Aircraft program office) in developing requirements for major development/modification and for any future systems/subsystems; and management of the test and evaluation process in support of the airworthiness qualification process. The Airworthiness Certification program also performs general research and development in support of aircraft qualification and overarching airworthiness projects that involve multiple aircraft models. Current ongoing programs requiring airworthiness qualification are PEO Aviation and TAPO Future Force systems including Longbow Apache E-model; Chinook F-model; Blackhawk M-model and; Special Operations MH-47G and MH-60M; Light Utility Helicopter; Gray Eagle unmanned aircraft system (UAS); Enhanced Multi-sensor Airborne Reconnaissance and Sensor System (EMARSS); and modified Shadow UAS. Additionally the Airworthiness Certification program supports application of other critical aviation subsystems onto Army aircraft, including Aircraft Survivability Equipment (e.g. Advanced Threat Infrared Countermeasures (ATIRCM), Common Missile Warning System (CMWS), Aviation Mission Equipment (e.g. advanced multiband avionics and Tactical Radio Systems and digital data links), Common Sensor (electro-optical multi-spectrum visual sensor), and Blue Force Tracker. The D092 funding profile partially funds the airworthiness certification program and therefore the effort will be limited to resourcing military use civil derivative aircraft technical qualification through the Federal Aviation Administration's Military Certification Office; development of airworthiness procedures, specifications, critical standards, and other design and qualification documents; participation in senior leadership mandated airworthiness tri-service activities (e.g. National Airworthiness Council, Joint Aeronautical Commanders Group) and international airworthiness related activities mandated by treaty (e.g. Flight Into Non-segregated Airspace (FINAS); and limited early airworthiness involvement in Technology Transition projects (e.g. Joint Multi Role (JMR) Technology Demonstrator and Future Vertical Lift aircraft) and other OSD initiatives.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army					Date: February 2015
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 6: *RDT&E Management Support*		R-1 Program Element (Number/Name) PE 0605606A / *Aircraft Certification*			
B. Program Change Summary ($ in Millions)	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**
Previous President's Budget	6.022	4.700	4.794	-	4.794
Current President's Budget	5.953	4.700	4.760	-	4.760
Total Adjustments	-0.069	-	-0.034	-	-0.034
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.069	-			
• Adjustments to Budget Years	-	-	-0.034	-	-0.034

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605606A / *Aircraft Certification*	Project (Number/Name) 092 / *Aircraft Certification*	

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
092: *Aircraft Certification*	-	5.953	4.700	4.760	-	4.760	4.854	4.852	4.022	6.536	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Airworthiness Certification program ensures safe flight operation of Army aircraft and aviation systems by means of technical design approval and qualification of systems to appropriate airworthiness standards. It provides independent airworthiness qualification for all assigned developmental and in-production Army aircraft, both manned and unmanned, as required by AR 70-62, and is essential for ensuring the safe operation of Army aircraft. This program, when fully funded, performs all engineering functions (design, analysis, testing, demonstrations, and system specification compliance) essential for certifying the airworthiness of assigned Army aircraft, to include performing safety-of-flight investigations/assessments, evaluating system risks, developing Airworthiness Impact Statements, developing Airworthiness Releases, and evaluating Safety of Flight Messages and Aviation Safety Action Messages for new and upgraded aircraft systems. This program also provides management/execution of the Army's Aeronautical Design Standards (ADS) program; management/execution of airworthiness approval for new systems and materiel changes for all assigned Army aircraft systems; airworthiness engineering support to the Program Executive Office for Aviation (PEO AVN) and the Technology Applications Program Office (TAPO, the Army's Special Operations Aircraft program office) in developing requirements for major development/modification and for any future systems/subsystems; and management of the test and evaluation process in support of the airworthiness qualification process. The Airworthiness Certification program also performs general research and development in support of aircraft qualification and overarching airworthiness projects that involve multiple aircraft models. Current ongoing programs requiring airworthiness qualification are PEO Aviation and TAPO Future Force systems including Longbow Apache E-model; Chinook F-model; Blackhawk M-model and; Special Operations MH-47G and MH-60M; Light Utility Helicopter; Gray Eagle unmanned aircraft system (UAS); Enhanced Multi-sensor Airborne Reconnaissance and Sensor System (EMARSS); and modified Shadow UAS. Additionally the Airworthiness Certification program supports application of other critical aviation subsystems onto Army aircraft, including Aircraft Survivability Equipment (e.g. Advanced Threat Infrared Countermeasures (ATIRCM), Common Missile Warning System (CMWS), Aviation Mission Equipment (e.g. advanced multiband avionics and Tactical Radio Systems and digital data links), Common Sensor (electro-optical multi-spectrum visual sensor), and Blue Force Tracker. The D092 funding profile partially funds the airworthiness certification program and therefore the effort will be limited to resourcing military use civil derivative aircraft technical qualification through the Federal Aviation Administration's Military Certification Office; development of airworthiness procedures, specifications, critical standards, and other design and qualification documents; participation in senior leadership mandated airworthiness tri-service activities (e.g. National Airworthiness Council, Joint Aeronautical Commanders Group) and international airworthiness related activities mandated by treaty (e.g. Flight Into Non-segregated Airspace (FINAS); and limited early airworthiness involvement in Technology Transition projects (e.g. Joint Multi Role (JMR) Technology Demonstrator and Future Vertical Lift aircraft) and other OSD initiatives.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Certification Assessments and Studies Force Modernization Aircraft	0.048	0.040	0.044
Description: Perform assessments and studies in support of Force Modernization Aircraft Systems			
FY 2014 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605606A / *Aircraft Certification*	**Project (Number/Name)** 092 / *Aircraft Certification*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Conducted technical and airworthiness qualification assessments and studies to demonstrate airworthiness and system performance for Army force modernization aircraft systems or multi-system programs (e.g. AH-64E, UH-60M, MH-47G, MH-60M, AAS, etc). ***FY 2015 Plans:*** Conduct technical and airworthiness qualification assessments and studies to demonstrate airworthiness and system performance for Army force modernization aircraft systems or multi-system programs (e.g. AH-64E, UH-60M, MH-47G, MH-60M, etc). ***FY 2016 Plans:*** Will conduct technical and airworthiness qualification assessments and studies to demonstrate airworthiness and system performance for Army force modernization aircraft systems or multi-system programs (e.g. AH-64E, UH-60M, MH-47G, MH-60M, etc).			
Title: Certification Requirements and Studies for Future Aircraft ***Description:*** Perform studies to support airworthiness certification requirements for Future Aircraft Systems ***FY 2014 Accomplishments:*** Conducted studies of Airworthiness Certification requirements for future aircraft systems and other technology transition programs (e.g. Joint Multi-Role Technology Demonstrator, Versatile Affordable Advanced Turbine Engine Program) ***FY 2015 Plans:*** Conduct studies of Airworthiness Certification requirements for future aircraft systems and other technology transition programs (e.g. Joint Multi-Role Technology Demonstrator Aircraft, Future Vertical Lift Aircraft, Improved Turbine Engine Program) ***FY 2016 Plans:*** Will conduct studies of Airworthiness Certification requirements for future aircraft systems and other technology transition programs (e.g. Joint Multi-Role Technology Demonstrator Aircraft, Future Vertical Lift Aircraft, Improved Turbine Engine Program)	0.960	0.603	0.617
Title: Design Standards ***Description:*** Support the development, implementation and maintenance to support Army Aeronautical Design Standards, airworthiness procedures and tools, and overarching Airworthiness qualification documentation. ***FY 2014 Accomplishments:*** Developed, implemented, and maintained Army Aeronautical Design Standards, airworthiness procedures and tools, and overarching airworthiness qualification documentation. ***FY 2015 Plans:***	2.967	2.632	2.626

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605606A / *Aircraft Certification*	**Project (Number/Name)** 092 / *Aircraft Certification*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Develop, implement, and maintain Army Aeronautical Design Standards, airworthiness procedures and tools, and overarching airworthiness qualification documentation. ***FY 2016 Plans:*** Will develop, implement, and maintain Army Aeronautical Design Standards, airworthiness procedures and tools, and overarching airworthiness qualification documentation.			
Title: Certification Assessments of Technology Upgrades ***Description:*** Perform certification assessments of technology upgrades. ***FY 2014 Accomplishments:*** Conducted technical and airworthiness certification assessments of technology upgrades to Army force modernization aircraft systems or programs (e.g. Advanced Threat Infrared Countermeasures integration, Common Missile Warning System integration, Common Sensor integration). ***FY 2015 Plans:*** Conduct technical and airworthiness certification assessments of technology upgrades to Army force modernization aircraft systems or programs (e.g. Advanced Threat Infrared Countermeasures integration, Common Missile Warning System integration, Common Sensor integration). ***FY 2016 Plans:*** Will conduct technical and airworthiness certification assessments of technology upgrades to Army force modernization aircraft systems or programs (e.g. Advanced Threat Infrared Countermeasures integration, Common Missile Warning System integration, Common Sensor integration).	0.048	0.040	0.043
Title: Commercial Derivative Aircraft ***Description:*** Technical and airworthiness qualification for Commercial Derivative Aircraft ***FY 2014 Accomplishments:*** Provided technical and airworthiness qualification for Commercial Derivative Aircraft through the Federal Aviation Administration. ***FY 2015 Plans:*** Povide technical and airworthiness qualification for Commercial Derivative Aircraft through the Federal Aviation Administration. ***FY 2016 Plans:*** Will provide technical and airworthiness qualification for Commercial Derivative Aircraft through the Federal Aviation Administration.	0.545	0.420	0.430
Title: Technology Advancement	1.385	0.965	1.000

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605606A / *Aircraft Certification*	**Project (Number/Name)** 092 / *Aircraft Certification*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Description: Support efforts to establish and maintain aircraft safety for a fleet of aircraft. ***FY 2014 Accomplishments:*** Led and participated in national and international airworthiness certification committees, conferences and working groups responsible for establishing and maintaining aircraft safety for a fleet of aircraft (e.g. National Airworthiness Council, Joint Aviation Commanders Group, Joint Council on Aging Aircraft, Joint Propulsion Coordinating Committee, North Atlantic Treaty Organization (NATO) working groups, Air and Space Interoperability Council (ASIC) Working Groups, Global Air Traffic Management working groups). ***FY 2015 Plans:*** Lead and participate in national and international airworthiness certification committees, conferences and working groups responsible for establishing and maintaining aircraft safety for a fleet of aircraft (e.g. National Airworthiness Council, Joint Aeronautical Commanders Group, Joint Propulsion Coordinating Committee, North Atlantic Treaty Organization (NATO) Airworthiness working groups, Air and Space Interoperability Council (ASIC) Airworthiness Working Groups, Global Air Traffic Management working groups). ***FY 2016 Plans:*** Will lead and participate in national and international airworthiness certification committees, conferences and working groups responsible for establishing and maintaining aircraft safety for a fleet of aircraft (e.g. National Airworthiness Council, Joint Aeronautical Commanders Group, Joint Propulsion Coordinating Committee, North Atlantic Treaty Organization (NATO) Airworthiness working groups, Air and Space Interoperability Council (ASIC) Airworthiness Working Groups, Global Air Traffic Management working groups).			
Accomplishments/Planned Programs Subtotals	5.953	4.700	4.760

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0605702A / *Meteorological Support to RDT&E Activities*							
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	-	7.210	6.411	8.303	-	8.303	6.297	7.272	10.063	8.569	-	-
128: *Meteorological Support To RDT&E Activities*	-	7.210	6.411	8.303	-	8.303	6.297	7.272	10.063	8.569	-	-

Note

FY16 increase will fund lifecycle replacement of high performance computing system required to operate 4DWX weather model.

A. Mission Description and Budget Item Justification

This project provides meteorological support to research, development, test, and evaluation (RDT&E) activities and provides standard and specialized weather forecasts and data for test reports to satisfy Army/Department of Defense RDT&E test requirements for modern weaponry, e.g., (1) unique atmospheric analysis and sampling to include atmospheric transmittance, extinction, optical scintillation, infrared temperature, aerosol/smoke cloud dispersion characteristics, and ballistic meteorological measurements; (2) test event forecasting to include prediction of sound propagation for ballistic firing tests, specialized prediction of light levels and target to background measurements, and predictions for electro-optical testing and ballistic artillery/mortar firing; and (3) advisory and warning products such as go/no-go test recommendations for ballistic and atmospheric probe missiles, smoke/obscurant tests, hazard predictions for chemical agent munitions disposal, monitoring dispersion of simulant clouds for chemical/biological detector tests, simulated nuclear blasts, and weather warnings for test range safety. Provides technical support to Army Program Executive Officers (PEOs), Project Managers (PMs), and the Army test ranges and sites at: White Sands Test Center (WSTC) White Sands Missile Range, New Mexico; Electronic Proving Ground (EPG), Fort Huachuca, Arizona; West Desert Test Center (WDTC), Dugway Proving Ground, Utah; Aberdeen Test Center (ATC), Aberdeen Proving Ground, Maryland; Redstone Test Center (RTC), Redstone Arsenal, Alabama; Yuma Test Center (YTC), Yuma Proving Ground, Arizona (including the Cold Regions Test Center (CRTC), Fort Greely, Alaska); Operational Test Command (OTC), Fort Hood, Texas and Fort Bragg, North Carolina; Fort Belvoir, Virginia; and Fort A.P. Hill, Virginia. This program develops methodologies and acquires instrumentation and systems that allow meteorological teams to support current and future Army/DoD RDT&E requirements. It finances indirect meteorological support operating costs not billable to customers and replacement/upgrade of meteorological instrumentation and support systems. Direct costs for meteorological support services are not funded by this PE, but are borne by the customer (i.e., materiel/weapons developers and project/product managers) in accordance with DoD Directive 7000.14R, October 1999. This program enables more effective test scheduling and execution, and is essential to the accomplishment of the Army's developmental test mission in that precise weather modeling and measurements directly influence test item performance and quantify test item weather dependencies and vulnerabilities.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army					Date: February 2015
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 6: *RDT&E Management Support*		R-1 Program Element (Number/Name) PE 0605702A / *Meteorological Support to RDT&E Activities*			
B. Program Change Summary ($ in Millions)	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**
Previous President's Budget	7.345	6.413	6.421	-	6.421
Current President's Budget	7.210	6.411	8.303	-	8.303
Total Adjustments	-0.135	-0.002	1.882	-	1.882
• Congressional General Reductions	-	-0.002			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.135	-			
• Adjustments to Budget Years	-	-	1.882	-	1.882

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605702A / *Meteorological Support to RDT&E Activities*	Project (Number/Name) 128 / *Meteorological Support To RDT&E Activities*	

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
128: *Meteorological Support To RDT&E Activities*	-	7.210	6.411	8.303	-	8.303	6.297	7.272	10.063	8.569	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

This project provides meteorological support to research, development, test, and evaluation (RDT&E) activities and provides standard and specialized weather forecasts and data for test reports to satisfy Army/Department of Defense RDT&E test requirements for modern weaponry, e.g., (1) unique atmospheric analysis and sampling to include atmospheric transmittance, extinction, optical scintillation, infrared temperature, aerosol/smoke cloud dispersion characteristics, and ballistic meteorological measurements; (2) test event forecasting to include prediction of sound propagation for ballistic firing tests, specialized prediction of light levels and target to background measurements, and predictions for electro-optical testing and ballistic artillery/mortar firing; and (3) advisory and warning products such as go/no-go test recommendations for ballistic and atmospheric probe missiles, smoke/obscurant tests, hazard predictions for chemical agent munitions disposal, monitoring dispersion of simulant clouds for chemical/biological detector tests, simulated nuclear blasts, and weather warnings for test range safety. Provides technical support to Army Program Executive Officers (PEOs), Project Managers (PMs), and the Army test ranges and sites at: White Sands Test Center (WSTC) White Sands Missile Range, New Mexico; Electronic Proving Ground (EPG), Fort Huachuca, Arizona; West Desert Test Center (WDTC), Dugway Proving Ground, Utah; Aberdeen Test Center (ATC), Aberdeen Proving Ground, Maryland; Redstone Test Center (RTC), Redstone Arsenal, Alabama; Yuma Test Center (YTC), Yuma Proving Ground, Arizona (including the Cold Regions Test Center (CRTC), Fort Greely, Alaska); Operational Test Command (OTC), Fort Hood, Texas and Fort Bragg, North Carolina; Fort Belvoir, Virginia; and Fort A.P. Hill, Virginia. This program develops methodologies and acquires instrumentation and systems that allow meteorological teams to support current and future Army/DoD RDT&E requirements. It finances indirect meteorological support operating costs not billable to customers and replacement/upgrade of meteorological instrumentation and support systems. Direct costs for meteorological support services are not funded by this PE, but are borne by the customer (i.e., materiel/weapons developers and project/product managers) in accordance with DoD Directive 7000.14R, October 1999. This program enables more effective test scheduling and execution, and is essential to the accomplishment of the Army's developmental test mission in that precise weather modeling and measurements directly influence test item performance and quantify test item weather dependencies and vulnerabilities.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Civilian Pay and Support Costs	1.953	1.955	1.915
Description: Funding is provided for the following effort			
FY 2014 Accomplishments: Provided indirect costs (personnel salaries) for generating weather forecasts, severe weather warnings and advisories; staff meteorological services; and atmospheric measurements in support of Army/DoD tests and projects at nine Army sites/test			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605702A / *Meteorological Support to RDT&E Activities*	**Project (Number/Name)** 128 / *Meteorological Support To RDT&E Activities*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
ranges, and alternate test sites as required. Provided program management for meteorological support to the Army research, development, test and evaluation community and technical review/assistance to ranges and meteorological support teams. Including Verification, Validation and Accreditation (VV&A) for the Four-Dimensional Weather (4DWX) System. ***FY 2015 Plans:*** Provides indirect costs (personnel salaries) for generating weather forecasts, severe weather warnings and advisories; staff meteorological services; and atmospheric measurements in support of Army/DoD tests and projects at nine Army sites/test ranges, and alternate test sites as required. Provides program management for meteorological support to the Army research, development, test and evaluation community and technical review/assistance to ranges and meteorological support teams. Includes collaboration between Army meteorologists and the National Center for Atmospheric Research (NCAR) toward improvements to the Four-Dimensional Weather (4DWX) System. ***FY 2016 Plans:*** Will provide indirect costs (personnel salaries) for generating weather forecasts, severe weather warnings and advisories; staff meteorological services; and atmospheric measurements in support of Army/DoD tests and projects at nine Army sites/test ranges, and alternate test sites as required. Will provide program management for meteorological support to the Army research, development, test and evaluation community and technical review/assistance to ranges and meteorological support teams. Will include collaboration between Army meteorologists and the National Center for Atmospheric Research (NCAR) toward improvements to the Four-Dimensional Weather (4DWX) System.			
Title: Four Dimensional Weather System (4DWX) and Instrumentation	5.257	4.456	6.388
Description: Provides funding for meteorological instrumentation and technology to support RDT&E activities at Army test ranges. Includes funding for development and enhancement of the 4DWX system, an advanced meteorological support system that provides high-resolution weather forecasts and analyses. The 4DWX analyses and forecasts of the 3-dimensional structure of the atmosphere over time (4th dimension) are used in test planning, conduct, and forensic analyses. ***FY 2014 Accomplishments:*** Continued the development and enhancement of the 4DWX system in support of Army RDT&E mission requirements. Continued 4DWX system enhancements and modernization in development of ensemble modeling, improved parameterizations of wind flow over mountains and other complex terrain features to improve forecast accuracy; and development of new 4DWX-based techniques to generate weather data in vertical profiles, to reduce the need for some weather balloon launches. Instrumentation funding was used to continue a multiyear effort to replace/upgrade obsolete instrumentation, including upper-air sounding systems, upgrades to weather stations and Doppler radar system, and replacement of radar wind profilers and transmissometers. ***FY 2015 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605702A / *Meteorological Support to RDT&E Activities*	**Project (Number/Name)** 128 / *Meteorological Support To RDT&E Activities*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Continues 4DWX system enhancements and modernization to improve forecast accuracy in support of Army RDT&E mission requirements, including development of probabilistic modeling, development and use of improved parameterizations of wind flow over complex terrain features; improved data assimilation procedures, and configuration of 4DWX for each test range to optimize accuracy; and development of a Verification & Validation plan for 4DWX. Instrumentation funding used to continue a multiyear effort to replace/upgrade obsolete instrumentation, including upper-air sounding systems, upgrades to weather stations, replacement of radar wind profilers and Doppler acoustic sounders, and upgrade of data analysis and display software. ***FY 2016 Plans:*** Will continue 4DWX system enhancements and modernization to improve forecast accuracy in support of Army RDT&E mission requirements, including development of probabilistic modeling, development and use of improved parameterizations of wind flow over complex terrain features; improved data assimilation procedures, and configuration of 4DWX for each test range to optimize accuracy; and development of a Verification & Validation plan for 4DWX. Instrumentation funding will be used to continue a multiyear effort to replace/upgrade obsolete instrumentation, including upper-air sounding systems, upgrades to weather stations and replacement of radar wind profilers. Will fund lifecycle replacement of high performance computing system required to operate 4DWX weather model.			
Accomplishments/Planned Programs Subtotals	7.210	6.411	8.303

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

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 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0605706A *I Materiel Systems Analysis*							
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	-	19.694	20.744	20.403	-	20.403	20.199	20.538	20.013	20.383	-	-
541: *Materiel Sys Analysis*	-	19.694	20.744	20.403	-	20.403	20.199	20.538	20.013	20.383	-	-

A. Mission Description and Budget Item Justification

This program element funds Department of the Army (DA) civilians at the Army Materiel Systems Analysis Activity (AMSAA) to conduct responsive and effective materiel systems analysis in support of senior Army decision making for equipping the U.S. Army. AMSAA conducts systems and engineering analyses to support Army decisions in technology; materiel acquisition; and the design, development, fielding, and sustaining of Army weapon/materiel systems. As part of this mission, AMSAA develops and certifies systems performance data used in Army studies, and develops baseline systems performance methodology and Models and Simulations (M&S).

AMSAA exercises Headquarters Department of the Army (HQDA) responsibility for verification, validation, and accreditation of item-level performance M&S for combat effects, including the development and maintenance of common data formats. Similarly, AMSAA also exercises HQDA responsibility for developing, maintaining, improving, verifying, validating and accrediting item-level performance data and M&S for combat effects and logistics. In support of its materiel systems analysis mission, AMSAA analyzes the performance and combat effectiveness of conceptual, developmental, and fielded systems. Unique models and methodologies have been developed to predict critical performance variables, such as weapon accuracy, target acquisition, rate of fire, and probability of inflicting catastrophic damage, survivability, mobility and system reliability. AMSAA generates performance and effectiveness measures and ensures their standard use across major Army and Joint studies. AMSAA conducts and supports various systems analysis efforts across the entire materiel system life cycle, such as: Analysis of Alternatives (AoAs); system cost/performance tradeoffs and early technology trade-offs to inform system and acquisition program risk assessments; weapons/systems mix analyses; business case analyses and cost benefit analyses; requirements analyses; technology insertion studies; reliability growth studies; Physics of Failure (PoF) analyses; and analytical support for Test and Evaluation. AMSAA also maintains, pursuant to Army Acquisition Executive direction, the Center for Army Acquisition and Materiel Lessons Learned (CAAMLL). These analyses are used by the Army Research, Development and Engineering Command; Army Materiel Command; Training and Doctrine Command; Army Test and Evaluation Command; Program Executive Officers/Project Managers; Headquarters, Department of the Army (HQDA) (both Army Staff and Assistant Secretaries in the HQDA Secretariat); and Office of Secretary of Defense (OSD)/Department of Defense (DoD) Leadership. AMSAA analyses and data are used by these organizations in making acquisition, procurement, and logistics decisions in order to provide quality equipment and procedures to the Soldier.

AMSAA's M&S capabilities support the development, linkage, and accreditation of live, virtual, and constructive simulations, and provide unique tools that support systems analysis of individual systems and the combined-arms environment. AMSAA maintains a significant number of models and simulations, most of which were developed in-house to address specific analytical requirements. This M&S infrastructure provides a hierarchical modeling process that is unique to AMSAA and allows for a comprehensive performance and effectiveness prediction capability that can be utilized to make trade-off and investment decisions prior to extensive and expensive hardware testing of proposed systems/technologies for Current and Future Force efforts. AMSAA is the Army's executive agent for the verification, validation, and accreditation of item/system level performance models. In this role, AMSAA assists model developers with the development and execution of verification and validation plans to ensure new models and simulations provide credible information/results for decision making.

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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605706A *I Materiel Systems Analysis*

AMSAA exercises HQDA responsibility for Army reliability methodology development. In this role, as the Army's Executive Agent for reliability and maintainability standardization improvement, AMSAA develops and implements reliability and maintainability reform initiatives that support acquisition decisions and lifecycle management. AMSAA develops and applies engineering approaches that assess the reliability of Army materiel and also provides recommendations on ways to improve reliability, thereby reducing logistics footprint, reducing life cycle costs, and extending failure-free periods for deployed equipment. AMSAA's electronic and mechanical Physics of Failure (PoF) program pioneered the Army's involvement in utilizing computer-aided engineering tools in the analysis of root-cause failure mechanisms at the component level during the system design process. AMSAA's reliability engineering and PoF tools/analyses have been used extensively to support the design improvement of developmental and fielded systems used in Current Operations resulting in improved reliability, reduced Operational and Support costs, and reduced logistics expenditures and footprint. AMSAA, in conjunction with the Army Evaluation Center, has formed the Center for Reliability Growth (CRG), which is developing critical tools, methodology, policies, formal guidance, and educational materials needed to help acquisition programs to achieve their required reliability during the acquisition process. The reliability improvements achieved for major weapon systems will translate into billions of dollars in operating and support cost savings across the life cycle.

AMSAA's unique analytical capabilities are supporting the Army Evaluation Center to assess and determine the essential analytical requirements to enhance Army evaluations and reduce extensive testing. AMSAA's support in this area improves evaluation products and result in better materiel solutions to the Warfighter. AMSAA assists in systems evaluations which support various Acquisition Category (ACAT) materiel system decisions, and provides quick response analyses in support of rapid initiatives for Current Operations.

As the Army's center for materiel systems analysis, AMSAA provides the technical capability to support Army and DoD decision makers throughout the entire acquisition process in responding to analytical requirements across the full spectrum of materiel. AMSAA's unique in-house, consistent, integrated analytical capability is a critical asset that provides Army leadership with timely, independent, unbiased, reliable, and high quality analysis to support complex decisions required for Army Transformation and Current Operations. AMSAA's integrated set of skills and tools are focused on its core mission to be responsive to the breadth and depth of systems analysis requirements critical in supporting Army decisions.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	19.799	20.746	20.505	-	20.505
Current President's Budget	19.694	20.744	20.403	-	20.403
Total Adjustments	-0.105	-0.002	-0.102	-	-0.102
• Congressional General Reductions	-	-0.002			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.105	-			
• Adjustments to Budget Years	-	-	-0.102	-	-0.102

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army									Date: February 2015			
Appropriation/Budget Activity 2040 / 6					R-1 Program Element (Number/Name) PE 0605706A / *Materiel Systems Analysis*				Project (Number/Name) 541 / *Materiel Sys Analysis*			
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**
541: *Materiel Sys Analysis*	-	19.694	20.744	20.403	-	20.403	20.199	20.538	20.013	20.383	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This program element funds Department of the Army (DA) civilians at the Army Materiel Systems Analysis Activity (AMSAA) to conduct responsive and effective materiel systems analysis in support of senior Army decision making for equipping the U.S. Army. AMSAA conducts systems and engineering analyses to support Army decisions in technology; materiel acquisition; and the design, development, fielding, and sustaining of Army weapon/materiel systems. As part of this mission, AMSAA develops and certifies systems performance data used in Army studies, and develops baseline systems performance methodology and Models and Simulations (M&S).

AMSAA exercises Headquarters Department of the Army (HQDA) responsibility for verification, validation, and accreditation of item-level performance M&S for combat effects, including the development and maintenance of common data formats. Similarly, AMSAA also exercises HQDA responsibility for developing, maintaining, improving, verifying, validating and accrediting item-level performance data and M&S for combat effects and logistics. In support of its materiel systems analysis mission, AMSAA analyzes the performance and combat effectiveness of conceptual, developmental, and fielded systems. Unique models and methodologies have been developed to predict critical performance variables, such as weapon accuracy, target acquisition, rate of fire, and probability of inflicting catastrophic damage, survivability, mobility and system reliability. AMSAA generates performance and effectiveness measures and ensures their standard use across major Army and Joint studies. AMSAA conducts and supports various systems analysis efforts across the entire materiel system life cycle, such as: Analysis of Alternatives (AoAs); system cost/performance tradeoffs and early technology trade-offs to inform system and acquisition program risk assessments; weapons/systems mix analyses; business case analyses and cost benefit analyses; requirements analyses; technology insertion studies; reliability growth studies; Physics of Failure (PoF) analyses; and analytical support for Test and Evaluation. AMSAA also maintains, pursuant to Army Acquisition Executive direction, the Center for Army Acquisition and Materiel Lessons Learned (CAAMLL). These analyses are used by the Army Research, Development and Engineering Command; Army Materiel Command; Training and Doctrine Command; Army Test and Evaluation Command; Program Executive Officers/Project Managers; Headquarters, Department of the Army (HQDA) (both Army Staff and Assistant Secretaries in the HQDA Secretariat); and Office of Secretary of Defense (OSD)/Department of Defense (DoD) Leadership. AMSAA analyses and data are used by these organizations in making acquisition, procurement, and logistics decisions in order to provide quality equipment and procedures to the Soldier.

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AMSAA exercises HQDA responsibility for Army reliability methodology development. In this role, as the Army's Executive Agent for reliability and maintainability standardization improvement, AMSAA develops and implements reliability and maintainability reform initiatives that support acquisition decisions and lifecycle

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605706A / *Materiel Systems Analysis*	**Project (Number/Name)** 541 / *Materiel Sys Analysis*

management. AMSAA develops and applies engineering approaches that assess the reliability of Army materiel and also provides recommendations on ways to improve reliability, thereby reducing logistics footprint, reducing life cycle costs, and extending failure-free periods for deployed equipment. AMSAA's electronic and mechanical Physics of Failure (PoF) program pioneered the Army's involvement in utilizing computer-aided engineering tools in the analysis of root-cause failure mechanisms at the component level during the system design process. AMSAA's reliability engineering and PoF tools/analyses have been used extensively to support the design improvement of developmental and fielded systems used in Current Operations resulting in improved reliability, reduced Operational and Support costs, and reduced logistics expenditures and footprint. AMSAA, in conjunction with the Army Evaluation Center, has formed the Center for Reliability Growth (CRG), which is developing critical tools, methodology, policies, formal guidance, and educational materials needed to help acquisition programs to achieve their required reliability during the acquisition process. The reliability improvements achieved for major weapon systems will translate into billions of dollars in operating and support cost savings across the life cycle.

AMSAA's unique analytical capabilities are supporting the Army Evaluation Center to assess and determine the essential analytical requirements to enhance Army evaluations and reduce extensive testing. AMSAA's support in this area improves evaluation products and result in better materiel solutions to the Warfighter. AMSAA assists in systems evaluations which support various Acquisition Category (ACAT) materiel system decisions, and provides quick response analyses in support of rapid initiatives for Current Operations.

As the Army's center for materiel systems analysis, AMSAA provides the technical capability to support Army and DoD decision makers throughout the entire acquisition process in responding to analytical requirements across the full spectrum of materiel. AMSAA's unique in-house, consistent, integrated analytical capability is a critical asset that provides Army leadership with timely, independent, unbiased, reliable, and high quality analysis to support complex decisions required for Army Transformation and Current Operations. AMSAA's integrated set of skills and tools are focused on its core mission to be responsive to the breadth and depth of systems analysis requirements critical in supporting Army decisions.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Materiel Systems Analysis	19.694	20.744	20.403
Description: These funds are used by the US Army Materiel Systems Analysis Activity (AMSAA) to conduct various materiel systems analysis efforts in support of senior Army decision makers during FY13-19. AMSAA will continue to conduct analyses, materiel systems performance data generation and certification, methodology development, Modeling and Simulation (M&S) development, and verification, validation, and accreditation. The accomplishments include performance and combat effectiveness analyses of materiel systems and technology base programs for the Department of Army Secretariat/Staff, the Army Materiel Command, the Research, Development and Engineering Command, Program Executive Officers/Program Managers, the Training and Doctrine Command, the Army Service Component Commands, the Army Test and Evaluation Command, and the Office of the Secretary of Defense (OSD). These analyses form the basis for Analysis of Alternatives (AoAs), system cost/performance tradeoffs, early technology trade-offs, weapons/systems mix analyses, system risk assessments, business case analyses, cost benefit analyses, requirements analyses, technology insertion studies, reliability growth studies, Physics of Failure (PoF) analyses and analytical support for Test and Evaluation.			
FY 2014 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605706A / *Materiel Systems Analysis*	**Project (Number/Name)** 541 / *Materiel Sys Analysis*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Critical analyses from the US Army Materiel Systems Analysis Activity (AMSAA) continued to support Army key milestone decision reviews. AMSAA supported conceptual and developmental Acquisition Category (ACAT) 1, ACAT 2, ACAT 3, and ACAT 4) programs, including, but not limited to Improved Turbine Engine, Man Transportable Robotic System, Next Generation Diagnostic System, Personnel Decontamination, Pre-emptive Threat Detection, and the Maneuver Support Vessel-Light. In addition, AMSAA supported multiple trade-space efforts in support of the Deputy Under Secretary of the Army for Test and Evaluation (DUSA-TE), and provided analytical support to modify Test and Evaluation planning efforts, and reduced testing through the use of modeling and simulation. AMSAA conducted follow-on studies for major Army programs undergoing engineering change proposals and continued to provide essential certified weapons system performance data for all major Army studies. AMSAAs technical work program relating to Analyses of Alternative (AoA) (both providing analytic input and certified data as well as leading specified AoAs), Business Case Analyses, Cost Benefit Analyses and Risk Assessments continued at a high level (similar to FY12 through FY14) as a result of DOD/DA efforts to meet the requirements laid out in the 2009 Weapons System Acquisition Reform Act. AMSAA was anticipating an increase in analytical support to Army ACAT 3, and ACAT 4 systems due to budget restrictions and financial limitations. AMSAA continued efforts in support of the Army Center for Reliability Growth (CRG), the Center for Army Acquisition and Materiel Lessons Learned (CAAMLL) as well as efforts on current operations related tasks, analyses, and model enhancements, specifically those supporting system performance data development, and materiel system performance analysis. AMSAA continued to enhance its comprehensive set of essential verified and validated item/system level methodologies, tools, and models and simulations to insure accurate and up-to-date analytical products across the full spectrum of Army capability/ commodity areas.			
FY 2015 Plans: Critical analyses from the US Army Materiel Systems Analysis Activity (AMSAA) continued to support Army key milestone decision reviews. AMSAA supported conceptual and developmental Acquisition Category (ACAT) 1, ACAT 2, ACAT 3, and ACAT 4) programs, including but not limited to Improved Turbine Engine, Man Transportable Robotic System, Next Generation Diagnostic System, Personnel Decontamination, Pre-emptive Threat Detection, and the Maneuver Support Vessel-Light. In addition, AMSAA will support multiple trade-space efforts in support of the Deputy Under Secretary of the Army for Test and Evaluation (DUSA-TE), and provide analytical support to modify Test and Evaluation planning efforts, and reduce testing through the use of modeling and simulation. AMSAA conducts follow-on studies for major Army programs undergoing engineering change proposals and continue to provide essential certified weapons system performance data for all major Army studies. AMSAAs technical work program relating to Analyses of Alternative (AoA) (both providing analytic input and certified data as well as leading specified AoAs), Business Case Analyses, Cost Benefit Analyses and Risk Assessments will continue at a high level (similar to FY12 through FY14) as a result of DOD/DA efforts to meet the requirements laid out in the 2009 Weapons System Acquisition Reform Act. AMSAA is anticipating an increase in analytical support to Army ACAT 3, and ACAT 4 systems due to budget restrictions and financial limitations. AMSAA continues efforts in support of the Army Center for Reliability Growth (CRG), the Center for Army Acquisition and Materiel Lessons Learned (CAAMLL) as well as efforts on current operations related tasks, analyses, and model enhancements, specifically those supporting system performance data development, and materiel system performance analysis.			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605706A / *Materiel Systems Analysis*	**Project (Number/Name)** 541 / *Materiel Sys Analysis*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
AMSAA will continue to enhance its comprehensive set of essential verified and validated item/system level methodologies, tools, and models and simulations to insure accurate and up-to-date analytical products across the full spectrum of Army capability/ commodity areas. ***FY 2016 Plans:*** Critical analyses from the US Army Materiel Systems Analysis Activity (AMSAA) will continue to support Army key milestone decision reviews. AMSAA will support conceptual and developmental Acquisition Category (ACAT) 1, ACAT 2, ACAT 3, and ACAT 4) programs, including but not limited to Joint Light Tactical Vehicle, Biometrics Enabling Capabilities, Multi-Function Electronic Warfare, Long Range Precision Fires, H-47 Block II, and Distributed Common Ground System – Army. In addition, AMSAA will support multiple trade-space efforts in support of the Deputy Under Secretary of the Army for Test and Evaluation (DUSA-TE), and provide analytical support to modify Test and Evaluation planning efforts, and reduce testing through the use of modeling and simulation. AMSAA will also analyze the use of software metrics for the DUSA-TE. AMSAA will conduct follow-on studies for major Army programs undergoing engineering change proposals and continue to provide essential certified weapons system performance data for all major Army studies. AMSAAs technical work program relating to Analyses of Alternative (AoA) (both providing analytic input and certified data as well as leading specified AoAs), Business Case Analyses, Cost Benefit Analyses and Risk Assessments will continue at a high level (similar to FY14 through FY15). AMSAA is anticipating an increase in analytical support to Army ACAT 3, and ACAT 4 systems due to budget restrictions and financial limitations. AMSAA will continue efforts in support of the Army Center for Reliability Growth (CRG), the Center for Army Acquisition and Materiel Lessons Learned (CAAMLL) as well as efforts on current operations related tasks, analyses, and model enhancements, specifically those supporting system performance data development, and materiel system performance analysis. AMSAA will continue to enhance its comprehensive set of essential verified and validated item/system level methodologies, tools, and models and simulations to insure accurate and up-to-date analytical products across the full spectrum of Army capability/commodity areas.			
Accomplishments/Planned Programs Subtotals	19.694	20.744	20.403

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0605709A / *Exploitation of Foreign Items*							
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	-	7.125	7.015	10.396	-	10.396	7.664	8.256	8.823	8.991	-	-
C28: *Acq/Exploit Threat Items (MIP)*	-	7.125	7.015	10.396	-	10.396	7.664	8.256	8.823	8.991	-	-

Note

FY 2016 increase attributed to Army realignment to preserve Test Capability (4.502 million).

A. Mission Description and Budget Item Justification

Program provides for the acquisition, exploitation, and inventory of foreign ground materiel with potential advanced technology threats to US systems, as well as emerging and destructive threats such as cyber vulnerabilities, biometric systems, and evolving improvised explosive devices. The primary aim of the program is to maximize the efficiency of research and development for force and materiel development by reducing the uncertainties associated with these threats. The program also answers scientific and technical intelligence requirements, provides materiel for realistic testing and training, and aids in the development of countermeasures to threat systems, materiel, and technologies. Operations have increased the amount of captured threat materiel that require immediate exploitation to develop countermeasures and force protection measures for US forces. Acquisition and exploitation are executed according to Army Foreign Materiel Program (FMP) Plan prioritization and with the approval of the Army Deputy Chief of Staff for Intelligence (G2).

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	5.938	7.015	5.894	-	5.894
Current President's Budget	7.125	7.015	10.396	-	10.396
Total Adjustments	1.187	-	4.502	-	4.502
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	1.187	-			
• Adjustments to Budget Years	-	-	4.502	-	4.502

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605709A / *Exploitation of Foreign Items*	Project (Number/Name) C28 / *Acq/Exploit Threat Items (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
C28: *Acq/Exploit Threat Items (MIP)*	-	7.125	7.015	10.396	-	10.396	7.664	8.256	8.823	8.991	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Program provides for the acquisition, exploitation, and inventory of foreign ground materiel with potential advanced technology threats to US systems, as well as emerging and destructive threats such as cyber vulnerabilities, biometric systems, and evolving improvised explosive devices. The primary aim of the program is to maximize the efficiency of research and development for force and materiel development by reducing the uncertainties associated with these threats. The program also answers scientific and technical intelligence requirements, provides materiel for realistic testing and training, and aids in the development of countermeasures to threat systems, materiel, and technologies. Operations have increased the amount of captured threat materiel that require immediate exploitation to develop countermeasures and force protection measures for US forces. Acquisition and exploitation are executed according to Army Foreign Materiel Program (FMP) Plan prioritization and with the approval of the Army Deputy Chief of Staff for Intelligence (G2).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Army Foreign Materiel Program (FMP) Acquisition	2.423	2.315	3.535

Description: Program provides for the acquisition, exploitation, and inventory of foreign ground materiel with potential advanced technology threats to US systems, as well as emerging and destructive threats such as cyber vulnerabilities, biometric systems, and evolving improvised explosive devices. The primary aim of the program is to maximize the efficiency of research and development for force and materiel development by reducing the uncertainties associated with these threats. The program also answers scientific and technical intelligence requirements, provides materiel for realistic testing and training, and aids in the development of countermeasures to threat systems, materiel, and technologies. Operations have increased the amount of captured threat materiel that require immediate exploitation to develop countermeasures and force protection measures for US forces. Acquisition and exploitation are executed according to Army Foreign Materiel Program (FMP) Plan prioritization and with the approval of the Army Deputy Chief of Staff for Intelligence (G2).

FY 2014 Accomplishments:
Conducted Foreign Materiel Acquisition (FMA) of threat related foreign ground materiel systems and state-of-the-art technologies of military significance.

FY 2015 Plans:
Continues to focus efforts on the acquisition of threat related foreign materiel systems and state-of-the-art technologies of military significance.

FY 2016 Plans:

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605709A / *Exploitation of Foreign Items*	**Project (Number/Name)** C28 / *Acq/Exploit Threat Items (MIP)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Will conduct Foreign Materiel Acquisition (FMA) of threat related foreign ground materiel systems and state-of-the-art technologies of military significance.			
Title: Army Foreign Materiel Program (FMP) Exploitation ***Description:*** Program provides for the acquisition, exploitation, and inventory and exploitation of foreign ground materiel with potential advanced technology threats to US systems, as well as emerging and destructive threats such as cyber vulnerabilities, biometric systems, and evolving improvised explosive devices. The primary aim of the program is to maximize the efficiency of research and development for force and materiel development by reducing the uncertainties associated with these threats. The program also answers scientific and technical intelligence requirements, provides materiel for realistic testing and training, and aids in the development of countermeasures to threat systems, materiel, and technologies. Operations have increased the amount of captured threat materiel that require immediate exploitation to develop countermeasures and force protection measures for US forces. Acquisition and exploitation are executed according to Army Foreign Materiel Program (FMP) Plan prioritization and with the approval of the Army Deputy Chief of Staff for Intelligence (G2). ***FY 2014 Accomplishments:*** Conducted Foreign Materiel Exploitation (FME) of threat related foreign ground materiel systems and state-of-the-art technologies of military significance. ***FY 2015 Plans:*** Conducts Foreign Materiel Exploitation (FME) of threat related foreign ground materiel systems and state-of-the-art technologies of military significance. ***FY 2016 Plans:*** Will conduct Foreign Materiel Exploitation (FME) of threat related foreign ground materiel systems and state-of-the-art technologies of military significance.	4.702	4.700	6.861
Accomplishments/Planned Programs Subtotals	7.125	7.015	10.396

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0605712A / *Support of Operational Testing*							
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	-	55.062	49.217	49.337	-	49.337	49.644	50.586	53.566	54.556	-	-
001: *ATEC Joint Tests And Follow-On Test & Eval*	-	0.161	-	-	-	-	-	-	-	-	-	-
V02: *ATEC Activities*	-	54.901	49.217	49.337	-	49.337	49.644	50.586	53.566	54.556	-	-

A. Mission Description and Budget Item Justification

This Program Element provides the resources to operate the Army's Operational Test Command (OTC) which conducts operational tests that provide significant data to the Army decision-makers on key Army systems and concepts. This project finances recurring costs for OTC that are essential for conducting realistic and continuous testing in the critical areas of equipment, doctrine, force design and training. These recurring costs include civilian pay, requirements for test support contracts, temporary duty, supplies and equipment.

OTC consists of three forward Test Directorates (Airborne and Special Operations Test Directorate, Fort Bragg, North Carolina; Integrated Test and Evaluation Directorate, Fort Bliss, Texas; and the Fires Test Directorate, Fort Sill, Oklahoma) together with four other Test Directorates (Aviation; Maneuver; Mission Command; Maneuver Support and Sustainment) at Ft Hood, Texas. These activities support the development and fielding cycle of all Army acquisition programs including rapid fielding initiatives. The primary mission of these test directorates is to perform detailed planning, execution, and reporting of Initial Operational Test and Evaluation (IOTE), and Force Development Test and Experimentation (FDTE). Funding is also used to support the planning, execution and reporting of Intelligence and Electronic Warfare operational testing.

This project also provides funding for the Army Joint Test Element (JTE) which examines Joint Service, Combatant Command (COCOM) and DoD agencies mission gaps, tactics and doctrine resulting in the development of Tactics Techniques and Procedures (TTP), Concept of Operations (CONOPS), and assessment documents. Products are developed through operational non-materiel solutions to urgent, specific, Joint Warfighter problems. The JTE coordinates and develops nominations for Quick Reaction Tests (QRTs), Joint Feasibility Studies (JFS); serves as the Operational Test Agency (OTA) for Army-led QRTs; and coordinates resources to support Joint Feasibility Studies (JFSs) and chartered Joint Tests (JT) under the Joint Test Unit (JTU) assigned to ATEC as the joint OTA. The ATEC Commanding General serves as the Executive Steering Committee (ESG) member, while the Executive Director serves as the Technical Advisory Board (TAB) member. DoDD 5010.41 provides policies and responsibilities for the JTE. The DA G-8 is the agent for JTE for operations and DoD level Senior Advisory Council (SAC) responsibly. Mission support also includes the support to two Joint Test Units (JTU) under the re-engineered Joint Test program. ATEC provides military resource support to Nellis Air Force Base, and Suffolk VA with Officer and Non-Commissioned Officer (NCO) support. Additional support to Joint Tests remains a requirement until the OSD Chartered projects are completed and transitioned to the respective Sponsoring COCOM.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army					Date: February 2015
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 6: *RDT&E Management Support*		R-1 Program Element (Number/Name) PE 0605712A / *Support of Operational Testing*			
B. Program Change Summary ($ in Millions)	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**
Previous President's Budget	55.475	49.221	50.756	-	50.756
Current President's Budget	55.062	49.217	49.337	-	49.337
Total Adjustments	-0.413	-0.004	-1.419	-	-1.419
• Congressional General Reductions	-	-0.004			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.413	-			
• Adjustments to Budget Years	-	-	-1.419	-	-1.419

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605712A / *Support of Operational Testing*	Project (Number/Name) 001 / *ATEC Joint Tests And Follow-On Test & Eval*	

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
001: *ATEC Joint Tests And Follow-On Test & Eval*	-	0.161	-	-	-	-	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Army consolidated three Test and Evaluation Command Headquarters, Army Test and Evaluation Command (ATEC), Developmental Test Command (DTC), and Army Evaluation Center (AEC). As a result of this consolidation, ATEC aligned all requirements for Joint Test and Evaluations, under one Program Element 0605898AM65 . Funds reprogrammed effective FY2015.

A. Mission Description and Budget Item Justification

This project provides funding for the Army Joint Test Element (JTE) which examines Joint Service, Combatant Command (COCOM) and DoD agencies mission gaps, tactics and doctrine resulting in the development of Tactics Techniques and Procedures (TTP), Concept of Operations (CONOPS), and assessment documents. Products are developed through operational non-materiel solutions to urgent, specific, Joint Warfighter problems. The JTE coordinates and develops nominations for Quick Reaction Tests (QRTs), Joint Feasibility Studies (JFS); serves as the Operational Test Agency (OTA) for Army-led QRTs; and coordinates resources to support Joint Feasibility Studies (JFSs) and chartered Joint Tests (JT) under the Joint Test Unit (JTU) assigned to ATEC as the joint OTA. The ATEC Commanding General serves as the Executive Steering Committee (ESG) member, while the Executive Director serves as the Technical Advisory Board (TAB) member. DoDD 5010.41 provides policies and responsibilities for the JTE. The DA G-8 is the agent for JTE for operations and DoD level Senior Advisory Council (SAC) responsibly. Mission support also includes the support to two Joint Test Units (JTU) under the re-engineered Joint Test program. ATEC provides military resource support to Nellis Air Force Base, and Suffolk VA with Officer and Non-Commissioned Officer (NCO) support. Additional support to Joint Tests remains a requirement until the OSD Chartered projects are completed and transitioned to the respective Sponsoring COCOM.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Army Joint Test Element (JTE)	0.161	-	-
Description: This project funds Army's Joint Test Element (JTE) which is comprised of civilian and military personnel. The JTE is required to research COCOM Integrated Priorities, Generate/Develop/Support efforts through rigorous COCOM engagements, and provide support during QRT/JT support through the transition phase at the end of each directed project. As the OTA, the JTE is responsible to maintain oversight status for the OSD for all directed test efforts. In addition, JTE provides for handbook development for the Warfighter throughout the world in hard copy and in electronic book form.			
FY 2014 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605712A / *Support of Operational Testing*	**Project (Number/Name)** 001 / *ATEC Joint Tests And Follow-On Test & Eval*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Provided civilian labor in support of JTE initiatives, program support from remote JT stations and COCOM engagements. All operational costs for this requirement will be charged to Program Element 0605898AM65 in FY15 and beyond.			
Accomplishments/Planned Programs Subtotals	0.161	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605712A / *Support of Operational Testing*	Project (Number/Name) V02 / *ATEC Activities*	

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
V02: *ATEC Activities*	-	54.901	49.217	49.337	-	49.337	49.644	50.586	53.566	54.556	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

The Operational Test Command (OTC) conducts operational tests that provide significant data to the Army decision-makers on key Army systems and concepts. This project finances recurring costs for OTC that are essential for conducting realistic and continuous testing in the critical areas of equipment, doctrine, force design and training. These recurring costs include civilian pay, requirements for test support contracts, temporary duty, supplies and equipment.

OTC consists of three forward Test Directorates (Airborne and Special Operations Test Directorate, Fort Bragg, North Carolina; Integrated Test and Evaluation Directorate, Fort Bliss, Texas; and the Fires Test Directorate, Fort Sill, Oklahoma) together with four other Test Directorates (Aviation; Maneuver; Mission Command; Maneuver Support and Sustainment) at Ft Hood, Texas. These activities support the development and fielding cycle of all Army acquisition programs including rapid fielding initiatives. The primary mission of these test directorates is to perform detailed planning, execution, and reporting of Initial Operational Test and Evaluation (IOTE), and Force Development Test and Experimentation (FDTE). Funding is also used to support the planning, execution and reporting of Intelligence and Electronic Warfare operational testing.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Operational Test Command (OTC) Activities	54.901	49.217	49.337
Description: Operational costs including: civilian pay, support contracts, temporary duty, supplies and equipment for subordinate elements of the Operational Test Command.			
FY 2014 Accomplishments: Funded operational costs included: civilian pay, support contracts, temporary duty, supplies and equipment for the Operational Test Command.			
FY 2015 Plans: Operational costs included civilian pay, support contracts, temporary duty, supplies and equipment for the Operational Test Command.			
FY 2016 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605712A / *Support of Operational Testing*	**Project (Number/Name)** V02 / *ATEC Activities*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Operational costs will include civilian pay, support contracts, temporary duty, supplies and equipment for the Operational Test Command.			
Accomplishments/Planned Programs Subtotals	54.901	49.217	49.337

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0605716A / *Army Evaluation Center*							
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	-	64.425	55.031	52.694	-	52.694	52.864	53.861	54.056	54.050	-	-
302: *Army Evaluation Center*	-	64.425	55.031	52.694	-	52.694	52.864	53.861	54.056	54.050	-	-

A. Mission Description and Budget Item Justification

This program provides funding for the integrated technical and operational evaluations and continuous evaluation of assigned MDAPs and major automated information systems for milestone decisions, materiel changes, and materiel releases in support of the Army Acquisition Executive and force development. Develop the evaluation strategy, design technical and operational tests, and evaluate the test results to address the combat effectiveness, suitability, safety and survivability factors pertinent to the decision process, for programs such Warfighter Information Network- Tactical (WIN-T Inc 2), Stryker ECPs, Joint Assault Bridge, Guided Multiple Launch Rocket System (GMLRS), M270A1 Improved Armor Cab, Joint Tactical Radio System (JTRS), Patriot Advanced Capability (PAC 3), Apache AH64E, and Distributed Common Ground System - Army (DCGS-A) (plus hundreds of other Army & Joint systems/programs across The Army). Prepare integrated System Evaluation Plans and conduct integrated technical and operational evaluations for all Army weapon systems. Includes civilian pay costs for the Army Evaluation Center.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	65.240	55.039	54.378	-	54.378
Current President's Budget	64.425	55.031	52.694	-	52.694
Total Adjustments	-0.815	-0.008	-1.684	-	-1.684
• Congressional General Reductions	-	-0.008			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.815	-			
• Adjustments to Budget Years	-	-	-1.684	-	-1.684

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605716A / *Army Evaluation Center*	Project (Number/Name) 302 / *Army Evaluation Center*	

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
302: *Army Evaluation Center*	-	64.425	55.031	52.694	-	52.694	52.864	53.861	54.056	54.050	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

This program provides funding for the integrated technical and operational evaluations and continuous evaluation of assigned MDAPs and major automated information systems for milestone decisions, materiel changes, and materiel releases in support of the Army Acquisition Executive and force development. Develop the evaluation strategy, design technical and operational tests, and evaluate the test results to address the combat effectiveness, suitability, safety and survivability factors pertinent to the decision process, for programs such Warfighter Information Network- Tactical (WIN-T Inc 2), Stryker ECPs, Joint Assault Bridge, Guided Multiple Launch Rocket System (GMLRS), M270A1 Improved Armor Cab, Joint Tactical Radio System (JTRS), Patriot Advanced Capability (PAC 3), Apache AH64E, and Distributed Common Ground System - Army (DCGS-A) (plus hundreds of other Army & Joint systems/programs across The Army). Prepare integrated System Evaluation Plans and conduct integrated technical and operational evaluations for all Army weapon systems. Includes civilian pay costs for the Army Evaluation Center.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Army Evaluation Center (AEC)	64.425	55.031	52.694
Description: Provide integrated technical and operational evaluations and continuous evaluation of assigned MDAPs and major automated information systems for major milestone decisions, materiel changes, and materiel releases in support of the Army Acquisition Executive and force development. Develop the evaluation strategy, design technical and operational tests, and evaluate the test results to address the combat effectiveness, suitability, and survivability factors pertinent to the decision process, for programs such as Mine resistant Ambush Protected Vehicle (MRAP), Global Command and Control System - Army (GCCS-A), Warfighter Information Network- Tactical (WIN-T), Stryker, High Mobility Artillery Rocket System (HIMARS), Land Warrior (LW), General Fund Enterprise Business System (GFEBS), Joint Tactical Radio System (JTRS), Patriot and Patriot Advanced Capability (PAC 3), Integrated Air and Missile Defense (IAMD), Family of Medium Tactical Vehicles (FMTV), Excalibur, Longbow Apache, and Distributed Common Ground System - Army (DCSG-A) (plus hundreds of other sytems/programs across The Army). Prepare integrated System Evaluation Plans and conduct integrated technical and operational evaluations for all Army weapon systems. In support of Overseas Contingency Operations (OCO), AEC has continued its workload focus towards the evaluation of Rapid Initiative (RI) systems, Counter Improvised Explosive Device (IED) systems, and Urgent Material Releases. Includes civilian pay costs for the Army Evaluation Center.			
FY 2014 Accomplishments: Funded the operational costs for the Army Evaluation Center (AEC) which includes civilian pay and non-labor costs (approximately 94% of AEC's total budget is civilian labor). Additionally, provided funding for the Underbody Blast Modeling and			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605716A / *Army Evaluation Center*	**Project (Number/Name)** 302 / *Army Evaluation Center*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Simulation support that provides early identification of vehicle improvements that directly impact Soldier survivability; improves test design; provides additional evaluation data to support acquisition. Also, provided funding for the Center for Reliability and Growth in response to policies mandating Reliability Growth programs and periodic assessments for major systems. ***FY 2015 Plans:*** Funds the operational costs for the Army Evaluation Center (AEC) which includes civilian pay and non-labor costs (approximately 94% of AEC's total budget is civilian labor). Additionally, provide funding for the Underbody Blast Modeling and Simulation support that provides early identification of vehicle improvements that directly impact Soldier survivability; improves test design; provides additional evaluation data to support acquisition. Also, provide funding for the Center for Reliability and Growth in response to policies mandating Reliability Growth programs and periodic assessments for major systems. ***FY 2016 Plans:*** Will fund the operational costs for the Army Evaluation Center (AEC) which includes civilian pay and non-labor costs (approximately 94% of AEC's total budget is civilian labor). Additionally, provide funding for the Underbody Blast Modeling and Simulation support that provides early identification of vehicle improvements that directly impact Soldier survivability; improves test design; provides additional evaluation data to support acquisition. Also, provide funding for the Center for Reliability and Growth in response to policies mandating Reliability Growth programs and periodic assessments for major systems.			
Accomplishments/Planned Programs Subtotals	64.425	55.031	52.694

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

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 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0605718A *I Army Modeling & Sim X-Cmd Collaboration & Integ*							
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	-	1.239	1.124	0.938	-	0.938	1.924	1.846	3.369	2.581	-	-
S03: *Analysis M&S Tools and Services*	-	1.239	1.124	0.938	-	0.938	1.924	1.846	3.369	2.581	-	-

Note

FY 2016 decrease attributed to realignment of funding for higher priority programs.

A. Mission Description and Budget Item Justification

PE 0605718A promotes the Army's Modeling and Simulation (M&S) strategy, defined by five guiding priorities: (1) formulate Army M&S policies; (2) develop and employ management processes for models, simulations and data; (3) develop M&S standards, architectures, networks and environments; (4) develop/employ new M&S tools and simulation technology; (5) develop an M&S workforce. PE 0605718A focuses on priorities 3 and 4.

M&S Standards, Architectures, Networks and Environments: The consistent use of standards, architectures, networks and environments advances the goal of interoperability. The Army coordinates with Joint, Interagency, Intergovernmental, and Multinational (JIIM) partners along with industry and academia to develop/employ standards that promote collaboration and facilitate the sharing of tools, data and information. The Army oversees procedures and processes for the appropriate use of standards to foster common formats and increase M&S and data reuse. The Army ensures these standards, architectures, networks and environments are readily accessible and can be reliably applied by users.

M&S Tools and Simulation Technology: The Army must have credible M&S tools and data to support the full range of Army organizational missions and functional responsibilities. M&S results that are timely and credible enhance decision making. The Army must develop and accredit reliable M&S tools so that decision makers and senior leaders benefit from the results and thus support the continued development, integration and use of such tools. To ensure credibility and reliability of results, M&S managers, developers and users must make the capabilities, constraints, limitations and assumptions of their M&S tools readily accessible. PE 0605718A provides for the development and employment of tools in the form of models, simulations and data that support the full range of Army interests and deliver timely information to enhance effective decision making. Moreover, these tools can be documented, verified, validated and accredited for their intended purpose in order to provide timely, credible results.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army					Date: February 2015
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 6: *RDT&E Management Support*			R-1 Program Element (Number/Name) PE 0605718A / *Army Modeling & Sim X-Cmd Collaboration & Integ*		
B. Program Change Summary ($ in Millions)	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**
Previous President's Budget	1.282	1.125	1.485	-	1.485
Current President's Budget	1.239	1.124	0.938	-	0.938
Total Adjustments	-0.043	-0.001	-0.547	-	-0.547
• Congressional General Reductions	-	-0.001			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.043	-			
• Adjustments to Budget Years	-	-	-0.547	-	-0.547

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605718A / *Army Modeling & Sim X-Cmd Collaboration & Integ*	Project (Number/Name) S03 / *Analysis M&S Tools and Services*	

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
S03: *Analysis M&S Tools and Services*	-	1.239	1.124	0.938	-	0.938	1.924	1.846	3.369	2.581	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

FY14-18 funds include those reprogrammed from PE0605718A, Project S05 - SIMTECH: $124,000, $116,000, $117,000, $117,000, $118,000. Reprogramming occurred during the POMBES14-18 cycle.

A. Mission Description and Budget Item Justification

The project "Analysis Tools and Services" has two functions:

Function 1 (priority 3 of the Army M&S strategy) -- Develop M&S standards, architectures, networks and environments that promote sharing, interoperability, access, and reliable application of tools, formats, data and information among/for users. M&S = Modeling and Simulation.

Function 2 (priority 4 of the Army M&S strategy) -- Develop and improve tools and technology in the form of models, simulations and data that support the full range of Army interests and deliver timely information to enhance effective decision making. These tools can be documented, verified, validated and accredited for their intended purpose.

Resources under Project S03 support the six M&S communities (Acquisition, Analysis, Experimentation, Intelligence, Test & Evaluation, Training) at the enterprise level through enabling efforts. These efforts include the following: (a) design models, simulations, data and tools that are resident within one organization but reusable and trusted by M&S users and specialists across the Army M&S Enterprise; (b) leverage industry and academia; (c) promote interoperability within M&S and between M&S and operational capabilities.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Develop M&S standards, architectures, networks and environments	0.409	0.366	0.310
Description: Develop M&S standards, architectures, networks and environments that promote sharing, interoperability, access, and reliable application of tools, formats, data and information among/for users.			
FY 2014 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605718A / *Army Modeling & Sim X-Cmd Collaboration & Integ*	**Project (Number/Name)** S03 / *Analysis M&S Tools and Services*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Fy14 funds are distributed among activities that promote the third priority of the Army M&S strategy: develop M&S standards, architectures, networks and environments. The specific distribution is based on requirements and priorities established prior to the start of and during FY14. ***FY 2015 Plans:*** Fy15 funds are distributed among activities that promote the third priority of the Army M&S strategy: develop M&S standards, architectures, networks and environments. The specific distribution is based on requirements and priorities established prior to the start of and during FY15. ***FY 2016 Plans:*** Fy16 funds will be distributed among activities that promote the third priority of the Army M&S strategy: develop M&S standards, architectures, networks and environments. The specific distribution will be based on requirements and priorities established prior to the start of and during FY16.			
Title: Develop M&S tools and technology ***Description:*** Develop and improve tools and technology in the form of models, simulations and data that support the full range of Army interests and deliver timely information to enhance effective decision making. These tools can be documented, verified and validated for their intended purpose. ***FY 2014 Accomplishments:*** Fy14 funds are distributed among activities that promote the fourth priority of the Army M&S strategy: develop M&S tools and technology. The specific distribution is based on requirements and priorities established prior to the start of and during FY14. ***FY 2015 Plans:*** Fy15 funds are distributed among activities that promote the fourth priority of the Army M&S strategy: develop M&S tools and technology. The specific distribution is based on requirements and priorities established prior to the start of and during FY15. ***FY 2016 Plans:*** Fy16 funds will be distributed among activities that promote the fourth priority of the Army M&S strategy: develop M&S tools and technology. The specific distribution will be based on requirements and priorities established prior to the start of and during FY16.	0.830	0.758	0.628
Accomplishments/Planned Programs Subtotals	1.239	1.124	0.938

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 / 6	**R-1 Program Element (Number/Name)** PE 0605718A / *Army Modeling & Sim X-Cmd Collaboration & Integ*	**Project (Number/Name)** S03 / *Analysis M&S Tools and Services*

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

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 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0605801A *I Programwide Activities*							
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	-	81.013	64.160	60.319	-	60.319	63.148	65.882	68.601	75.874	-	-
M02: *Med Cmd Spt (Non-AMHA)*	-	27.932	25.453	24.769	-	24.769	23.454	24.260	25.390	28.300	-	-
M15: *ARI Mgmt/ADM Act*	-	5.338	3.443	3.493	-	3.493	3.552	3.614	3.681	3.752	-	-
M16: *Standardization Groups*	-	4.250	5.306	3.496	-	3.496	3.606	4.147	4.230	4.312	-	-
M42: *ARDEC Cmd/Ctr Support*	-	8.402	5.847	6.965	-	6.965	6.647	6.820	7.092	7.223	-	-
M44: *CECOM Cmd/Ctr Spt*	-	5.658	3.975	4.167	-	4.167	4.513	4.643	4.825	4.916	-	-
M46: *AMCOM Cmd/Ctr Spt*	-	13.229	8.739	3.634	-	3.634	7.014	7.881	8.467	11.787	-	-
M47: *TACOM Cmd/Ctr Spt*	-	3.891	2.734	3.382	-	3.382	3.429	3.334	3.385	3.448	-	-
M55: *Edgewood Chemical Biological Center*	-	8.060	6.483	6.550	-	6.550	7.025	7.223	7.503	8.110	-	-
M58: *SECOM CMD/CTR Spt*	-	2.898	0.936	2.146	-	2.146	2.171	2.201	2.234	2.200	-	-
M76: *Armament Group Support*	-	1.355	1.244	1.717	-	1.717	1.737	1.759	1.794	1.826	-	-

A. Mission Description and Budget Item Justification

This program funds the continued operation of non-Army Management Headquarters Activities (AMHA) management and administrative functions at U.S. Army Research, Development and Standardization Groups overseas, Army Research, Development, Test, and Evaluation (RDTE) commands, centers and activities required to accomplish overall assigned general research and development missions and international research and development not directly related to specific research and development projects. The Standardization Groups play an integral role in the U.S. Army efforts for international cooperative research, development and interoperability, and fulfill international memoranda of understanding requirements (especially the American, British, Canadian and Australian Armies' Standardization Programs).

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army					Date: February 2015
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 6: *RDT&E Management Support*		R-1 Program Element (Number/Name) PE 0605801A / *Programwide Activities*			
B. Program Change Summary ($ in Millions)	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**
Previous President's Budget	81.993	64.169	64.243	-	64.243
Current President's Budget	81.013	64.160	60.319	-	60.319
Total Adjustments	-0.980	-0.009	-3.924	-	-3.924
• Congressional General Reductions	-	-0.009			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.980	-			
• Adjustments to Budget Years	-	-	-3.924	-	-3.924

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army										Date: February 2015		
Appropriation/Budget Activity 2040 / 6					R-1 Program Element (Number/Name) PE 0605801A / *Programwide Activities*				Project (Number/Name) M02 / *Med Cmd Spt (Non-AMHA)*			
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**
M02: *Med Cmd Spt (Non-AMHA)*	-	27.932	25.453	24.769	-	24.769	23.454	24.260	25.390	28.300	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides funding for authorized civilian workforce performing medical research, development,acquisition management and oversight that support the medical research, development, test, and evaluation (RDTE) programs at the U.S. Army Medical Research and Materiel Command (USAMRMC), Fort Detrick, Maryland to: (1) perform planning, programming, and budgeting; (2) manage resources; and (3) ensure compliance with U.S. Food and Drug Administration (FDA) and other regulatory and safety requirements. It also provides for continued operations of contracting and acquisition management functions performed by the U.S. Army Medical Research Acquisition Activity (USAMRAA) in support of the USAMRMC Medical RDTE Program.

Additionally, this project provides funding for the special immunization program (SIP). The SIP program provides FDA licensed vaccines and investigational new drug (IND) vaccines under informed consent to laboratory workers at the US Army Medical Research Institute of Infectious Diseases, and to other military, government, or contractor personnel who may be at risk of exposure to highly hazardous pathogenic microorganisms or toxins

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Civilian Authorized Salaries and other operational requirements	27.932	25.453	24.769
Description: Funding was provided for the following effort			
FY 2014 Accomplishments: Funded authorized civilian salaries and associated expenses (supplies, equipment, travel, etc.) at HQ, USAMRMC, and USAMRAA. Total civilian count reflects increased authorizations added in FY12 due to an administrative change to add authorizations for Army acquisition positions.			
FY 2015 Plans: Funds authorized civilian salaries and associated expenses (supplies, equipment, travel, etc) USAMRMC and USAMRAA. Also, provides regulatory, clinical monitoring and data support for the Special Immunization Program (SIP). This program provides non licensed vaccines under FDA oversight to personnel at risk of exposure to selected infectious diseases			
FY 2016 Plans: Will fund authorized civilian salaries and associated expenses (supplies, equipment, travel, etc) USAMRMC and USAMRAA. Also, will provide regulatory, clinical monitoring and data support for the Special Immunization Program (SIP). This program will provide non licensed vaccines under FDA oversight to personnel at risk of exposure to selected infectious diseases			
Accomplishments/Planned Programs Subtotals	27.932	25.453	24.769

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605801A / *Programwide Activities*	**Project (Number/Name)** M02 / *Med Cmd Spt (Non-AMHA)*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army										Date: February 2015		
Appropriation/Budget Activity 2040 / 6					R-1 Program Element (Number/Name) PE 0605801A / *Programwide Activities*				Project (Number/Name) M15 / *ARI Mgmt/ADM Act*			
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**
M15: *ARI Mgmt/ADM Act*	-	5.338	3.443	3.493	-	3.493	3.552	3.614	3.681	3.752	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) is the only Science and Technology (S&T) laboratory that conducts research to enhance the Soldier lifecycle (e.g., selection, assignment, training, leader development) and human relations (e.g., culture of dignity, respect, and inclusion). This project supports the non-Army Management Headquarters Activity (non-AMHA) management and administrative functions to enable ARI to accomplish its research mission and includes activities such as budget execution, procurement oversight, RDT&E program planning and evaluation, management control, security/safety, logistics, information technology, and personnel/manpower execution and oversight. ARI's behavioral and social science research provides effective non-materiel solutions to help the Army adjust to changes in force size and structure, a variety of mission demands and contexts, challenges in human relations, and budgetary constraints.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: ARI	5.338	3.443	3.493
Description: Funding is provided for the following effort ***FY 2014 Accomplishments:*** Provided operation of management, administrative, personnel, budget, and support functions at a level consistent with Army and mission requirements to meet the needs of ARI as an Army Laboratory conducting the Army's personnel, training, leader development, and organizational performance R&D program. ***FY 2015 Plans:*** Continue to provide operation of management, administrative, personnel, budget, and support functions at a level consistent with Army and mission requirements to meet the needs of ARI as an Army Laboratory conducting the Army's personnel, training, leader development, and organizational performance R&D program. ***FY 2016 Plans:*** Will provide operation of management, administrative, personnel, budget, and support functions at a level consistent with Army and mission requirements to meet the needs of ARI as an Army Laboratory conducting the Army's personnel, training, leader development, and organizational performance R&D program.			
Accomplishments/Planned Programs Subtotals	5.338	3.443	3.493

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605801A / *Programwide Activities*	**Project (Number/Name)** M15 / *ARI Mgmt/ADM Act*

C. Other Program Funding Summary ($ in Millions)

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040 / 6					R-1 Program Element (Number/Name) PE 0605801A / *Programwide Activities*				Project (Number/Name) M16 / *Standardization Groups*			
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**
M16: *Standardization Groups*	-	4.250	5.306	3.496	-	3.496	3.606	4.147	4.230	4.312	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Project M16 supports nine International Technology Centers (formerly known as Standardization Groups) (Australia, United Kingdom, Canada, France, Germany, Japan, Chile, Argentina, and Singapore) for personnel, travel and overhead costs, leases on buildings, and mandatory permanent change of station.

The mission of the International Technology Centers is to represent the Army and serve as in-country/region focal point for all international armaments cooperation in their areas (countries) of responsibility to government agencies, academia, and defense industries.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: International Technology Centers Management	4.250	5.306	3.496
Description: Management / administrative support to International Technology Center			
FY 2014 Accomplishments: Provided management and administrative functions at a level consistent with mission requirements and support needs at the nine International Technology Centers.			
FY 2015 Plans: Provide management and administrative functions at a level consistent with mission requirements and support needs at the nine International Technology Centers.			
FY 2016 Plans: Will provide management and administrative functions at a level consistent with mission requirements and support needs at the nine International Technology Centers.			
Accomplishments/Planned Programs Subtotals	4.250	5.306	3.496

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605801A / *Programwide Activities*	**Project (Number/Name)** M16 / *Standardization Groups*

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army										Date: February 2015		
Appropriation/Budget Activity 2040 / 6					R-1 Program Element (Number/Name) PE 0605801A / *Programwide Activities*				Project (Number/Name) M42 / *ARDEC Cmd/Ctr Support*			
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**
M42: *ARDEC Cmd/Ctr Support*	-	8.402	5.847	6.965	-	6.965	6.647	6.820	7.092	7.223	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Funding supports the Non-Army Management Headquarters Activity (AMHA) management and administrative functions at the U.S. Army Armament Research, Development and Engineering Center (ARDEC), Picatinny Arsenal, NJ.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Management Support	8.402	5.847	6.965
Description: U.S. Army Armament Research, Development and Engineering Center (ARDEC) management / administrative efforts. ***FY 2014 Accomplishments:*** Provided continued management and administrative functions at a level consistent with mission requirements and support needs at ARDEC. ***FY 2015 Plans:*** Provide management and administrative functions at a level consistent with mission requirements and support needs at ARDEC. ***FY 2016 Plans:*** Will provide continued management and administrative functions at a level consistent with mission requirements and support needs at ARDEC.			
Accomplishments/Planned Programs Subtotals	8.402	5.847	6.965

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army										Date: February 2015		
Appropriation/Budget Activity 2040 / 6					R-1 Program Element (Number/Name) PE 0605801A / *Programwide Activities*				Project (Number/Name) M44 / *CECOM Cmd/Ctr Spt*			
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**
M44: *CECOM Cmd/Ctr Spt*	-	5.658	3.975	4.167	-	4.167	4.513	4.643	4.825	4.916	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Supports the Non-Army Management Headquarters Activity management and administrative functions at the U.S. Army Communications-Electronics Research Development and Engineering Center (CERDEC), Aberdeen Proving Ground, MD.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Management Support	5.658	3.975	4.167
Description: U.S. Army Communications-Electronics Research Development and Engineering Center (CERDEC) management and administrative efforts. ***FY 2014 Accomplishments:*** Provided management and administrative functions at a level consistent with mission requirements and support needs at CERDEC. ***FY 2015 Plans:*** Provide management and administrative functions at a level consistent with mission requirements and support needs at CERDEC. ***FY 2016 Plans:*** Will provide management and administrative functions at a level consistent with mission requirements and support needs at CERDEC.			
Accomplishments/Planned Programs Subtotals	5.658	3.975	4.167

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605801A / *Programwide Activities*	Project (Number/Name) M46 / *AMCOM Cmd/Ctr Spt*	

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
M46: *AMCOM Cmd/Ctr Spt*	-	13.229	8.739	3.634	-	3.634	7.014	7.881	8.467	11.787	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Protection Technology (PT) Program - no FY 2016 funding.

A. Mission Description and Budget Item Justification

Supports the Non-Army Management Headquarters Activity (AMHA) management and administrative functions at the U.S. Army Aviation and Missile Research and Development Center (AMRDEC), Redstone Arsenal, AL.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Management Support	8.229	5.639	3.634
Description: U.S. Army Aviation and Missile Research and Development Center (AMRDEC) management and administrative efforts ***FY 2014 Accomplishments:*** Provided management and administrative functions at a level consistent with mission requirements and support needs at AMRDEC ***FY 2015 Plans:*** Provide management and administrative functions at a level consistent with mission requirements and support needs at AMRDEC ***FY 2016 Plans:*** Will continue to provide management and administrative functions at a level consistent with mission requirements and support needs at AMRDEC			
Title: Protection Technology (PT) Program	5.000	3.100	-
Description: The PT Program is a DoD program that encompasses the systems engineering activities intended to prevent and/or delay exploitation of critical technologies in U.S. weapon systems. These activities involve the entire life-cycle of systems acquisition, including research, development, implementation, and testing of PT measures. ***FY 2014 Accomplishments:*** Maintained the core team of subject matter experts (SMEs) available for this mission and to conduct technical assessments of micro-electronic parts used in the electronic designs of a number of critical Army weapons systems. ***FY 2015 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605801A / *Programwide Activities*	**Project (Number/Name)** M46 / *AMCOM Cmd/Ctr Spt*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Maintain the core team of subject matter experts (SMEs) available for this mission and to conduct technical assessments of micro-electronic parts used in the electronic designs of a number of critical Army weapons systems.			
Accomplishments/Planned Programs Subtotals	13.229	8.739	3.634

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army										Date: February 2015		
Appropriation/Budget Activity 2040 / 6					R-1 Program Element (Number/Name) PE 0605801A / *Programwide Activities*				Project (Number/Name) M47 / *TACOM Cmd/Ctr Spt*			
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**
M47: *TACOM Cmd/Ctr Spt*	-	3.891	2.734	3.382	-	3.382	3.429	3.334	3.385	3.448	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Supports the Non-Army Management Headquarters Activity management and administrative functions at the U.S. Army Tank-Automotive Research Development Engineering Center (TARDEC), Warren, MI.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Management Support	3.891	2.734	3.382
Description: U.S. Army Tank-Automotive Research Development Engineering Center (TARDEC) management and administrative efforts. ***FY 2014 Accomplishments:*** Provided management and administrative functions at a level consistent with mission requirements and support needs at TARDEC. ***FY 2015 Plans:*** Provide management and administrative functions at a level consistent with mission requirements and support needs at TARDEC. ***FY 2016 Plans:*** Will provide management and administrative functions at a level consistent with mission requirements and support needs at TARDEC.			
Accomplishments/Planned Programs Subtotals	3.891	2.734	3.382

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605801A / *Programwide Activities*	Project (Number/Name) M55 / *Edgewood Chemical Biological Center*	

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
M55: *Edgewood Chemical Biological Center*	-	8.060	6.483	6.550	-	6.550	7.025	7.223	7.503	8.110	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Supports the Non-Army Management Headquarters Activity (AMHA)management and administrative functions at the U.S. Army Edgewood Chemical Biological Center (ECBC), Aberdeen Proving Ground, MD.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Management Support	8.060	6.483	6.550
Description: U.S. Army Edgewood Chemical Biological Center (ECBC) management and administrative efforts. ***FY 2014 Accomplishments:*** Provided continued management and administrative functions at a level consistent with mission requirements and support needs at ECBC. ***FY 2015 Plans:*** Provide continued management and administrative functions at a level consistent with mission requirements and support needs at ECBC. ***FY 2016 Plans:*** Will provide continued management and administrative functions at a level consistent with mission requirements and support needs at ECBC.			
Accomplishments/Planned Programs Subtotals	8.060	6.483	6.550

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605801A / *Programwide Activities*	**Project (Number/Name)** M55 / *Edgewood Chemical Biological Center*

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army										Date: February 2015		
Appropriation/Budget Activity 2040 / 6					R-1 Program Element (Number/Name) PE 0605801A / *Programwide Activities*				Project (Number/Name) M58 / *SECOM CMD/CTR Spt*			
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**
M58: *SECOM CMD/CTR Spt*	-	2.898	0.936	2.146	-	2.146	2.171	2.201	2.234	2.200	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Supports the Non-Army Management Headquarters Activity (AMHA) management and administrative functions at the Natick Soldier Research, Development and Engineering Center (NSRDEC), Natick, MA.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Management Support	2.898	0.936	2.146
Description: Natick Soldier Research, Development and Engineering Center (NSRDEC) management and administrative functions			
FY 2014 Accomplishments: Provided continued management and administrative functions at a level consistent with mission requirements and support needs at NSRDEC.			
FY 2015 Plans: Provide continued management and administrative functions at a level consistent with mission requirements and support needs at NSRDEC.			
FY 2016 Plans: Will provide continued management and administrative functions at a level consistent with mission requirements and support needs at NSRDEC.			
Accomplishments/Planned Programs Subtotals	2.898	0.936	2.146

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605801A / *Programwide Activities*	Project (Number/Name) M76 / *Armament Group Support*	

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
M76: *Armament Group Support*	-	1.355	1.244	1.717	-	1.717	1.737	1.759	1.794	1.826	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

NATO Defense Against Terrorism (DAT) Pays the U.S. share of the NATO Civil Budget (mandatory bill)
and NATO Industrial Advisory Group (NIAG) Studies Pays the U.S. portion of the NATO NIAG bill (a must fund bill)
NATO Army Armaments Group (NAAG), AR-34-1 Multinational Force Compatibility. Supports Land Capability Group scientifica and technological exchange and development with NATO allies.

A. Mission Description and Budget Item Justification

The goal of this program is to expand worldwide allied standardization and interoperability through cooperative research and development (R&D) and technology sharing per SECDEF guidance and especially in support of the U.S. Army. This program partially funds the travel costs and administrative support (studies, analysis, interpretation, equipment, etc.) required to participate in international fora, such as the North Atlantic Treaty Organization (NATO) Army Armaments Group (NAAG), Defense Against Terrorism (DAT) and to pursue new cooperative R&D initiatives and international cooperative agreements such as memoranda of understanding. This program also includes: the United States' share of costs of the NATO Civil Budget, Chapter IX, which funds the NATO Industrial Advisory Group (NIAG) and the Special Fund for Cooperative Planning (U. S. Army is Executive Agent for this NATO bill); partially funds the Five Power Senior National Representatives, Army [SNR (A)], the Technical Cooperative Program, Bilateral SNR(A)s, and Army armaments working groups with many nations.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Army scientific support NATO Army Armaments Group (NAAG)	0.313	0.349	0.304
Description: Funded support Army subject matter experts to attend scientific and technological exchange, meetings, demonstrations, and/or simulations having military application and mutual benefits to the United States and its Allies.			
FY 2014 Accomplishments: Funds support Army experts to attend scientific and technological exchange meetings. This meetings will enable senior Army officials to attend senior level NATO meetings (e.g., CNAD and NAAG) and Army SMEs attend Land Capability Group and other working group scientific and technology exchange and development meetings, demonstrations, simulations having military applications and mutual benefits to the U.S. and its allies.			
FY 2015 Plans: Will fund supported Army experts to attend scientific and technological exchange, meetings, demonstrations, and/or simulations having military application and mutual benefits to the United States and its Allies.			
FY 2016 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605801A / *Programwide Activities*	**Project (Number/Name)** M76 / *Armament Group Support*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Funds will support Army Subject Matter Experts (SME) to attend scientific and technological exchange, meetings, demonstrations, and/or simulations having military application and mutual benefits to the United States and its Allies. FY16 funds will fund 16 different working/capability groups that will meet twice a year.			
Title: Executive Agent ***Description:*** Fund the United States' share of the NATO Civil Budget, Chapter IX (Defense Support Programs). U. S. Army is Executive Agent for this NATO bill. ***FY 2014 Accomplishments:*** Provided the United States' share of the NATO Civil Budget, Chapter IX (Defense Support Programs). U. S. Army is Executive Agent for this NATO bill. ***FY 2015 Plans:*** Provide the United States' share of the NATO Civil Budget, Chapter IX (Defense Support Programs). U. S. Army is Executive Agent for this NATO bill. ***FY 2016 Plans:*** Will provide the United States' share of the NATO Civil Budget, Chapter IX (Defense Support Programs). U. S. Army is Executive Agent for this NATO bill.	1.042	0.895	1.413
Accomplishments/Planned Programs Subtotals	1.355	1.244	1.717

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0605803A / *Technical Information Activities*							
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	-	33.018	32.303	28.478	-	28.478	34.948	34.207	31.946	32.854	-	-
720: *Tech Info Func Actv*	-	6.484	6.102	4.613	-	4.613	6.478	5.921	5.398	5.505	-	-
727: *Tech Info Activities*	-	10.115	8.573	9.039	-	9.039	11.324	11.654	10.210	10.514	-	-
730: *Pers & Trng Analys Act*	-	1.844	2.323	2.280	-	2.280	2.212	2.247	2.283	2.328	-	-
731: *Army High Performance Computing Centers*	-	5.192	5.230	4.021	-	4.021	4.726	4.546	4.641	4.731	-	-
733: *Acquisition Tech Act*	-	2.420	4.745	2.423	-	2.423	3.954	3.799	3.430	3.601	-	-
C16: *FAST*	-	1.346	1.442	1.966	-	1.966	1.786	1.656	1.682	1.715	-	-
C18: *BAST*	-	0.615	0.999	1.457	-	1.457	1.186	1.070	1.077	1.098	-	-
DW3: *Army Geospatial Enterprise Implementation*	-	5.002	2.889	2.679	-	2.679	3.282	3.314	3.225	3.362	-	-

Note

FY 2016 reduction attributed to realignment to other higher priority programs.

A. Mission Description and Budget Item Justification

This program element(PE) supports upgrading the accuracy, timeliness, availability, and accessibility of scientific, technical, and management information at all levels of the Army Research and Development (R&D) community. Management of
this information is critical to achieve the goals established by the Army's Senior Leadership. Use of accurate and timely technical information is essential to successfully meeting the milestones required on the path to the future force, allowing Army Science and Technology (S&T) leadership to refine investment strategy and quickly react to emerging opportunities and issues. This program includes initiatives to improve information derivation, storage, access, display, validation, transmission,distribution, and interpretation; to develop and enhance a single business model for Army S&T knowledge management information technology; to provide for Independent Review Team analysis of technology maturity as part of the Technology Area Readiness Assessment as required by DoDI 5000.2 dated May 12, 2003 as well as the Army Science Board (ASB) (projects 720 and 727). This program addresses the need to increase the competitiveness and availability of scientific, engineering, and technical skills in the DoD and National workforce through outreach programs aimed at middle school through college students and teachers. By providing direct working experience for these students in Army laboratories, the programs expose these students to the working world of science and engineering (project 729). The program includes funding for assessments in attitudes and opinions, longitudinal
trends in Soldier and leader perceptions, and emerging issues to provide senior Army leaders with information on Soldiers' perceptions to inform personnel policy and program decision-making concerning manpower, personnel, and training issues (project 730). The program includes funding for support for Army high performance computing centers (project 731). The program includes funding for improvements to the Army's acquisition process (project 733). This program supports combatant commanders and major Army commands by providing science advisors to address scientific and technical issues and by providing engineering teams to solve field Army

technical problems (project C16). Finally, this program funds studies by the Board on Army Science and Technology (BAST) (project C18). Coordination of this program with the other Services is achieved through inter-service working groups.

The cited work is consistent with the Assistant Secretary of Defense for Research and Engineering science and technology priority focus areas and the Army Modernization Strategy.

Work in this PE is performed by the Research, Development, and Engineering Command (RDECOM), Aberdeen Proving Ground, MD, the Army Research Institute for the Behavioral and Social Sciences (ARI), Ft. Belvoir, VA, the Army Corps of Engineers' Engineer Research and Development Center (ERDC), Vicksburg, MS, Medical Research and Materiel Command (MRMC), Ft. Detrick, MD, Space and Missile Defense Command (SMDC), Huntsville, AL, and the Information Management Office, Arlington, VA.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	33.835	32.319	37.709	-	37.709
Current President's Budget	33.018	32.303	28.478	-	28.478
Total Adjustments	-0.817	-0.016	-9.231	-	-9.231
• Congressional General Reductions	-	-0.016			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.122	-			
• SBIR/STTR Transfer	-0.939	-			
• Adjustments to Budget Years	-	-	-9.231	-	-9.231

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605803A / *Technical Information Activities*	Project (Number/Name) 720 / *Tech Info Func Actv*	

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
720: *Tech Info Func Actv*	-	6.484	6.102	4.613	-	4.613	6.478	5.921	5.398	5.505	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Administrative and Contractual Support for the Army Science Board transferred to OMA PE 122018 MDEP VSTD in FY 2016.

A. Mission Description and Budget Item Justification

This project provides funding for technology transfer activities to support acquisition, storage, and utilization of technical information for both military and domestic applications. Effective exploitation of science and technology (S&T) information is critical to achieving the goals established by senior Army leadership. Activities include Army support for Federal Laboratory Consortium (FLC) as required by Public Law; the Army Science Board; the Army Science Conference; S&T database management efforts; and administration of the Army's Small Business Innovation Research (SBIR) and Small Business Technology Transfer Program (STTR) in accordance with the Small Business Innovation Development Act of 1982, the Small Business Research and Development Enhancement Act of 1992 and subsequent reauthorizing legislation. Technology transfer activities make technical information available to both the public and private sectors to reduce duplication in Research and Development programs and to increase competitiveness in the US business community. Database management efforts support development of decision aids, databases, and automation support for the management and execution of the Army Research, Development, Test and Evaluation (RDTE) appropriation. In addition, this project provides funding for patent legal expenses and fees for all U.S. Army Research, Development, and Engineering Command (RDECOM) subordinate commands and laboratories, as required by the Omnibus Budget Reconciliation Act.

The cited work is consistent with the Assistant Secretary of Defense for Research and Engineering science and technology priority focus areas and the Army Modernization Strategy

Work is performed by the U.S. Army Research Development and Engineering Command (RDECOM), Aberdeen Proving Ground, MD and the U.S. Army Research Laboratory (ARL), Adelphi, MD.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Provide Army Funding Support for Federal Laboratory Consortium as Required by Public Law 104-113	0.390	0.250	0.251
Description: Funding is provided for the following effort.			
FY 2014 Accomplishments: Provided Army funding support for Federal Laboratory Consortium as required by Public Law 104-113.			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605803A / *Technical Information Activities*	**Project (Number/Name)** 720 / *Tech Info Func Actv*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Provide Army funding support for Federal Laboratory Consortium as required by Public Law 104-113. ***FY 2016 Plans:*** Will provide Army funding support for Federal Laboratory Consortium as required by Public Law 104-113.			
Title: Provide Administrative and Contractual Support for the Army Science Board ***Description:*** Funding is provided for the following effort. ***FY 2014 Accomplishments:*** Provided administrative and contractual support for the Army Science Board. ***FY 2015 Plans:*** Provide administrative and contractual support for the Army Science Board.	1.540	1.000	-
Title: Administrative Support for the Army's SBIR and STTR Programs ***Description:*** Army Small Business Innovation Research (SBIR) and Army Small Business Technology Transfer (STTR) programs. In 1982, Congress, through the Small Business Innovation Development Act (P.L. 97-219) established the SBIR program to foster the involvement of U.S. based small businesses in federal research and development (R&D). The SBIR program is designed to increase the participation of small, high-technology firms in the federal R&D endeavor and give driven businesses the opportunity to provide innovative R&D solutions in response to critical Army needs. The STTR program expands the public/private sector partnership to include the joint venture opportunities for small business and the nation's premier nonprofit research institutions. The most important role of the STTR program is to foster the innovation necessary to meet the nation's scientific and technological challenges in the 21st century. The SBIR/STTR support services include program and technical advisory support services on a broad level. The Army SBIR/STTR Program Management Office mission requires synergized, integrated business solutions that concentrates on small business technological advances, and eliminates redundancy in a codified and consistent method that reduces confusion and ambiguity for the thousands of small businesses that participate in the SBIR and STTR programs. ***FY 2014 Accomplishments:*** Provided administrative support for the Army's SBIR and STTR programs. ***FY 2015 Plans:*** Provide the Army SBIR/STTR Program Offices with the resources necessary to execute these Congressionally mandated Programs. The Army SBIR/STTR Program Offices procure program management and technical services required to support the programs. The support services include a broad range of program and technical assistance services such as programming; database support; drafting of letter reports, newsletters, briefings, presentation materials and correspondence; analyses;	0.879	1.037	1.029

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605803A / *Technical Information Activities*	**Project (Number/Name)** 720 / *Tech Info Func Actv*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
documentation for record keeping and reporting; and portal virtual machines (VM) development and support. The services assist the Program Offices in planning, coordinating, implementing, and orchestrating SBIR/STTR functions to include current and new approaches, processes and procedures as required by United States Code, Title 15, Section 638, Fiscal Year 2012 National Defense Authorization Act, Public Laws 112-81, and in Public Laws 97-219, 99-443, 102-564 and 106-554. ***FY 2016 Plans:*** Will provide the Army SBIR/STTR Program Offices with the resources necessary to execute Congressionally mandated programs. The Army SBIR/STTR Program Offices procure program management and technical services required to support the programs. The support services include a broad range of program and technical assistance services such as programming; database support; drafting of letter reports, newsletters, briefings, presentation materials and correspondence; analyses; documentation for record keeping and reporting; and portal virtual machines (VM) development and support. The services assist the Program Offices in planning, coordinating, implementing, and orchestrating SBIR/STTR functions to include current and new approaches, processes and procedures as required by United States Code, Title 15, Section 638, Fiscal Year 2012 National Defense Authorization Act, Public Laws 112-81, and in Public Laws 97-219, 99-443, 102-564 and 106-554.			
Title: Provide Funding for Patent Fees and Patent Legal Expenses for U.S. Army Materiel Command (AMC) Commands and Laboratories ***Description:*** Funding is provided for the following effort ***FY 2014 Accomplishments:*** Provided funding for patent fees and patent legal expenses for AMC commands and laboratories. ***FY 2015 Plans:*** Provide funding for patent fees and patent legal expenses for AMC commands and laboratories. ***FY 2016 Plans:*** Will provide funding for patent fees and patent legal expenses for AMC commands and laboratories.	0.484	1.158	1.164
Title: Provide Funding for S&T Strategic Planning and Support ***Description:*** Funding is provided for the following effort. ***FY 2014 Accomplishments:*** Provided funding for S&T Strategic Planning and Support. ***FY 2015 Plans:***	0.375	0.325	0.320

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605803A / *Technical Information Activities*	**Project (Number/Name)** 720 / *Tech Info Func Actv*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Provide funding for S&T Strategic Planning and Support. ***FY 2016 Plans:*** Will provide funding for S&T Strategic Planning and Support.			
Title: Provide Funding for the Army Science Conference ***Description:*** Funding is provided for the following effort. ***FY 2014 Accomplishments:*** Provided funding for the Army Science Conference.	0.457	-	-
Title: Administer S&T Database Computer Engineering Support Contract and Support RDECOM Databases S&T Management Support ***Description:*** Funding is provided for the following effort. ***FY 2014 Accomplishments:*** Administered S&T database computer engineering support contract and support RDECOM databases S&T management support. ***FY 2015 Plans:*** Administer S&T database computer engineering support contract and support RDECOM databases S&T management support. ***FY 2016 Plans:*** Will administer S&T database computer engineering support contract and support RDECOM databases S&T management support.	2.359	2.332	1.849
Accomplishments/Planned Programs Subtotals	6.484	6.102	4.613

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605803A / *Technical Information Activities*	Project (Number/Name) *727 / Tech Info Activities*	

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
727: *Tech Info Activities*	-	10.115	8.573	9.039	-	9.039	11.324	11.654	10.210	10.514	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project funds the development of decision aids, databases, and automation support for the management and execution of the Army Research, Development, Test, and Evaluation (RDTE) Appropriation. It includes the hardware, software, and contractor support required to develop and implement a set of management decision aids, databases, and hardware/software tools to support technical and budgetary decisions at the Office of the Secretary of Defense (OSD) and Department of the Army (DA). Most of the efforts in this project are on-going activities to support Army Research, Development, and Acquisition programs. Effective exploitation of S&T information is critical to achieving the goals established by Senior Army Leadership for the future force. Funding in this program supports Independent Review Team analysis of technology maturity as part of Technology Readiness Assessments as required by DoDI 5000.2 dated May 12, 2003.

The cited work is consistent with the Assistant Secreatary of Defense for Research and Engineering science and technology priority focus areas and the Army Modernization Strategy.

Work in this project is performed by the Office of the Assistant Secretary of the Army, Acquisition, Logistics and Technology, The Pentagon, Washington, DC.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Conduct and support S&T program portfolio assessments and analysis. ***Description:*** Funding is provided for the following effort. ***FY 2014 Accomplishments:*** Conducted and supported S&T program portfolio assessments and analysis. ***FY 2015 Plans:*** Conduct and support S&T program portfolio assessments and analysis. ***FY 2016 Plans:*** Will conduct and support S&T program portfolio assessments and analysis.	1.114	1.150	1.257
Title: Support Army S&T strategic planning, analysis, and prioritization. ***Description:*** Funding is provided for the following effort. ***FY 2014 Accomplishments:***	6.167	4.894	4.992

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605803A / *Technical Information Activities*	**Project (Number/Name)** *727 / Tech Info Activities*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Supported Army S&T strategic planning, analysis, and prioritization. ***FY 2015 Plans:*** Support Army S&T strategic planning, analysis, and prioritization. ***FY 2016 Plans:*** Will support Army S&T strategic planning, analysis, and prioritization.			
Title: Provide funding and support for Army Acquisition Program Technology Readiness Assessments for Program Milestone Decisions. ***Description:*** Funding is provided for the following effort. ***FY 2014 Accomplishments:*** Provided funding and support for Army Acquisition Program Technology Readiness Assessments for Program Milestone Decisions. ***FY 2015 Plans:*** Provide funding and support for Army Acquisition Program Technology Readiness Assessments for Program Milestone Decisions. ***FY 2016 Plans:*** Will provide funding and support for Army Acquisition Program Technology Readiness Assessments for Program Milestone Decisions.	1.972	1.619	1.800
Title: Provide Army support to Assistant Secretary of Defense for Research and Engineering Executive Staff for DoD-wide Science and Technology oversight. ***Description:*** Funding is provided for the following effort. ***FY 2014 Accomplishments:*** Provided Army support to Assistant Secretary of Defense for Research and Engineering Executive Staff for DoD-wide Science and Technology oversight. ***FY 2015 Plans:*** Provide Army support to Assistant Secretary of Defense for Research and Engineering Executive Staff for DoD-wide Science and Technology oversight. ***FY 2016 Plans:***	0.862	0.910	0.990

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605803A / *Technical Information Activities*	**Project (Number/Name)** *727 / Tech Info Activities*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Will provide Army support to Assistant Secretary of Defense for Research and Engineering Executive Staff for DoD-wide Science and Technology oversight.			
Accomplishments/Planned Programs Subtotals	10.115	8.573	9.039

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605803A / *Technical Information Activities*	Project (Number/Name) 730 / *Pers & Trng Analys Act*	

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
730: *Pers & Trng Analys Act*	-	1.844	2.323	2.280	-	2.280	2.212	2.247	2.283	2.328	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project funds the Army's behavioral and social science research in attitudes and opinions assessment, longitudinal trends in Soldier and leader perceptions, and emerging issues. The research provides a unique capability to address a number of issues that directly or indirectly affect Soldier and unit performance and readiness, such as identifying the impact of personnel policies on Soldier outcomes and identifying emerging and potential personnel challenges. Requirements for this research is solicited on a recurring basis from the Secretary of the Army (SA), Chief of Staff of the Army (CSA), Army Deputy Chief of Staff (DCS G-1), and the Assistant Secretary of the Army for Manpower and Reserve Affairs (ASA(M&RA)).

Work in this project is managed by the US Army Research Institute for the Behavioral and Social Sciences (ARI), Ft. Belvoir, VA.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: PERS & TRNG ANALYS ACT	1.844	2.323	2.280
Description: Funding is provided for the following effort. ***FY 2014 Accomplishments:*** Conducted research based on critical issues identified by the Secretary of the Army (SA), Chief of Staff of the Army (CSA), Deputy Chief of Staff G-1 (DCS G-1), and Assistant Secretary of the Army Manpower and Reserve (ASA(M&RA)). ***FY 2015 Plans:*** Continue to conduct research based on critical issues identified by the Secretary of the Army (SA), Chief of Staff of the Army (CSA), Deputy Chief of Staff G-1 (DCS G-1), and Assistant Secretary of the Army Manpower and Reserve (ASA(M&RA)). ***FY 2016 Plans:*** Will continue to conduct based on critical issues identified by the Secretary of the Army (SA), Chief of Staff of the Army (CSA), Deputy Chief of Staff G-1 (DCS G-1), and Assistant Secretary of the Army Manpower and Reserve (ASA(M&RA)).			
Accomplishments/Planned Programs Subtotals	1.844	2.323	2.280

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 / 6	**R-1 Program Element (Number/Name)** PE 0605803A / *Technical Information Activities*	**Project (Number/Name)** 730 / *Pers & Trng Analys Act*

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605803A / *Technical Information Activities*	Project (Number/Name) 731 / *Army High Performance Computing Centers*	

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
731: *Army High Performance Computing Centers*	-	5.192	5.230	4.021	-	4.021	4.726	4.546	4.641	4.731	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

This project provides funding for the high performance computing (HPC) research environment, research, education, outreach, and sustainment infrastructure sustainment, and outreach support associated with the Army High Performance Computing Centers at the U.S. Army Research Laboratory (ARL) and the U.S. Army Tank and Automotive Research, Development, and Engineering Center (TARDEC). The Army High Performance Computing Centers provide high fidelity modeling, simulation, and analysis of materials, systems, and operational constructs. The Centers work with researchers at Army laboratories and research, development, and engineering centers to explore new HPC computing environments, algorithms in the computational sciences to address critical technology issues in computational research areas.

The cited work is consistent with the Assistant Secretary of Defense for Research and Engineering science and technology priority focus areas and the Army Modernization Strategy.

Work is performed by the U.S. Army Research Laboratory (ARL), Aberdeen Proving Ground, MD and the U.S. Army Tank and Automotive Research, Development, and Engineering Center (TARDEC), Warren, MI.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Sustain the High Performance Computing (HPC) Environment and Infrastructure in Support of the U.S. Army Research Laboratory (ARL)	3.444	3.615	3.601
Description: Funding is provided for the following effort.			
FY 2014 Accomplishments: Developed software and software porting capability for new computing architectures; and maintained Army-specific applications to include data analysis support for petabytes of output, networking research and development (R&D), classified special access program (SAP) scientific visualization, software maintenance for Army specific SAP projects, and research computer systems to support ARL fundamental and applied research.			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605803A / *Technical Information Activities*	**Project (Number/Name)** 731 / *Army High Performance Computing Centers*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Develop software for emerging central processing unit graphics processing unit (CPU-GPU) based heterogeneous computing architectures; maintain scalable software tools for Army users; maintain and/or develop software to support large data analysis support for petabytes of output; investigate emerging networking paradigm's for HPC networking R&D, classified SAP scientific visualization, and software maintenance for Army-specific SAP projects; and research computer systems to support fundamental and applied HPC research at ARL. ***FY 2016 Plans:*** Will sustain HPC environment and infrastructure for armor/anti-armor, low observable technologies, large Army network data analytics for Army test and evaluation; validate and maintain software for emerging central processing unit graphics processing unit (CPU-GPU) based heterogeneous computing architectures; maintain software and hardware for ARL-specific applications, develop software engineering methods for maintaining scalable software tools for Army user; develop and provide software defined networking for HPC networking, classified SAP scientific visualization, and software maintenance for Army-specific SAP and related HPC projects; and research computer systems to support fundamental and applied HPC research for the Army. This effort supports (a) sustainment of SAP systems, software, visualization, (b) infrastructure support to emerging/future HPC systems (for example tactical cloudlet, heterogeneous computers), and (c) infrastructure for emerging networking (software defined networking).			
Title: Sustain the High Performance Computing (HPC) Environment and Infrastructure in Support of the U.S. Army Tank and Automotive Research Development and Engineering Center (TARDEC) ***Description:*** Funding is provided for the following effort. ***FY 2014 Accomplishments:*** Sustained the HPC environment and infrastructure in support of the U.S. Army TARDEC. ***FY 2015 Plans:*** Sustain the HPC environment and infrastructure in support of the U.S. Army TARDEC. ***FY 2016 Plans:*** Will sustain at reduced levels the HPC environment and infrastructure, classified and unclassified, at U.S. Army RDECOM-TARDEC in support of the execution of physics-based analyses performed on Army ground vehicles and platforms.	1.748	1.615	0.420
Accomplishments/Planned Programs Subtotals	5.192	5.230	4.021

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605803A / *Technical Information Activities*	**Project (Number/Name)** 731 / *Army High Performance Computing Centers*

C. Other Program Funding Summary ($ in Millions)

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605803A / *Technical Information Activities*	Project (Number/Name) 733 / *Acquisition Tech Act*	

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
733: *Acquisition Tech Act*	-	2.420	4.745	2.423	-	2.423	3.954	3.799	3.430	3.601	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project funds improvements to the Army's acquisition process by applying decision support and expert information systems, and by supporting analysis and evaluation of alternative acquisition strategies using techniques such as value-added analysis and analysis-of-alternatives. This project provides the environment for the analysis and evaluation of new information technologies, concepts, and applications for integrated management activities and support dynamic Army acquisition technology requirements. This program supports analysis efforts to conduct critical analyses for Army leadership in support of Army Transformation. These analyses are used by leadership in making acquisition, procurement, and logistics decisions in order to provide quality equipment and procedures to the Soldiers.

The cited work is consistent with the Assistant Secreatary of Defense for Research and Engineering science and technology priority focus areas and the Army Modernization Strategy.

Work in this project is performed by the Army Acquisition Support Center, Ft. Belvoir, VA.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: ACQUISITION TECH ACT	2.420	4.745	2.423
Description: Distribute and beta test application programs and user interface utilities for executive level information systems that offer Standard Query Language services to Army Acquisition Corps corporate and global databases. Analyze acquisition program financial programming and budgeting requirements. Continue development of Weapon Systems Handbook, long-range planning and policy analysis, resource allocation analysis, cost tracking, and analysis.			
FY 2014 Accomplishments: Distributed and beta test application programs and user interface utilities for executive level information systems that offer Standard Query Language services to Army Acquisition Corps corporate and global databases; analyze acquisition program financial programming and budgeting requirements; continue development of Weapon Systems Handbook, long-range planning and policy analysis, resource allocation analysis, cost tracking, and analysis.			
FY 2015 Plans: Distribute and beta test application programs and user interface utilities for executive level information systems that offer Standard Query Language services to Army Acquisition Corps corporate and global databases; will analyze acquisition program financial			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605803A / *Technical Information Activities*	**Project (Number/Name)** 733 / *Acquisition Tech Act*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
programming and budgeting requirements; continue development of Weapon Systems Handbook, long-range planning and policy analysis, resource allocation analysis, cost tracking, and analysis. ***FY 2016 Plans:*** Will distribute and beta test application programs and user interface utilities for executive level information systems that offer Standard Query Language services to Army Acquisition Corps corporate and global databases; will analyze acquisition program financial programming and budgeting requirements; will continue development of Weapon Systems Handbook, long-range planning and policy analysis, resource allocation analysis, cost tracking, and analysis.			
Accomplishments/Planned Programs Subtotals	2.420	4.745	2.423

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605803A / *Technical Information Activities*	Project (Number/Name) C16 / *FAST*	

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
C16: *FAST*	-	1.346	1.442	1.966	-	1.966	1.786	1.656	1.682	1.715	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides support for the Field Assistance in Science and Technology (FAST) program. The FAST program provides Science advisers, recruited from Army Materiel Command (AMC) headquarters and all AMC Major Subordinate Commands (MSC) to serve combatant commands and major commands worldwide. FAST tours of duty provide significant professional growth opportunities for the Army's scientists and engineers and enable them to focus AMC resources on rapidly identifying and solving field technical problems that enable the improvement of readiness, safety, training, and reduce operations and support (O&S) costs. The FAST activity is supported by Quick Reaction Coordinators within the engineering centers. The FAST program recoups many times its cost in O&S savings. FAST also provides emerging technology demonstration opportunities to the engineering centers and executes a biannual Technology Applications Conference (TAC) on a rotating basis between Forces Command, US Army Europe, US Forces Korea/Eighth Armyassists COCOMS with their annual Science and Technology Conferences. FAST also maintains close coordination with the Navy Science Advisor Program (Naval Fleet Forces Technology Integration Office).FAST supports warfighters in OEF with embedded Science and Technology Assistance Teams (STATs) as well as Science and Technology Acquisition Corps Advisors (STACAs).

The cited work is consistent with the Assistant Secretary of Defense for Research and Engineering science and technology priority focus areas and the Army Modernization Strategy.

Work in this project is performed by the US Army Materiel Command (AMC), Ft. Belvoir, VAResearch, Development and Engineering Command (RDECOM), Aberdeen Proving Ground, MD.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Respond to combatant commanders worldwide with technological solutions.	1.346	1.442	1.966
Description: Funding is provided for the following effort.			
FY 2014 Accomplishments: Responded to combatant commanders worldwide with technological solutions to urgent materiel problems they identify; deployed science advisors with US Task Forces in support of combatant commanders; executed biannual Technology Applications Conference.			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605803A / *Technical Information Activities*	**Project (Number/Name)** C16 / *FAST*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Respond to combatant commanders worldwide with technological solutions to urgent materiel problems they identify; deploy science advisors with US Task Forces in support of combatant commanders; execute biannual Technology Applications Conference. ***FY 2016 Plans:*** Will respond to combatant commanders worldwide with technological solutions to urgent materiel problems they identify; will deploy science advisors with US Task Forces in support of combatant commanders; will execute annual Program Review. Will provide additional support needed to participate in combatant commander exercises; will respond to corresponding Warfighter Requests for Information (RFI's);will project support to offset capability gaps identified by the Warfighter.			
Accomplishments/Planned Programs Subtotals	1.346	1.442	1.966

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605803A / *Technical Information Activities*	Project (Number/Name) C18 / *BAST*	

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
C18: *BAST*	-	0.615	0.999	1.457	-	1.457	1.186	1.070	1.077	1.098	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

This project funds the Board on Army Science and Technology (BAST). The BAST functions under the auspices of the National Research Council (NRC) an organization within the National Academies of Sciences and provides an external, independent, and objective source of advice to the Army. The BAST serves as a convening authority for the discussion of science and technology issues of importance to the Army and oversees independent Army-related studies conducted by the National Academies. Working in close coordination with the Army, the BAST helps define problems, brings together experts to study these problems, and provides recommendations. Committees are assembled in accordance with established NRC procedures and BAST studies often take 12 months or more to conclude.

The cited work is consistent with the Assistant Secretary of Defense for Research and Engineering science and technology priority focus areas and the Army Modernization Strategy.

Work in this project is executed extramurally by the U.S. Army Research Laboratory, Army Research Office (ARO), Research Triangle Park, NC.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Provide Studies and Conduct Periodic Meetings to Help Identify, Assess, and Recommend Emerging Opportunities in Science and Technology (S&T) Fields Applicable to the U.S. Army. ***Description:*** Funding is provided for the following effort. ***FY 2014 Accomplishments:*** Studied emerging topics based on Army S&T strategy and senior leader initiatives. ***FY 2015 Plans:*** Study emerging topics based on Army S&T strategy and senior leader initiatives. ***FY 2016 Plans:*** Will study emerging topics based on Army S&T strategy and senior leader initiatives. Planning to initiate a new National Academies study.	0.615	0.999	1.457
Accomplishments/Planned Programs Subtotals	0.615	0.999	1.457

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605803A / *Technical Information Activities*	**Project (Number/Name)** C18 / *BAST*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605803A / *Technical Information Activities*	Project (Number/Name) DW3 / *Army Geospatial Enterprise Implementation*	

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
DW3: *Army Geospatial Enterprise Implementation*	-	5.002	2.889	2.679	-	2.679	3.282	3.314	3.225	3.362	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Support the development of Army geospatial enterprise architecture, geospatial standards and related technologies and provide engineering support to Army Acquisition Programs to enable and align with geospatial enterprise architecture, standards and prescribe technology in their development processes. The end outcome is to enable a baseline Army geospatial enterprise composed of core Army Programs that manage and disseminate geospatial data and provide geospatial services in support of Mission Command. Ensures Army has a Standard, Sharable, Geospatial Foundation and can exchange geospatial data across Mission Command Systems and with National System for Geospatial-Intelligence (NSG) partners as required by DoDI 5000.56. Previously funded in project 733 in this PE.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Geospatial Acquisition Support Office	5.002	2.889	2.679

Description: This effort supports the systems engineering, architecture, and test and certification of Army Acquisition Systems to support PEO/PM Computing Environment geospatial requirements to ensure that system's acquisition processes address geospatial concepts, technology and standards early in their development processes and provide an interoperable geospatial baseline system of systems in theater, which is a near-term requirement that cannot be deferred.

FY 2014 Accomplishments:
Developed front end assessments of the PEO requirements to ensure that system's acquisition processes address geospatial concepts, technology and standards early in their development processes and provided a geospatial baseline system of systems in theater, which was a near-term requirement that could not be deferred.

FY 2015 Plans:
Extend Army Geospatial Enterprise (AGE) implementation within the Common Operating Environment (COE); develop and publish data model ensuring integration between US Marine Corp and Army and aligning with updated National System for Geospatial Intelligence (NSG) standards; identify geospatial end state for "Good Enough" drill; provide experimentation and pilot support including geospatial expertise to Common Operating Environment pilot project; develop, with industry, a geospatial data standard for mobile handheld devices.

FY 2016 Plans:
Will extend Army Geospatial Enterprise (AGE) implementation within the Command Post Computing Environment (CP CE), Mounted and Mobile Hand-Held CE's; will develop alternatives for providing Standard, Sharable Geospatial Foundation ((SSGF) a Mission Command Essential Capability) to Mission Command Systems in a disconnected, Intermittent or Limited (DIL)

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605803A / *Technical Information Activities*	**Project (Number/Name)** DW3 / *Army Geospatial Enterprise Implementation*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
environment; Will develop and recommend standards to distribute SSGF from National to Tactical; will develop "to be" AGE roadmap for Mission Command ensuring interoperability between Mission Command systems, the National System for Geospatial Intelligence (NSG) and our Joint, Inter-Agency, Inter-Governmental and Multi-National (JIIM) partners; will provide geospatial domain expertise for Cross-Cutting Capabilities for the Common Operating Environment			
Accomplishments/Planned Programs Subtotals	5.002	2.889	2.679

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0605805A / *Munitions Standardization, Effectiveness and Safety*							
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	-	56.543	64.027	32.604	-	32.604	24.915	26.799	30.577	31.236	-	-
296: *Close Combat Technology*	-	4.077	4.717	-	-	-	-	-	-	-	-	-
297: *Mun Survivability & Log*	-	13.974	13.804	7.544	-	7.544	6.012	5.752	9.094	9.350	-	-
857: *DoD Explosives Safety Standards*	-	3.959	1.835	1.826	-	1.826	1.757	1.759	1.794	1.829	-	-
858: *Army Explosives Safety Management Program*	-	0.537	0.547	0.542	-	0.542	0.546	0.543	0.643	0.655	-	-
859: *Life Cycle Pilot Process*	-	9.405	19.608	5.101	-	5.101	5.053	5.434	5.523	5.610	-	-
862: *Indirect Fire And Fuze Technology*	-	8.334	7.894	-	-	-	-	-	-	-	-	-
F21: *Direct Fire Technology and NATO Ammo Eval*	-	6.799	6.863	-	-	-	-	-	-	-	-	-
F24: *Conventional Munitions Demil*	-	9.458	8.759	17.591	-	17.591	11.547	13.311	13.523	13.792	-	-

Note

FY 2016 reduction attributed to realignment to other higher priority Army programs.

A. Mission Description and Budget Item Justification

This Program Element supports continuing technology investigations. It provides a coordinated tri-service mechanism for the collection and free exchange of technical data on the performance and effectiveness of all non-nuclear conventional munitions and weapons systems in a realistic operational environment. It provides for NATO interchangeability testing (F21); Joint munition effectiveness manuals used by all services; development of standardization agreements (STANAGS) and associated Manuals of Proof and Inspection (MOPI); operation of the North American Regional Test Center (NARTC); evaluation of demilitarization methods for existing conventional ammunition (F24); evaluation of useful shelf life, safety, reliability and producibility of pyrotechnic munitions; and improvement of explosives safety criteria for DOD munitions via the DOD Explosives Safety Board (857). Pyrotechnic Reliability and Safety (296) supports pyrotechnic research, development and testing to identify, characterize and resolve reliability, safety, storage and manufacturing issues that impact production availability and field use of pyrotechnics. Project 296 will result in the development and demonstration of new, safe, reliable and environmentally acceptable munitions. Munitions Survivability and Logistics (297) will make Army units more survivable by applying technologies to reduce the sensitivity of munitions to unplanned stimuli (e.g. bullet impacts, fragment impacts, fast cook off, slow cook off, sympathetic detonation, shaped charge jets) and by testing and demonstrating munitions logistics system solutions that prevent or minimize catastrophic explosive events and accelerate ammunition resupply. Project 297 also supports the Army Insensitive Munitions (IM) Board's reviews. The Army Explosives Safety Management Program (858) was established in FY01. The U.S. Army Technical Center for Explosives Safety uses the funds in this project to evaluate current explosives safety

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army	Date: February 2015
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605805A / *Munitions Standardization, Effectiveness and Safety*

standards and develop new, scientific and risk-based standards to meet U. S. Army explosives requirements. The Life Cycle Pilot Program (LCPP) (859) will assess production base capabilities and needs over the acquisition life cycle of various munitions and will address the producibility of ammunition including the transition to type classification and production, and the ability of the production base to cost effectively produce quality products on schedule. The Fuze Technology Integration program (862) will improve performance and lower the costs of existing proximity fuzes and enable new applications in submunitions and medium caliber fuzes, addressing advanced proximity fuze sensor technology, Micro-electromechanical Systems (MEMS), Safety and Arming (S&A) technology, and Electronic S&A (ESA) technology for smart munitions.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	58.309	49.052	45.484	-	45.484
Current President's Budget	56.543	64.027	32.604	-	32.604
Total Adjustments	-1.766	14.975	-12.880	-	-12.880
• Congressional General Reductions	-	-0.025			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	15.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.766	-			
• Adjustments to Budget Years	-	-	-12.880	-	-12.880

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2014	FY 2015
Project: 296: *Close Combat Technology*		
Congressional Add: *Radio Frequency (RF) Remote Activation Munitions (RAM)*	0.450	0.722
Congressional Add Subtotals for Project: 296	0.450	0.722
Project: 859: *Life Cycle Pilot Process*		
Congressional Add: *FY 2014 Congressional Add*	5.000	-
Congressional Add: *FY 2015 Congressional Add*	-	15.000
Congressional Add Subtotals for Project: 859	5.000	15.000
Congressional Add Totals for all Projects	5.450	15.722

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605805A / *Munitions Standardization, Effectiveness and Safety*	Project (Number/Name) 296 / *Close Combat Technology*	

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
296: *Close Combat Technology*	-	4.077	4.717	-	-	-	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Project 296 Close Combat Technology transferred to PE 0607131A - Weapons and Munitions Product Improvement Programs, Project ER2 in FY 2016.

A. Mission Description and Budget Item Justification

This project will support research, development and testing to identify, characterize and resolve reliability, safety, storage and manufacturing issues that impact production availability and field use of demolitions, grenades, shoulder launched munitions, mines and mine clearing charges and pyrotechnics, including training realism. Project will result in the development and demonstration of new, safe, reliable and environmentally acceptable munitions.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Grenade Fuze Sychronization Effort	-	0.150	-
Description: Program effort to adapt a M201 Fuze body with an interchangable Pyrotechnic delay cartridge that can be utilized as an M228, M208 or M213 Fuze. Program is a product effeciency which would significantly reduce manufacturing cost of fuzes, logistic burden, and engineering support cost while reducing critical inspections and pull force requirements across all grenades. ***FY 2015 Plans:*** One Fuze across multiple grenades at a much lower cost. Preliminary design and drawings are available from the FTI (Fuze Technology Integration) and this would be a follow on effort to verify the production readiness and grenade integration impacts across multiple programs.			
Title: Discriminating Passive Infrared Sensor (PIR) for the M4A1 Selectable Lighweight Attack Munition (SLAM)	0.055	-	-
Description: The M4A1 SLAM has four modes of operational engagement of its vehicle targets. One of the modes is a Side-Attack Mode which utilizes the SLAM's built-in passive infrared (PIR) sensor to detect the thermal signatures of passing vehicles to trigger and fire its explosively formed penetrator (EFP) warhead to defeat the target. If the current US Landmine Policy were to exceed to the Ottawa Convention Treaty, then the existing M4A1 SLAM's PIR feature will render the SLAM non-compliant to the Ottawa restrictions. The current PIR design does not have the ability to discriminate between vehicle and personnel when a potential target is detected. Without a replacement PIR design, the SLAM will lose one of its four operation modes to engage vehicle targets and unable to meet all of its intented missions. ***FY 2014 Accomplishments:***			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605805A / *Munitions Standardization, Effectiveness and Safety*	**Project (Number/Name)** 296 / *Close Combat Technology*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Continue Side Attack Mode development			
Title: Dual Payload (M206) ***Description:*** Add an extended source (Infrared Cloud) material to the M206 Flare. Justification: Test data has shown single flare effectiveness can be increased with the addition of an extended IR (Infrared) source. Impact: increased number of countermeasure dispenses and reduce logistical burden. ***FY 2014 Accomplishments:*** Added an extended source (Infrared Cloud) material to the M206 Flare ***FY 2015 Plans:*** M206 countermeasure flare effectiveness will be improved by adding Special Material. Performance - Increased effectiveness by doubling the countermeasure engagements that can respond to missile threat. Performance & Efficiency - Increases mission flight profiles.	0.145	1.012	-
Title: Degradable Chaff & Low Frequency Chaff (M1/M839) ***Description:*** Develop chaff that will: 1) After dispense, lose its RF (Radio Frequency) component. 2) Disperse and bloom rapidly with minimal clumping and birdnesting even when used at low speeds from a hovering helicopter. 3) Enhance coverage in the low frequency range. 4) Type classify RR170 Chaff for Army use. Justification: the long persistence of Chaff causes interference with fire control and air traffic control radar. Impact: Chaff will continue to interfere with control and tracking radar, limiting its use in the field and training. ***FY 2014 Accomplishments:*** Degradable Chaff & Low Frequency Chaff ***FY 2015 Plans:*** The operationally degradable chaff will address operational and training issues with chaff persistence. Performance - Increase frequency coverage where current Chaff lacks. Performance - Reduction of clumping and birdnesting will make the chaff more effective. Safety - Reduce interference with Traffic Control radars and aircraft radar systems. Environmental - Mitigates impact to farm animals that eat active dipoles after chaff deployment.	1.818	0.817	-
Title: Demolition Initiator Packaging - Skin Pack (MDI DODICS)	0.055	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605805A / *Munitions Standardization, Effectiveness and Safety*	**Project (Number/Name)** 296 / *Close Combat Technology*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Description: Current spool design is bulky, hard to conceal in urban environments and has potential for tangling. This project will develop a lighter, easily deployable and more reliable deployment method. It will have the added advantage of being compatible with Explosive Ordnance Disposal robotics. ***FY 2014 Accomplishments:*** Develop a lighter, easily deployable and more reliable deployment method			
Title: MK3A2 Replacement, Concussion Grenade Optimization Effort ***Description:*** This effort incorporates modern materials and insensitive explosives to provide a safer, producible concussion grenade. Use of the MK3A2 offensive grenade has been suspended due to age and safety issues. The current MK3A2 can expose the Soldier to toxic levels of asbestos. War fighters cannot safely employ the offensive grenade. Alternate munitions such as the M84 do not satisfy User needs for incapacitation of the enemy. ***FY 2014 Accomplishments:*** Finalized the redesign of the MK3A2 grenade;perform residual tests to justify the ECPs required to update the TDPL (Technical Data Package List); update associated documents (SDZ (Surface Danger Zone), FHC (Final Hazard Classification) etc.); Justification: There was funding to remove the existing safety hazard (asbestos) in the MK3A2. In addtion, the User has stated this capability is still required. Impact: If not funded, the MK3A2 redesign would not occur and the safety Hazard would still exist. In additon, no new MK3A2s would be allowed to be manufactured to the old TDP (Technical Data Package). ***FY 2015 Plans:*** 1) Fabrication of Multi Cavity Die and proveout. 2) Fuze and Packaging procurement. 3) Injection molding of 250 grenades. 4) LAP and Marking of grenades. 5) Engineering level testing.	0.350	1.500	-
Title: Claymore Force-on-Force TADSS Trainer ***Description:*** Claymore Force-on-Force TADSS Trainer ***FY 2014 Accomplishments:*** Developed an improved Claymore Force-on-Force Trainer. ***FY 2015 Plans:*** Develop an improved Claymore Force-on-Force Trainer. While the Claymore is one of the most popular items used by the soldier, the system does not have a TADSS trainer with sight, sound & MILES capability. Development of an improved Claymore trainer	1.204	0.516	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605805A / *Munitions Standardization, Effectiveness and Safety*	**Project (Number/Name)** 296 / *Close Combat Technology*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
will allow Claymore to be trained at CTCs and will provide more realistic and effective training for the user when they are training Claymore as an end item and when training Claymore as initiated by Spider.			
Accomplishments/Planned Programs Subtotals	3.627	3.995	-

	FY 2014	FY 2015
Congressional Add: Radio Frequency (RF) Remote Activation Munitions (RAM)	0.450	0.722
FY 2014 Accomplishments: A low cost reusable RF-RAMS MK16 receiver was re-designed with state of the art controller and safety circuitry to reduce its size, cost and enhance safety.		
FY 2015 Plans: A low cost reusable RF-RAMS MK16 receiver will be re-designed with state of the art controller and safety circuitry to reduce its size, cost and enhance safety. The current RF-RAMS receiver contract cost is approximately $3,000 in quantities above 930. The goal of this effort is to update the existing receiver design and implement improved manufacturing processes to reduce the cost. The low cost MK16 receiver will integrate several manufacturing and producibility improvements to reduce production costs from approximately $3,000 to a production unit cost goal of less than $1,000.		
Congressional Adds Subtotals	0.450	0.722

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605805A / *Munitions Standardization, Effectiveness and Safety*	Project (Number/Name) 297 / *Mun Survivability & Log*	

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
297: *Mun Survivability & Log*	-	13.974	13.804	7.544	-	7.544	6.012	5.752	9.094	9.350	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project supports the future force by making Army units more survivable through the investigation, testing and demonstration of munitions logistics system improvements that prevent or minimize catastrophic explosive events and accelerate ammunition resupply. Key thrusts are munitions storage area survivability, Insensitive Munitions (IM) technology integration and compliance, ammunition management and asset visibility, weapon system rearm, munitions configured load enablers and advanced packaging and distribution system enhancements. Within each thrust, a broad array of solutions will be identified, tested, and evaluated against developed system measures of effectiveness. Optimum, cost effective and efficient solutions that enable the rapid projection of lethal and survivable forces will be demonstrated. The early stages of force deployment are especially critical. Theater ammunition storage areas are vulnerable and present the enemy with lucrative targets. These areas and distribution nodes contain the only available munitions stocks in theater. Loss of these munitions could cripple the force, jeopardize the mission, and result in high loss of life. This project mitigates vulnerabilities and ensures a survivable fighting force.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Munitions Predictive Life	1.990	1.530	1.059

Description: This program will demonstrate technologies and algorithms that can help assess munitions serviceability based upon aggregate environmental exposures, system cycling and munition degradation models. The program will provide life cycle management tools for risk mitigation strategies, while reducing testing, inspection & surveillance required and improving weapon system reliability & and warfighter effectiveness.

FY 2014 Accomplishments:

Completed International Standards Organization (ISO) container extreme climatic location thermal data collection and simulation for development of algorithms that accurately estimate the temperature exposure of munitions based on location, storage area type, and munition type. Based on reliability and risk threshold levels developed from ammunition database analysis, developed algorithmic procedures that can be applied periodically to evaluate reliability and risk and determine functionality inspection requirements for the .50 caliber ammunition family. Conducted accelerated aging of propellant and calibrated an embedded propellant reliability sensor that enables real-time monitoring of the effects of environmental exposure on ammunition propellant stability/reliability. Conducted validation testing of passive credit card sized temperature sensor prototypes (Therm-E-Log).

FY 2015 Plans:

Complete all ISO container thermal data collection and incorporate temperature exposure algorithmic models of munitions based on location, storage area type, and munition type into the Munitions History Program. Conduct validation testing of the reliability and risk evaluation algorithmic procedures for .50 caliber ammunition family and begin development of threshold levels for

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605805A / *Munitions Standardization, Effectiveness and Safety*	**Project (Number/Name)** 297 / *Mun Survivability & Log*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
5.56mm and 7.62mm caliber ammunition families. Integrate propellant sensor device with propellant packaging, and prepare to conduct demonstration. Develop imaging based application to increase the fidelity of the estimation of ammunition time/ temperature exposure for Therm-E-Log passive temperature sensor. ***FY 2016 Plans:*** Develop reliability and risk algorithms and conduct validation testing for 5.56mm and 7.62mm caliber ammunition families and develop threshold levels for hand grenades and 40mm caliber ammunition families. Conduct brilliant green propellant sensor demonstration. Conduct long term propellant sensor validation testing for resistance based sensor. Conduct market survey of passive Radio Frequency Identification and low cost active environmental sensors for munitions, select viable candidates, and test.			
Title: Munitions Containerization Program ***Description:*** This program will demonstrate next generation packaging, with standardized dimensions/interfaces, that considers unit of issue, permits easy reconfiguration and that is reusable, nestable, automation friendly, and survivable. This new packaging (Ammoblocks) will permit the safe packing and shipping of more and different types of ammo together in user tailored loads; facilitate rapid, less labor intensive reconfiguration and resupply; and facilitate automation upgrades of load/assemble/pack and battlefield resupply operations. ***FY 2014 Accomplishments:*** Fabricated hardware and test designs for flexible ammunition palletized load unitization techniques.	0.500	-	-
Title: Improved Munitions Packaging ***Description:*** This program will demonstrate upgrades to existing packaging components and materials to improve legacy ammunition survivability. These upgrades will enhance ammunition survivability and reliability, improve field ammunition operations, and improve packaging producibility. ***FY 2014 Accomplishments:*** Fabricated prototypes of high density polyethylene (HDPE) cylindrical containers as replacements for current 120mm tank and 120mm/81mm mortar packaging. Down-selected final design and initiated fabrication of improved prototype low cost ammunition bandoleers. Conducted a redesign of plastic sealed pouches for 5.56mm ammunition that will reduce production costs and improve container volume usage efficiency. Conducted testing and determined best candidates of alternative Environmental Protection Agency registered preservatives for wood ammunition packaging materials that if validated will increase the quantity and types of preservative available and reduce life-cycle costs. Conducted evaluation of packaging test requirements and	1.644	2.362	1.502

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605805A / *Munitions Standardization, Effectiveness and Safety*	**Project (Number/Name)** 297 / *Mun Survivability & Log*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
identified requirements to challenge through a down-selection process; identified any potential changes that will streamline ammunition packaging test plans and procedures and eliminate redundancies while reducing time and resources required. ***FY 2015 Plans:*** Conduct engineering testing of HDPE cylindrical containers as lighter, less expensive replacements for current 120mm tank and 120mm/81mm mortar packaging and complete design modifications. Develop the design of a plastic polymer container for 5.56mm ammunition containers to be used in conjunction with plastic sealed ammunition pouches to reduce packaging weight and production costs. Develop updates to military and commercial standards and specifications for alternative Environmental Protection Agency registered preservatives for wood ammunition packaging materials. Implement packaging test requirement changes that eliminate redundancies while continuing to research the feasibility of changing more technically complex physical characteristic requirements. Perform a market research study on readily available Eco-Friendly packaging solutions in industry as well as technologies in development for potential application to ammunition packaging. ***FY 2016 Plans:*** Complete design and testing of a plastic polymer container for 5.56mm ammunition containers to be used in conjunction with plastic sealed ammunition pouches to reduce packaging weight and production costs. Coordinate the review and approval of updates to military and commercial standards and specifications for alternative Environmental Protection Agency registered preservatives for wood ammunition packaging materials. Incorporate packaging test requirement changes for more technically complex physical characteristic requirements into military standards and coordinate the specification review and approval process. Perform a phase II study of Eco-Friendly packaging solutions that will include further development of promising technologies as well as performance testing on candidate products that may be incorporated into actual end item designs.			
Title: Insensitive Munitions (IM) Integration Program ***Description:*** Demonstrate multiple IM technologies and integrate into end item(s) to improve munitions survivability and warfighter safety. IM Technologies, using State-of-the-Art materials, will be developed in the areas of warhead, propulsion and propellants, explosives, packaging, and barriers. In addition, modeling and simulation will be used to reduce development and testing costs. Efforts will increase the number of IM compliant ammunition items fielded to mitigate munitions reaction to unplanned stimuli such as fire, fragments, cook-off, bullets, adjacent munitions reaction (sympathetic detonation), and shape charge jet attacks. ***FY 2014 Accomplishments:*** Optimized the pressing parameters and waxing content of pressed IMX-104 explosive for use in M795 IM Precision Guidance Kit (PGK) compatible projectiles. Produced a melt cast Insensitive Munition (IM) explosive to replace Comp B explosive in the M67 Grenade; conducted individual grenade lethality and sensitivity tests; developed first generation packaging designs and concepts to allow grenade venting technology to function correctly. Manufactured Modular Artillery Charge System (MACS)	8.199	8.300	3.379

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605805A / *Munitions Standardization, Effectiveness and Safety*	**Project (Number/Name)** 297 / *Mun Survivability & Log*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Containers with Sealed Seam Technology (SST) and completed IM and limited sequential rough handling tests. Developed the corner testing apparatus, for the 30mm M789, to determine the effectiveness of PAX-30 explosive and completed 2D modeling and simulation of the M789 liner. Performed slow-cook-off test and validated cartridge case design for 30mm ammo. Developed, for Hand Held Signals, a packaging container Catch Cage enclosure and conducted multiple IM testing and modeling and initiated simulation effort of tether design for cover of container. Fabricated and tested, for the 105mm M1 Artillery round, a Cartridge Case Adapter kit, IM enhanced dunnage, Ionomer Vent Window packaging container, and meltable plastic projectile plug. Validated Pallet barrier design and performed limited rough handling for the 105mm round. Developed and performed engineering test of IM enhanced internal container dunnage for the 30mm M789 and 40mm M430A1. Demonstrated the viability of producing DEMN explosive in a one step process. Determined the maximum ratio of HMX (a less sensitive explosive) to DNMT explosive to use in formulation for munitions requiring IM explosives with small critical diameter.			
FY 2015 Plans: Transition to PMs optimized IMX-101 loading parameters and methods for M795 Artillery rounds. Down select the most beneficial tank ammunition container IM venting technology between seal seamed or precision metallic bonding. Finalize and perform IM and engineering performance test of pressed IMX-104 explosive and transition pressed IMX-104 for use in M795 IM Precision Guidance Kit (PGK) compatible projectiles. Transition to M67 Grenade IM Program a melt cast IM explosive to replace Comp B explosive. Transition to PM IM enhanced Flexible explosive for Demo items. Conduct, in the M67 Grenade, grenade lethality and sensitivity tests and finalize packaging design. Prove out multiple propellant bed configurations for large caliber ammunition. Down select most optimal two formulations for medium caliber ammunition. Finalize first phase to prove out propellant high sheer process to enhance IM propellants for medium caliber. Down select methods and equipment to produce eutectic components for IM munitions requiring eutectic venting technology. Develop, for the 30mm M789, IM enhanced internal dunnage and perform engineering and IM tests. Perform IM tests and transition a pressed explosive to the 30mm M789 IM Program. Finalize design and testing, for Hand Held Signals, of the packaging container Catch Cage enclosure and produce final prototypes with production level quality. Conduct, for the 30mm M789 program, performance testing and validate final design of IM enhanced cartridges cases and warhead adapter to separate fuze from projectile body. Initiate, for 30mm Cartridge, IM integration tests and transition technology to PM. Initiate integrated IM and performance tests for the 40mm M430A1 Cartridge. Finalize Pallet barrier design and perform rough handling for the IM enhanced 105mm M1. Produce DEMN explosive in a one step process and initiate IM and performance tests. Produce 100 lbs of DNMT explosive to use in formulation for munitions requiring IM explosives with small critical diameter.			
FY 2016 Plans: Transition technologies to produce IM compliant 105mm M1 Rounds. Finalize, for 30mm Cartridge, IM integration tests and transition technology to PM. Complete final integration IM and performance tests for the 40mm M430A1 Cartridge. Finalize propellant lab scale methodologies and testing hardware. Transition processing methodologies and IM propellants to medium and large caliber ammo programs. Transition to PMs base process and methodologies to produce affordable eutectic components.			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605805A / *Munitions Standardization, Effectiveness and Safety*	**Project (Number/Name)** 297 / *Mun Survivability & Log*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Prove out optimized DNMT and transition to applicable munitions requiring small critical diameter explosives. Update and revise the PEO Ammunition IM Strategic Plan to determine the current IM compliance status of all ammunition families and identify opportunities for improvement.			
Title: Ammo Provider	1.641	1.612	1.604
Description: This program demonstrates technologies that will assure a survivable munitions logistics system by increasing distribution velocity and protecting ammo storage areas. Technology areas to be investigated include ammunition asset visibility (including environmental sensors, marking technologies, and supply chain modeling), ammunition management (including improvements in stockpile surveillance and condition based management), sustainment (including pre-configured loads (soldier to unit size), field ammo reconfiguration capability, robotic handling, and improved load building capability), and force protection (including site planning software and field storage protection). ***FY 2014 Accomplishments:*** Incorporated re-warehousing time and cost planning capability and conducted system testing and demonstration of a prototype ammunition igloo storage optimization software tool. Completed operational testing and warfighter evaluation of the helicopter delivered enhanced speedbag. Conducted engineering testing and performed design modifications of a munitions environmental health monitoring system. Completed modeling and simulation of the reaction of tactical ammunition configured loads to unplanned stimuli in order to assess the propagation potential and degree of violence expected. Completed market survey of commercial airbags for use as a replacement for wood dunnage in ammunition shipping containers. ***FY 2015 Plans:*** Perform development work to adapt developed speedbag technologies to new mission areas that include heavier payloads, higher drop heights, and variable impact velocities. Complete updated design qualification testing on the munitions environmental health monitoring system. Conduct bullet and fragment impact testing for best and worst case scenario reactions and develop guidelines for building more survivable tactical ammunition configured loads. Complete performance and user testing and evaluation of commercial airbags for use as a replacement for wood dunnage in ammunition shipping containers and develop business case analysis for implementation. Evaluate the feasibility of utilizing Raman spectroscopy to determine the remaining useful life of ammunition propellants and significantly reduce the cost of surveillance testing. ***FY 2016 Plans:*** Conduct safety testing on the speedbag variants that will validate the new system designs. Conduct fragment impact testing on various materials to determine possible integration into Joint Modular Intermodal Container (JMIC) panels to provide enhanced survivability JMICs. Conduct safety testing of airbag dunnage systems and coordinate the review and approval of changes to DOD ammunition transportation procedures allowing their use in van trailer shipments. Verify that the evaluation of the remaining useful life of ammunition propellants using Raman spectroscopy is possible with a handheld reader in a field environment and			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
implement for surveillance testing. Determine concept for utilizing additive manufacturing to produce ammunition packaging dunnage on the battlefield to reduce logistics footprint and conduct market survey.			
Accomplishments/Planned Programs Subtotals	13.974	13.804	7.544

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605805A / *Munitions Standardization, Effectiveness and Safety*	Project (Number/Name) 857 / *DoD Explosives Safety Standards*	

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
857: *DoD Explosives Safety Standards*	-	3.959	1.835	1.826	-	1.826	1.757	1.759	1.794	1.829	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

No FY 2016 Funding: Explosive and Munitions Test and Analysis Tools.

A. Mission Description and Budget Item Justification

This program supports the Research, Development, Test, and Evaluation efforts of the DoD Explosive Safety Standards Board. It supports explosive safety effects research and testing to quantify hazards and to develop techniques to mitigate those hazards in all DoD manufacturing, testing, transportation, maintenance, storage, disposal of ammunition and explosives operations, and also to develop risk based explosives safety standards. Results are essential to the development and improvement of quantity-distance standards, hazard classification procedures, cost effective explosion-resistant facility design procedures, and personnel hazard/ protection criteria.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Explosive and Munitions Tests	0.160	0.113	-
Description: Funding is provided for the following effort ***FY 2014 Accomplishments:*** Developed improved explosives and munitions tests and characterization data. Specifically, continue development of improved gap tests for rocket motors. ***FY 2015 Plans:*** Develop improved explosives and munitions tests and characterization data. Specifically, continue development of improved gap tests for rocket motors.			
Title: Safety Guidelines	1.485	1.130	1.826
Description: Funding is provided for the following effort ***FY 2014 Accomplishments:*** Developed improved DoD and NATO explosives safety guidelines for munitions storage, explosives and field operation facilities. Prepared revised Dod 6055.9-STD and 4145.26M. ***FY 2015 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605805A / *Munitions Standardization, Effectiveness and Safety*	**Project (Number/Name)** 857 / *DoD Explosives Safety Standards*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Develop improved DoD and NATO explosives safety guidelines for munitions storage, explosives and field operation facilities. Prepare revised Dod 6055.9-STD and 4145.26M. ***FY 2016 Plans:*** Will develop improved DoD and NATO explosives safety guidelines for munitions storage, explosives and field operation facilities. Prepare revised Dod 6055.9-STD and 4145.26M.			
Title: Explosive Safety Database ***Description:*** Funding is provided for the following effort ***FY 2014 Accomplishments:*** Conducted other hazards analyses and expand/automate explosives safety databases. Developed improved Explosives Safety Mishap Analysis Module with links to accident reports.	1.385	-	-
Title: Analysis Tools ***Description:*** Funding is provided for the following effort ***FY 2014 Accomplishments:*** Developed and improved risk based analysis tools for explosives safety. Developed sequence of operations prototype. ***FY 2015 Plans:*** Develop and improve risk based analysis tools for explosives safety. Develop sequence of operations prototype.	0.929	0.592	-
Accomplishments/Planned Programs Subtotals	3.959	1.835	1.826

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605805A / *Munitions Standardization, Effectiveness and Safety*	Project (Number/Name) 858 / *Army Explosives Safety Management Program*	

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
858: *Army Explosives Safety Management Program*	-	0.537	0.547	0.542	-	0.542	0.546	0.543	0.643	0.655	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project establishes, validates or modifies explosives technical safety requirements per Department of Defense Pamphlet 385-64, Ammunition and Explosives Safety Standards. Project activities promote RDT&E of new and innovative explosives safety technologies that improve the survivability of Army personnel, facilities, and equipment as well as improve the health, safety and welfare of the general public.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Risk based explosives safety criteria	0.130	0.135	0.130
Description: Development of risk based explosives safety criteria that will aid commanders and safety personnel in the transition from regulation to risk management. ***FY 2014 Accomplishments:*** Continued explosives testing and support of hazard research and exposure consequences. ***FY 2015 Plans:*** Continue explosives testing and support of hazard research and exposure consequences. ***FY 2016 Plans:*** Will continue explosives testing and support of hazard research and exposure consequences.			
Title: Development of enhanced protective structure designs	0.196	0.200	0.200
Description: Develop enhanced protective structure designs that improve the survivability of Army personnel, facilities and equipment. ***FY 2014 Accomplishments:*** Continued explosives testing and support for improving protective construction designs. ***FY 2015 Plans:*** Continue explosives testing and support for improving protective construction designs. ***FY 2016 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605805A / *Munitions Standardization, Effectiveness and Safety*	**Project (Number/Name)** 858 / *Army Explosives Safety Management Program*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Will continue explosives testing and support for improving protective construction designs.			
Title: Development of explosive safety tools ***Description:*** Develop explosive safety tools for use by Army personnel. Explosive safety tools allow commanders and safety personnel to make explosive safety decisions using risk management methodologies. ***FY 2014 Accomplishments:*** Continued development of new methods and tools for risk assessment to improve explosive safety risk management decisions. ***FY 2015 Plans:*** Continue development of new methods and tools for risk assessment to improve explosive safety risk management decisions. ***FY 2016 Plans:*** Will continue development of new methods and tools for risk assessment to improve explosive safety risk management decisions.	0.211	0.212	0.212
Accomplishments/Planned Programs Subtotals	0.537	0.547	0.542

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605805A / *Munitions Standardization, Effectiveness and Safety*	Project (Number/Name) 859 / *Life Cycle Pilot Process*	

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
859: *Life Cycle Pilot Process*	-	9.405	19.608	5.101	-	5.101	5.053	5.434	5.523	5.610	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project supports the implementation of the Single Manager for Conventional Ammunition (SMCA) Industrial Base Strategic Plan through technology investigations, model based process controls, pilot prototyping, and industrial assessments. It will assess life cycle production capabilities required for all ammunition families, address design for manufacturability to facilitate economical production, identify industrial and technology requirements, and address the ability of the production base to rapidly and cost effectively produce quality products. Cost Reduction is an important part of the Life Cycle Pilot Process (LCPP). LCPP provides the resources to prototype critical technologies and develop the knowledge base to establish cost effective, environmentally safe and modern production processes in support of the Munitions Industrial Base transformation.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Product Cost Thrust Area	0.794	0.837	0.319
Description: This thrust area seeks out new opportunities to reduce overall manufacturing costs of ammunition and ammunition components. RDTE efforts will review and analyze legacy manufacturing processing for opportunities to integrate new technology and lean manufacturing processes to reduce cost. ***FY 2014 Accomplishments:*** Completed multi-use ultrasound probe modifications and installed at Holston Army Ammunition Plant (AAP). Baselined current configurations of foamed starter patch. Established stakeholder support and finalized execution plan for Insensitive Munitions Explosive (IMX) waste-water simulation phase 1. Completed design of multi-use ultrasound probe for explosive process control project. Evaluated new technology for legacy processes to reduce overall production costs for the Army. ***FY 2015 Plans:*** Complete multi-use ultrasound probe explosive process control project, foamed starter patch and Nitrocellulose (NC) model verification. Develop and implement process to de-lump nitroguanidine cake. Initiate shape charge jet disrupter manufacturing process development. Evaluate new technology for legacy processes to reduce overall production costs for the Army. ***FY 2016 Plans:*** Will complete shape charge jet disrupter. Evaluate new technology for legacy processes to reduce overall production costs for the Army.			
Title: Single Point Failures (SPFs)	0.853	1.012	0.749

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605805A / *Munitions Standardization, Effectiveness and Safety*	**Project (Number/Name)** 859 / *Life Cycle Pilot Process*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Description: Project thrust area efforts will employ manufacturing technologies to address SPFs. These projects are part of the overall strategy to reduce the number of SPFs in the National Technology Industrial Base (NTIB). Additionally, thrust area efforts address ammunition manufacturing capability shortfalls. This area leverages RDTE accomplishments and product knowledge to satisfy manufacturing requirements. ***FY 2014 Accomplishments:*** Completed environmentally benign colored smoke project. Completed Phase 1 of Commercial Off the Shelf (COTS) primer for grenade project. Completed initial efforts for mitigation of single point failure for HF-1 steel. ***FY 2015 Plans:*** Complete mitigation of High Fragmentation-1 (HF-1) Steel single point failure. Complete COTS primer project. Initiate mitigation of antimony sulfide and smoke pot lid SPFs. Continue development of manufacturing technology and processes for SPFs. Efforts will address source of supply problems within the NTIB. Initiate antimony sulfide and smoke pot lid mitigation plans. ***FY 2016 Plans:*** Will complete mitigation of single point failures for antimony sulfide and smoke pot lid. Continue development of manufacturing technology and processes for SPFs. Efforts will address source of supply problems within the NTIB.			
Title: Manufacturing Technology for Industrial Base Transformation ***Description:*** Project thrust area identifies and develops technologies that can be utilized at multiple government and private ammunition manufacturing locations to transform the NTIB. ***FY 2014 Accomplishments:*** Completed method to mark Insensitive Munition (IM) filled munitions, IMX waste treatment pilot process at Iowa AAP and improved Fluid Energy Mill (FEM) for High Melt Explosives (HMX) based formulations. Installed ultrasound analyzer and initiated testing. Completed kick off and site selection phases for Counter Current Ion Exchange project. Completed in-house government engineering efforts for NC nitration model verification. Investigated potential technologies to transform key manufacturing processes in the NTIB. ***FY 2015 Plans:*** Complete ultrasound analyzer for process control in explosives manufacturing, NC model verification and Counter Current Ion Exchange for nitrate laden waste treatment. Initiate multi-axis platform for energetic manufacture, ultrasound applications to propellant extrusion and Metastable Interstitial Composite (MIC)/green primer pilot scale manufacturing. Investigate	2.758	2.759	4.033

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605805A / *Munitions Standardization, Effectiveness and Safety*	**Project (Number/Name)** 859 / *Life Cycle Pilot Process*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
potential technologies to transform key manufacturing processes in the NTIB. Continue investigations, develop and document manufacturing technology for transition to the NTIB. ***FY 2016 Plans:*** Will complete multi-axis platform for manufacture of energetic systems and ultrasound inspection of propellant during extrusion. Continue MIC/green primer pilot scale manufacturing. Continue investigations, develop and document manufacturing technology for transition to the NTIB.			
Accomplishments/Planned Programs Subtotals	4.405	4.608	5.101

	FY 2014	FY 2015
Congressional Add: FY 2014 Congressional Add ***FY 2014 Accomplishments:*** Completed development and demonstration of a neutron generator and digital radiography imaging system for the non-destructive testing of ammunition items. Completed R&D, testing, characterization, and prototype development of advanced materials and manufacturing technologies to address Army Additive Manufacturing technology gaps. Effort also includes in-house engineering costs to support to Congressional Add.	5.000	-
Congressional Add: FY 2015 Congressional Add ***FY 2015 Plans:*** FY 2015 Congressional Add titled Program Increase	-	15.000
Congressional Adds Subtotals	5.000	15.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605805A / *Munitions Standardization, Effectiveness and Safety*	Project (Number/Name) 862 / *Indirect Fire And Fuze Technology*	

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
862: *Indirect Fire And Fuze Technology*	-	8.334	7.894	-	-	-	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Project 862 Indirect Fire and Fuze Technology transferred to PE 0607131A - Weapons and Munitions Product Improvement, Project ER5 in FY 2016.

A. Mission Description and Budget Item Justification

In FY 2014 and 2015, this program will identify, study, analyze and support enhanced lethality, range extension and standardization to improve target engagement effectiveness; increase reliability, safety, and exportability; and reduce taxpayer costs including elimination of sole source supply of indirect fires ammunition materials as well as studies and analyses of such technology solutions in comparison to current stock pile indirect fire conventional munitions and their associated production processes. Additionally, environmental impacts of legacy propellants, explosives and metal parts will be studied. Replacement of hazardous materials such as Ammonium Perchlorate, Diphenylamine, Lead, etc. and addition of propellant anti-tubewear additives will remain a focus. This program supports the standardization and interoperability of legacy and new production ammunition to maximize munitions battlefield interchangeability/compatibility between 52 and 39 caliber guns under the auspices of the international Joint Ballistics Memorandum Of Understanding (JBMOU) as well as rifled and smooth-bore mortars. Maximizing standardization, interchangeability, and exportability will potentially increase FMS sales of US products to maintain domestic production and economies of scale.

This program will also identify, study, analyze and support fuzing and safe and arm devices. This program will implement these technologies into fuzing systems to preclude obsolescence, maximize standardization, enhance performance, and improve the safety and exportability of existing munitions. The project addresses two major areas: (1) analysis and (2) block upgrades. Analysis efforts will identify second sources for fuzing systems that may reduce cost by providing competition, and maintain production when sources or parts are no longer available. It will also allow for the performance enhancement of current ammunition items by conducting studies of major fuze components to detect and identify latent defects. The second major area is block upgrades, which will identify and perform studies on improvements to fuzes; increase commonality of fuze components and requirements. Block upgrades will enable the introduction of the latest technologies into fuzing, keep the fuzing design current to avoid obsolescence issues, and add capabilities.

In FY 2016, this program supports operations, studies, and analyses required for integration of fuze technology improvements into munitions as well as general research, development, test and evaluation of indirect fire weapons and munitions.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Indirect Fire & Fuze ARDEC Support.	1.800	1.808	-
Description: Analysis: Evaluated Micro Electro-mechanical Systems (MEMS) component alternatives to increase sources of supply and lower cost; affects 40mm High Explosive Point Detonating grenade munitions. Conduct engineering test to verify			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605805A / *Munitions Standardization, Effectiveness and Safety*	**Project (Number/Name)** 862 / *Indirect Fire And Fuze Technology*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
MEMS component alternatives. Study improvements on M734A1/M783 mortar fuze delay primer. Block Upgrades: Determined that Proximity Sensor can physically fit in existing 30mm HEDP M789 round and continued fabrication of fuze components. Integrate new Proximity Sensor components and conduct engineering test to prove-out design. Analyze proximity fuze electronic upgrades for High Explosive and White Phosphorus mortar rounds. Test packing clip improvement on full range mortar training rounds. ***FY 2014 Accomplishments:*** Block Upgrades: Evaluated Micro Electro-Mechanical Systems (MEMS) component fabrication improvements to increase yield and lower cost. Conducted engineering tests to verify MEMS fabrication improvements. Studied improvements on M734A1/M783 mortar fuze delay primer for increased delay mode reliability. Conducted evaluations on electronics upgrades to M734A1 mortar fuze for improved safety and increased performance reliability. Conducted evaluations and prove-out packing clip improvement on mortar training rounds. Studied M734A1/M783 impact switch upgrade concept for performance improvements. Identify 40mm M550 setback spring interface improvements for increased throughput. Study improvements on fuze setter interface. ***FY 2015 Plans:*** Block Upgrades: Evaluated Micro Electro-Mechanical Systems (MEMS) component fabrication improvements to increase yield and lower cost. Conduct engineering tests to verify MEMS fabrication improvements. Study improvements on M734A1/M783 mortar fuze delay primer for increased delay mode reliability. Conduct evaluations on electronics upgrades to M734A1 mortar fuze for improved safety and increased performance reliability. Conduct evaluations and prove-out packing clip improvement on mortar training rounds. Study M734A1/M783 impact switch upgrade concept for performance improvements. Identify 40mm M550 setback spring interface improvements for increased throughput. Study improvements on fuze setter interface.			
Title: Indirect fire & Fuze PM CAS Support	6.534	6.086	-
Description: Indirect Fire: Activities include study, analyze and support of enhanced lethality technology to improve effectiveness and eliminate sole source High Fragmentation -1 steel in indirect fires. Activities include examination of alternative technologies, materials and processes. Study, analyze and support of candidate nonlethal, nontoxic multispectral smoke technologies to eliminate hazardous smoke in indirect fires screening missions. Activities include examination of alternative technologies, materials and processes. Study, retain and validate the effectiveness of M821 mortar cartridge lethality due to use of Insensitive Munitions in lieu of comp B HE fill. Safety improvements to conventional munitions. Joint NATO/Allied Cannon Munitions Interchangeability analysis and support of battlefield interchangeability/compatibility of munitions and associated enabling technologies between 52 and 39 caliber 155mm guns. Activities include ballistic testing including firing tables, safety, reliability and performance. ***FY 2014 Accomplishments:***			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605805A / *Munitions Standardization, Effectiveness and Safety*	**Project (Number/Name)** 862 / *Indirect Fire And Fuze Technology*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Activities included study, analyze and support of enhanced lethality technology to improve effectiveness and eliminate sole source High Fragmentation -1 steel in indirect fires. Activities included examination of alternative technologies, materials and processes. Studied, analyze and support of candidate nonlethal, nontoxic multispectral smoke technologies to eliminate hazardous smoke in indirect fires screening missions. Activities included examination of alternative technologies, materials and processes. Studied, retain and validate the effectiveness of M821 mortar cartridge lethality due to use of Insensitive Munitions in lieu of comp B HE fill. Made safety improvements to conventional munitions. Joint NATO/Allied Cannon Munitions Interchangeability analyzed and supported of battlefield interchangeability/compatibility of munitions and associated enabling technologies between 52 and 39 caliber 155mm guns. Activities included ballistic testing including firing tables, safety, reliability and performance. ***FY 2015 Plans:*** Activities include study, analyze and support of enhanced lethality technology to improve effectiveness and eliminate sole source High Fragmentation -1 steel in indirect fires. Activities include examination of alternative technologies, materials and processes. Study, analyze and support of candidate nonlethal, nontoxic multispectral smoke technologies to eliminate hazardous smoke in indirect fires screening missions. Activities include examination of alternative technologies, materials and processes. Study, retain and validate the effectiveness of M821 mortar cartridge lethality due to use of Insensitive Munitions in lieu of comp B HE fill. Safety improvements to conventional munitions. Joint NATO/Allied Cannon Munitions Interchangeability analysis and support of battlefield interchangeability/compatibility of munitions and associated enabling technologies between 52 and 39 caliber 155mm guns. Activities include ballistic testing including firing tables, safety, reliability and performance.			
Accomplishments/Planned Programs Subtotals	8.334	7.894	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605805A / *Munitions Standardization, Effectiveness and Safety*	Project (Number/Name) F21 / *Direct Fire Technology and NATO Ammo Eval*	

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
F21: *Direct Fire Technology and NATO Ammo Eval*	-	6.799	6.863	-	-	-	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Project F21 Direct Fire Technology and NATO Ammo Eval transferred to PE 0607131A - Weapons and Munitions Product Improvement Programs, Project ER6 Close Combat Technology in FY 2016.

A. Mission Description and Budget Item Justification

This program funding will be used to support direct fire ammunition from small caliber ammunition, 40mm grenade, medium caliber cannon ammunition and large caliber ammunition enhancements to lethality, effectiveness, survivability, accuracy and general product improvements. In addition, this program assures complete interchangeability of direct fire ammunition and weapons among all the NATO countries with all of the associated logistic, strategic and tactical advantages of the alliance. Project involves development and testing compliance of NATO standardization agreements (STANAGS) and staffing of the North American Regional Test Center (NARTC).

FY 2015 funds will support small caliber propellant optimization to improve propellant temperature stability, reduce muzzle flash signature and fouling. In addition, lightweight cartridge cases will continue to be investigated. A more lethal and safer design for 40mm grenades will be built and tested. An improved 30mm training round for the Apache helicopter will allow pilots to see where the rounds strike. Warhead improvements for the 30mm Apache ammunition are also under development. A number of studies on potential improvements for training ammunition and better primers will be conducted. A study to improve the safety of the fuzes used in the 120mm Abrams tank cannon will also be initiated.

FY 2016 funds will continue to be used for development and testing compliance of NATO standardization agreements (STANAGS) and staffing of the North American Regional Test Center (NARTC).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Propellant Optimization	0.750	0.780	-
Description: Develop optimized spherical propellant for reduced muzzle signature, fouling and chamber pressure. Cartridges containing alternate flash suppressants and deterrents will be manufactured and tested to determine optimum propellant composition.			
FY 2014 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605805A / *Munitions Standardization, Effectiveness and Safety*	**Project (Number/Name)** F21 / *Direct Fire Technology and NATO Ammo Eval*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Evaluated improvements that reduce hazardous materials in manufacturing, small caliber propellant optimization studies and testing of temperature stability technology. ***FY 2015 Plans:*** Optimize and evaluate improvements to flash suppression fouling and barrel wear technology for small caliber propellants.			
Title: Low Observable Traced Projectiles ***Description:*** Tracers have a number of drawbacks; largely they give away the position of the shooter during firing. Advancement in technology has improved tracer technology which potentially eliminates, mitigates shortfalls of current tracers and improves safety and soldier survivability. ***FY 2014 Accomplishments:*** Continued engineering prototype manufacturing, development, and testing. Downselected to most promising candidates conducting engineering studies to improve manufacturing readiness.	1.539	-	-
Title: Lightweight Ammunition ***Description:*** Investigate alternate cartridge case materials for cost and weight savings over conventional brass cartridge cases. ***FY 2014 Accomplishments:*** Continued to develop down selected technology candidates. Worked jointly with other services towards common solutions. ***FY 2015 Plans:*** Perform government testing and continued improvement of candidate designs. Two test events using one hundred fifty thousand cartridges are planned.	0.275	1.200	-
Title: New Ammo Design Qualification & NATO Mission Support ***Description:*** This program assures complete interchangeability of small caliber and automated cannon-caliber, and 40mm grenade ammunition and weapons among NATO countries to achieve the associated logistic, strategic and tactical advantages. ***FY 2014 Accomplishments:*** Supported NATO small arms ammunition interchangeability group meetings, documentation and test operations. ***FY 2015 Plans:*** Support NATO small arms ammunition interchangeability group meetings, documentation and test operations.	0.400	0.200	-
Title: M433 Warhead Improvement ***Description:*** 40mm: Improve lethality (fragmentation) of the M433 grenade.	0.600	2.441	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605805A / *Munitions Standardization, Effectiveness and Safety*	**Project (Number/Name)** F21 / *Direct Fire Technology and NATO Ammo Eval*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
FY 2014 Accomplishments: Initiated qualification of improved M433 cartridge. ***FY 2015 Plans:*** Complete component and integration subsystem and system testing. Three hundred cartridges will be built and tested to complete qualifications of the cartridge.			
Title: Target Practice Spotter Technology Insertion ***Description:*** Training Cartridge with impact initiated spotting charge. Goal is visible signature upon impact under all conditions. ***FY 2014 Accomplishments:*** Improved the design to facilitate high volume production and optimize design. ***FY 2015 Plans:*** The FY 2015 effort is to define and develop a pyrotechnic which will meet the User's reliability requirements. The FY 2015 effort will also focus on a Perchlorate free green pyrotechnic.	1.250	0.850	-
Title: Improved M789 Lethality, Warhead fragmentation improvement ***Description:*** Improve M789 warhead fragmentation for lethality by utilizing fragmentation sleeves, scoring or other technologies within the warhead to promote more efficient fragmentation. ***FY 2014 Accomplishments:*** Incorporated the best design into the M789 warhead and performed testing to support an air worthiness release. Provided warheads with shear liners for a combined lethality demonstration with the Proximity sensor. ***FY 2015 Plans:*** Developmental and demonstration testing of the M789 warhead, TDP development and fragmentation liner integration into shaped charge warhead.	0.500	0.500	-
Title: DBX-1 Lead free replacement for Lead Azide ***Description:*** Integrate environmentally friendly lead free primary explosives into M789. Demonstration in this form factor will enable transition to other munitions of larger size. ***FY 2015 Plans:*** Iniate lead free testing into M789.	-	0.050	-
Title: Improved .300 caliber sniper ammunition	0.500	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605805A / *Munitions Standardization, Effectiveness and Safety*	**Project (Number/Name)** F21 / *Direct Fire Technology and NATO Ammo Eval*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Description: Improve .300 caliber sniper ammunition to provide increased capabilities. ***FY 2014 Accomplishments:*** Refined and evaluated cartridge design.			
Title: 120mm Fuze Safety Improvement ***Description:*** Initiate efforts to incorparate a second independant safety into the fuze for current 120mm high explosive ammunition. ***FY 2014 Accomplishments:*** Focused on modifying fuze to meet current safety standards. Initiated design efforts to incorporate a pressure switch into the current fuze for the M830 and M830A1. Additional efforts was required to address obsolescence issues associated with the fuze.	0.400	-	-
Title: Extruded Propellant ***Description:*** Develop and demonstrate a government owned alternate propellant for M855A1 using existing extruded propellant technology. ***FY 2014 Accomplishments:*** Modeled interior ballistics and develop new formulations for 5.56mm, focusing on improved performance through lower variability, erosivity, and increased range via higher velocity at acceptable pressures. Developed pilot scale manufacturing process, produce samples, and demonstrate performance in subscale development testing. ***FY 2015 Plans:*** Extruded Propellant will be closing out Phase I by concluding designs, propellant iterations, initial testing and culminating in a Preliminary Design Review (PDR). At the conclusion of PDR, the program will move into Phase II/III which consists of larger scale testing, production testing, and working actions necessary for TDP finalization and ECP draft.	0.510	0.273	-
Title: Small Caliber Ammunition Training Range Impact Reduction Engineering Study ***Description:*** Perform an engineering study on the feasibility of reducing the surface danger zone of small caliber training ammunition while maintaining a ballistic match to the combat ammunition out to maximum effective range of the combat ammunition. The results of the study will assist in establishing the baseline requirements for future training ammunition. ***FY 2014 Accomplishments:***	0.075	0.050	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605805A / *Munitions Standardization, Effectiveness and Safety*	**Project (Number/Name)** F21 / *Direct Fire Technology and NATO Ammo Eval*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Conducted literature search, develop and run models and simulations, perform material analysis, conduct market survey, prepare recommended requirements and prepare program proposals. ***FY 2015 Plans:*** Testing of 7.62mm ball and trace potential candidates.			
Title: 40mm Pyrotechnics Cartridges ***Description:*** Improve reliability and hang time. ***FY 2015 Plans:*** Initial phase of multiyear effort starting with reliability and hang time improvements.	-	0.400	-
Title: Close Combat Mission Capability Kit (CCMCK) ***Description:*** CCMCK is a user installed weapons modification system, which allows the Soldier to employ weapons at a short range for force-on-force training using low velocity marking ammunition while precluding the weapon from firing standard service ammunition. The system provides normal environmental/weapon employment cues and immediate target feedback through force-on-force, interactive live fire scenario tasks, and mission execution. ***FY 2015 Plans:*** Engineering study to analyze unmet user requirements.	-	0.010	-
Title: Metastable Intermolecular Composite (MIC) Primer Lead free primer ***Description:*** Integrate environmental friendly lead free primary explosives within the primer of the M789 and remove lead Styphnate. Work small caliber 7.62mm and .50cal testing. ***FY 2015 Plans:*** Support local functional testing of 7.62mm and .50cal primer mix. Also supports additional contracting cost for 7.62mm and .50cal tooling for pilot line.	-	0.109	-
Accomplishments/Planned Programs Subtotals	6.799	6.863	-

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 / 6	**R-1 Program Element (Number/Name)** PE 0605805A / *Munitions Standardization, Effectiveness and Safety*	**Project (Number/Name)** F21 / *Direct Fire Technology and NATO Ammo Eval*

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605805A / *Munitions Standardization, Effectiveness and Safety*	Project (Number/Name) F24 / *Conventional Munitions Demil*	

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
F24: *Conventional Munitions Demil*	-	9.458	8.759	17.591	-	17.591	11.547	13.311	13.523	13.792	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Conventional Munitions Demilitarization technology program supports the Single Manager for Conventional Ammunition (SMCA) responsibility per Department of Defense Instruction (DoDI) 5160.68 to plan, program, budget and fund a Joint Service Research and Development (R&D) program that develops capability and capacity as well as technology and facilities to support the SMCA mission to demil and dispose of conventional ammunition stored in the SMCA Resource, Recovery and Disposition Account (B5A). The program goals include SMCA efforts to increase efficiencies and effectiveness to reduce the demil stockpile; reduce processing costs including packaging, handling and crating; and increase capacity through improved demil capabilities and processes. Project F24 includes activities: (1) to establish requirements and develop processes to focus investments, assess capabilities, analyze alternatives, and recommend and implement R&D projects; (2) to sustain product and process improvement and support for existing capabilities; (3) to develop or improve demil methods and processes related to advance the primary demilitarization core thrust areas of destruction, disassembly, removal, resource recovery and recycling, and waste stream treatment; (4) to ensure safe and environmentally acceptable demil operations; (5) to transition R&D products to United States Army depots or plants as well as commercial facilities performing demil; and (6) to mitigate risk and close-out project activities.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Advanced Destruction	5.588	4.781	6.460
Description: This effort focuses on destruction of munitions.			
FY 2014 Accomplishments: Installed, verified and completed evaluation of a decineration process for Cartridge Actuated Devices/ Propellant Actuated Devices (CADS/PADS) at Tooele Army Depot (TEAD). Designed and fabricated subsystems for the upgrade of the Munitions Cryofracture Demilitarization Facility (MCDF) at McAlester Army Ammunition Plant (MCAAP). Closed out the Mobile Plasma Treatment System (MPTS) project at Crane Army Ammunition Activity (CAAA). Closed out the Plasma Ordnance Disposal System (PODS) at HWAD.			
FY 2015 Plans: Continue the Ammonium Perchlorate (AP) rocket motor destruction at Letterkenny Munitions Center (LEMC), and initiated long lead item procurement for Thermal Treatment Capability (TTC) at LEMC. Conduct Phase I integration testing for AP rocket motor destruction, and complete rocket motor segmenting. Fabricate and facilitize equipment for AP rocket motor demil facility, and conduct prototype demonstration of TTC. Evaluate results of UCDT testing and conduct technology demonstration. Complete integrated demonstration and validation of the MCDF upgrade at MCAAP, and conduct the MCDF Low Rate Initial Production			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605805A / *Munitions Standardization, Effectiveness and Safety*	**Project (Number/Name)** F24 / *Conventional Munitions Demil*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
(LRIP). Initiate Soukos safety assessment for non-thermal demil process of whole munitions. Conduct throughput study for Static Detonation Chamber (SDC) project. ***FY 2016 Plans:*** Plan and execute transition of production MCDF hardware and processes at MCAAP. Complete integrated demonstration and validation of the AP rocket motor demil facility, and conduct the AP TTC LRIP. Initiate Soukos capability design project. Initiate SDC project. Initiate Rockeye Demil Capability Project.			
Title: Resource Recovery and Recycling (R3) ***Description:*** This effort focuses on enhancing existing methods of munitions R3. ***FY 2014 Accomplishments:*** Completed integrated demonstration and validation of the Improved Conventional Munitions (ICM) R3. Conducted the ICM R3 LRIP. Conducted the High Pressure Water Washout (HPWWO) Phase II equipment purchase and installation at Hawthorne Army Depot (HWAD), and conducted LRIP. Conducted supportability review of the Projectile Download Work Cell software. ***FY 2016 Plans:*** Increase throughput to ICM R3 by updating control system.	2.087	-	2.100
Title: Advanced Removal ***Description:*** This effort develops technology to remove propellant and energetics. ***FY 2014 Accomplishments:*** Designed download equipment for Red Phosphorus (RP) Phase II demil line, and completed prototype demonstration. Initiated HWAD Autoclave Process Upgrade project. ***FY 2015 Plans:*** Fabricate components for RP demil line. Integrate RP demil line into Phosphoric Acid Recovery Plant at CAAA. ***FY 2016 Plans:*** Complete integrated demonstration and validation of the RP demil line. Conduct the RP demil line LRIP.	0.824	0.900	0.741
Title: Advanced Waste Stream Treatment ***Description:*** This effort focuses on handling waste streams from munitions items. ***FY 2015 Plans:***	-	1.218	3.206

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605805A / *Munitions Standardization, Effectiveness and Safety*	**Project (Number/Name)** F24 / *Conventional Munitions Demil*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Complete procurement documentation, initiate Procurement Request, and award contract for upgraded Pollution Abatement System (PAS) on the RKPI project. Apply process efficiency changes to the environmental permitting process for the RKPI project. ***FY 2016 Plans:*** Install PAS, complete integrated demonstration and validation of RKPI, conduct the RKPI LRIP, and complete other process improvements.			
Title: Advanced Munitions Disassembly ***Description:*** Funding is provided for the following efforts: ***FY 2014 Accomplishments:*** Initiated the application of Lean Automation principles in the design and layout for the Cluster Bomb Unit 87 (CBU-87) Disassembly Download project at HWAD. Established process to detank Liquid Rocket-62 (LR-62) Bullpup motors, and detanked three Bullpup motors. ***FY 2015 Plans:*** Initiate project for Family of Scatterable Munitions (FASCAM) processing facility. Continue design, fabrication and installation of CBU-87 Download hardware. Plan and execute transition of production demil process for LR-62 Bullpup motors. Identify a process to dispose of Inhibited Red Fuming Nitric Acid and Mixed Amine Fuel components for Bullpup rockets. ***FY 2016 Plans:*** Continue support of FASCAM demil. Finalize installation of CBU-87 Download hardware. Demonstrate and validate process for CBU-87 Download, and conduct LRIP.	0.959	1.860	5.084
Accomplishments/Planned Programs Subtotals	9.458	8.759	17.591

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

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 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0605857A *I Environmental Quality Technology Mgmt Support*							
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	-	5.019	2.611	3.186	-	3.186	3.402	5.107	2.940	3.111	-	-
031: *Environmentally Sustainable Acquisition/Logistics*	-	4.135	2.339	2.914	-	2.914	2.966	4.554	2.549	2.597	-	-
06H: *Unexploded Ordnance Clearance Technology Support*	-	0.884	-	-	-	-	-	-	-	-	-	-
06I: *POLLUTION PREVENTION TECH SUPPORT*	-	-	0.272	0.272	-	0.272	0.436	0.553	0.391	0.514	-	-

Note

FY16 reductions attributed to realignment to other higher priority Army programs.

A. Mission Description and Budget Item Justification

This program resources environmental quality technology (EQT) related management support functions including support of research, development, test and evaluation required for EQT technical integration efforts at demonstration/validation test sites, technical information and activities, test facilities and general test instrumentation, and EQT requirement assessments. Funds required to support the management of technology transfer associated with technology demonstrated and validated as part of Army EQT projects are included in this program element. In addition, support to the Army weapon system acquisition community to address generic pollution prevention related requirements are included under the Environmentally Sustainable Acquisition/Logistics Program.

The Environmentally Sustainable Acquisition/Logistics project includes program management for developing acquisition strategies that both achieve system key performance parameters and sustain the environment without permanent and unacceptable change in the natural environment or human health from system concept refinement through disposal. It includes systematic consideration of environmental impacts, energy use, natural resources, installation impacts, economics, and quality of life. It provides support to the system acquisition community, e.g., program and project managers, to integrate environmental quality analyses into the system acquisition process. The goal is to resolve environmental quality issues related to weapon systems that are identified during design, development, testing, operation, or support to reduce Army environmental liabilities and total ownership costs and includes efforts to eliminate the use of hazardous and ozone-depleting materials from weapon systems and facilities and to ensure the availability of Halon 1301 to support weapon system fire suppression requirements.

The Unexploded Ordnance Detection and Clearance project, beginning in FY 2004, is being overseen by the Army. The project had been overseen by Office of the Secretary of Defense in prior years. This project funds the Unexploded Ordnance Center of Excellence (UXOCOE) to provide for coordination of unexploded ordnance (UXO) technologies across the Department of Defense.

The Pollution Prevention Tech Support project funds the management support costs to execute the Toxic Metals Reduction and Airborne Lead Reduction environmental quality technology programs.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army					Date: February 2015
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 6: *RDT&E Management Support*			R-1 Program Element (Number/Name) PE 0605857A / *Environmental Quality Technology Mgmt Support*		
B. Program Change Summary ($ in Millions)	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**
Previous President's Budget	5.191	2.612	4.093	-	4.093
Current President's Budget	5.019	2.611	3.186	-	3.186
Total Adjustments	-0.172	-0.001	-0.907	-	-0.907
• Congressional General Reductions	-	-0.001			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.172	-			
• Adjustments to Budget Years	-	-	-0.907	-	-0.907

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605857A / *Environmental Quality Technology Mgmt Support*	Project (Number/Name) 031 / *Environmentally Sustainable Acquisition/Logistics*	

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
031: *Environmentally Sustainable Acquisition/Logistics*	-	4.135	2.339	2.914	-	2.914	2.966	4.554	2.549	2.597	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Environmentally Sustainable Acquisition/Logistics (ESAL) project provides support to the system acquisition community to integrate environmental quality (EQ) issues and concerns into the life cycle system acquisition process. To a much lesser extent, safety, occupational health (OH) and energy efficiency are also addressed. The focus of ESAL is on improving readiness, improving acquisition processes, reducing supportability burden, and minimizing total ownership cost. The Assistant Secretary of the Army for Installations, Energy and Environment [ASA(IE&E)] has defined the functions of the ESAL project in coordination with the Army Acquisition Executive and the Assistant Secretary of the Army (Acquisition, Logistics, and Technology). This project provides direct support to the Army acquisition community to pursue environmental sustainability and comply with legal statutes, policies and regulations during the life cycle of Army materiel. ESAL helps the Army achieve compliance with its weapon systems, industrial base, field and deployed activities directed by international treaties, Federal statutes, Executive Orders, Department of Defense (DoD) and Army policies and regulations.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Environmental Quality (EQ) Support	1.073	1.109	1.150
Description: Provide EQ Support to Acquisition Programs			
FY 2014 Accomplishments: Provided support to Program Executive Offices/Program Managers (PEOs/PMs) to integrate EQ considerations into systems engineering activities. This included fulfillment of National Environmental Policy Act requirements, definition of EQ technology needs to meet operational requirements, analysis of technical data to support implementation decisions, participation in technical and cost risk assessment activities, and assessment and revision of contractual and operational requirements for successful technology integration, operation and support. Analyzed impending legal statutes impacting production, operation and support of weapon systems. Assessed weapon system readiness impacts (e.g., production levels, training, operational tempo and maintenance activities) resulting from EQ issues affecting industrial base and garrisons. Provided Army acquisition community representation in select OSD and DA committees addressing environmental legislation and rulemaking.			
FY 2015 Plans: Provide support to PEOs/PMs to integrate EQ considerations into systems engineering activities. This includes fulfillment of National Environmental Policy Act requirements, definition of EQ technology needs to meet operational requirements, analysis of technical data to support implementation decisions, participation in technical and cost risk assessment activities, and assessment and revision of contractual and operational requirements for successful technology integration, operation and support. Analyze			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605857A / *Environmental Quality Technology Mgmt Support*	**Project (Number/Name)** 031 / *Environmentally Sustainable Acquisition/Logistics*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
impending legal statutes impacting production, operation and support of weapon systems. Assess weapon system readiness impacts (e.g., production levels, training, operational tempo and maintenance activities) resulting from EQ issues affecting industrial base and garrisons. Provide Army acquisition community representation in select OSD and DA committees addressing environmental legislation and rulemaking. ***FY 2016 Plans:*** Will provide support to PEOs/PMs to integrate EQ considerations into systems engineering activities. This will include fulfillment of National Environmental Policy Act requirements, definition of EQ technology needs to meet operational requirements, analysis of technical data to support implementation decisions, participation in technical and cost risk assessment activities, and assessment and revision of contractual and operational requirements for successful technology integration, operation and support. Will analyze impending legal statutes impacting production, operation and support of weapon systems. Will assess weapon system readiness impacts (e.g., production levels, training, operational tempo and maintenance activities) resulting from EQ issues affecting industrial base and garrisons. Will provide Army acquisition community representation in select OSD and DA committees addressing environmental legislation and rulemaking.			
Title: Environmental Quality (EQ) Technology Management ***Description:*** Provide management support for Army EQ technology efforts. ***FY 2014 Accomplishments:*** Provided system acquisition support to the Army's Environmental Technology Technical Council (ETTC) and coordination of EQ-related systems' needs for expanded RDT&E efforts. Managed and oversaw technology integration efforts by Army Life Cycle Management Commands for weapon systems in all stages of design, procurement and operations/support. Coordinated RDT&E BA-2 requirements among members of the Pollution Prevention Technology Team, coordinate RDT&E BA-3 and BA-4 technology evaluations and operational requirements in support of weapon system platform integration, managed and oversaw test plan development, oversaw testing activities, and analyzed test results to support weapon systems engineering decision making. Managed development and execution of plans for the following pollution prevention technology areas: reformulation of materials used in ammunition and pyrotechnics to remove hazardous constituents; Zero Footprint Camp to reduce the fuel and water logistics burden in Overseas Contingency Operations; Reductions in Toxic Metals Used in Surface Finishing on Army Weapon Systems; and Airborne Lead Reduction in Army Weapon Systems. ***FY 2015 Plans:*** Provide system acquisition support to the Army's EQ technology program and coordination of EQ-related systems' needs for expanded RDT&E efforts. Manage and oversee technology integration efforts by Army Life Cycle Management Commands for weapon systems in all stages of design, procurement and operations/support. Coordinate RDT&E requirements among members of the Pollution Prevention Technology Team, coordinate technology evaluations and operational requirements in support of	0.832	0.835	0.865

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605857A / *Environmental Quality Technology Mgmt Support*	**Project (Number/Name)** 031 / *Environmentally Sustainable Acquisition/Logistics*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
weapon system platform integration, manage and oversee test plan development, oversee testing activities, and analyze test results to support weapon systems engineering decision making. ***FY 2016 Plans:*** Will provide system acquisition support to the Army's EQ technology program and coordination of EQ-related systems' needs for expanded RDT&E efforts. Will manage and oversee technology integration efforts by Army Life Cycle Management Commands for weapon systems in all stages of design, procurement and operations/support. Will coordinate RDT&E requirements among members of the Pollution Prevention Technology Team, will coordinate technology evaluations and operational requirements in support of weapon system platform integration, will manage and oversee test plan development, will oversee testing activities, and will analyze test results to support weapon systems engineering decision making.			
Title: Ozone Depleting Substance Management ***Description:*** Oversee Army efforts to manage the use/elimination of ozone depleting substances on Army weapon systems. ***FY 2014 Accomplishments:*** Oversaw Army efforts to manage the use/elimination of ozone-depleting substances on Army weapon systems. Monitored the Army's reserve of ozone-depleting substances that contains the Army's strategic supplies of Halon used for explosion and fire suppression systems and R-22 used in fielded environmental control units. Coordinated with Program Executive Offices/Program Managers (PEOs/PMs) to affect system replacement and retrofit to eliminate ozone depleting substances while minimizing greenhouse gases and will obtain approval to require use of Halon in new contracts. ***FY 2015 Plans:*** Oversee Army efforts to manage the use/elimination of ozone-depleting substances on Army weapon systems. Monitor the Army's reserve of ozone-depleting substances that contains the Army's strategic supplies of Halon used for explosion and fire suppression systems and R-22 used in fielded environmental control units. Coordinate with PEOs/PMs to affect system replacement and retrofit to eliminate ozone depleting substances while minimizing greenhouse gases and obtain approval to require use of Halon in new contracts. ***FY 2016 Plans:*** Will oversee Army efforts to manage the use/elimination of ozone-depleting substances on Army weapon systems. Will monitor the Army's reserve of ozone-depleting substances that contains the Army's strategic supplies of Halon used for explosion and fire suppression systems and R-22 used in fielded environmental control units. Will coordinate with PEOs/PMs to affect system replacement and retrofit to eliminate ozone depleting substances while minimizing greenhouse gases and to obtain approval to require use of Halon in new contracts.	0.298	0.395	0.410
Title: Headquarters Army Environmental System (HQAES)	1.932	-	0.489

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605857A / *Environmental Quality Technology Mgmt Support*	**Project (Number/Name)** 031 / *Environmentally Sustainable Acquisition/Logistics*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Description: Headquarters Army Environmental System (HQAES) support. ***FY 2014 Accomplishments:*** Supported Headquarters Army Environmental System (HQAES) modifications recommended by Configuration Control Management Board in order to support network security worthiness. ***FY 2016 Plans:*** Will support Headquarters Army Environmental System (HQAES) modifications recommended by Configuration Control Management Board in order to support network security worthiness.			
Accomplishments/Planned Programs Subtotals	4.135	2.339	2.914

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605857A / *Environmental Quality Technology Mgmt Support*	Project (Number/Name) 06H / *Unexploded Ordnance Clearance Technology Support*	

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
06H: *Unexploded Ordnance Clearance Technology Support*	-	0.884	-	-	-	-	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This effort was devolved to the Army from the office of the Under Secretary of Defense for Acquisition, Technology and Logistics (USD(AT&L)). This effort funds the Unexploded Ordnance Center of Excellence (UXOCOE), which provides the day-to-day management, coordination, and information clearinghouse functions, and serves as the Department of Defense's (DoD) center for coordinating Unexploded Ordnance (UXO) Research, Development, Test and Evaluation (RDT&E) requirements and programs across DoD; develops and promotes standards for testing, modeling, and evaluation; maintains information on technologies for UXO detection and clearance; publishes an annual report summarizing the activities and accomplishments of the UXOCOE in order to improve the effectiveness and economy of UXO detection and clearance RDT&E efforts throughout DoD; and gathers and maintains a database for the results of these efforts. The Army manages, oversees, and coordinates this effort on behalf of the office of the USD(AT&L).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Coordinate/collect/analyze UXO RDT&E information via conferences, seminars, and workshops. ***Description:*** Coordinate/collecte/analyze UXO RDT&E information via conferences, seminars, and workshops. ***FY 2014 Accomplishments:*** Catalogued and conducted analysis of explosive hazards requirements and technologies across the detection and neutralization tenets to identify explosive hazards technology capability gaps and leveraging opportunities found across DoD and other research and engineering activities.	0.486	-	-
Title: Generate an annual UXO Clearance Report focused on UXO RDT&E efforts for countermine, explosive ordnance disposal, UXO remediation, humanitarian demining, and active range clearance. ***Description:*** Generate an annual UXO Clearance Report focused on UXO RDT&E efforts for countermine, explosive ordnance disposal, UXO remediation, humanitarian demining, and active range clearance. ***FY 2014 Accomplishments:*** Generated an annual UXO Clearance Report focusing on UXO RDT&E efforts for countermine, explosive ordnance disposal, UXO remediation, humanitarian demining, and active range clearance.	0.183	-	-
Title: Maintain and update the UXO clearance/detection databases and computer web site and analyze data from and programs in UXO RDT&E for potential solutions to UXO related needs.	0.161	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605857A / *Environmental Quality Technology Mgmt Support*	**Project (Number/Name)** 06H / *Unexploded Ordnance Clearance Technology Support*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Description: Maintain and update the UXO clearance/detection databases and computer web site and analyze data from and programs in UXO RDT&E for potential solutions to UXO related needs. ***FY 2014 Accomplishments:*** Maintained and updated the UXO clearance/detection databases and computer web site and analyzed data from programs in UXO RDT&E for potential solutions to UXO related needs.			
Title: Maintain awareness of UXO issues ***Description:*** Conduct and attend requirements and technology conferences, seminars and workshops and meetings to coordinate and improve the awareness of explosive hazards technology research and engineering initiatives being developed. ***FY 2014 Accomplishments:*** Planned, organized and conducted an annual explosive hazards technology coordination meeting bringing together the major Military Service and OSD technologists and program managers. Identify and participate in DoD, industry and academia sponsored meetings and symposiums. Updated on a quarterly basis UXOCOE information products with information collected at various meetings and conferences. Identified and disseminated technology leveraging opportunities within explosive hazards community.	0.054	-	-
Accomplishments/Planned Programs Subtotals	0.884	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605857A / *Environmental Quality Technology Mgmt Support*	Project (Number/Name) 06I / *POLLUTION PREVENTION TECH SUPPORT*	

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
06I: *POLLUTION PREVENTION TECH SUPPORT*	-	-	0.272	0.272	-	0.272	0.436	0.553	0.391	0.514	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

FY 2015: Increase in Project 06I is to fund the management support for the demonstration and validation of two Army Environmental Quality Technology programs.

A. Mission Description and Budget Item Justification

This project provides RDTE Management Support for the demonstration and validation of weapon system pollution prevention technologies within the Army's Environmental Quality Technology program. The project increases operational sustainment and warfighter training capabilities by reducing soldier and worker health risks and environmental impacts that would otherwise result in restoration needs and compliance enforcement actions against installations while simultaneously increasing performance and standardization across the Army. This project provides for management of RDTE activities conducted under project 0603779A, Environmental Quality Technology Dem/Val (E21). The project expedites technology transition from the laboratory to operational use by supporting the demonstration of new materials and processes to fulfill the performance requirements outlined in Material Specifications, Depot Maintenance Work Requirements, Technical Manuals, Drawings and other technical data.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Management of pollution prevention technology programs	-	0.272	0.272
Description: Manage and oversee the demonstration/validation of weapon system pollution prevention technologies within the Army's Environmental Quality Technology Program. ***FY 2015 Plans:*** Manage and oversee the demonstration/validation of two pollution prevention technology efforts: Toxic Metal Reduction in Surface Finishing of Army Weapon Systems, and Airborne Lead Reduction from Army Weapon Systems ***FY 2016 Plans:*** Will manage and oversee the demonstration/validation of two pollution prevention technology efforts: Toxic Metal Reduction in Surface Finishing of Army Weapon Systems, and Airborne Lead Reduction from Army Weapon Systems.			
Accomplishments/Planned Programs Subtotals	-	0.272	0.272

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605857A / *Environmental Quality Technology Mgmt Support*	**Project (Number/Name)** 06I / *POLLUTION PREVENTION TECH SUPPORT*

C. Other Program Funding Summary ($ in Millions)

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0605898A / *Management HQ - R&D*							
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	-	53.476	49.583	48.955	-	48.955	50.090	50.396	45.801	45.726	-	-
M65: *Army Test and Evaluation Command*	-	53.476	49.583	48.955	-	48.955	50.090	50.396	45.801	45.726	-	-

A. Mission Description and Budget Item Justification

This project provides funding for the salaries and related personnel benefits for the authorized civilian personnel positions that provide for the management functions and the technical direction of the U.S. Army Test and Evaluation Command (ATEC) mission located at Aberdeen Proving Ground, Maryland. ATEC plans, conducts and integrates developmental testing, independent operational testing, independent evaluations, assessments and experiments to provide essential information to Soldiers and acquisition decision makers supporting the American Warfighter.

This project includes staff/management functions of resource management, human resources, safety, security, environmental, strategic planning and information/ technology support for command-wide databases in support of the developmental, evaluation and operational test mission with technical direction to the Army Evaluation Center (AEC), Aberdeen Proving Ground, Maryland; to the Operational Test Command (OTC), Fort Hood, Texas which consists of three forward Test Directorates (Airborne and Special Operations Test Directorate, Fort Bragg, North Carolina; Integrated Test and Evaluation Directorate, Fort Bliss, Texas; and the Fires Test Directorate, Fort Sill, Oklahoma) together with four other Test Directorates (Aviation; Maneuver; Mission Command; Maneuver Support and Sustainment) at Ft Hood, Texas; and to the seven Major Range and Test Facility Base (MRTFBs) and one non-MRTFB test range: Aberdeen Test Center (ATC), Aberdeen Proving Ground, Maryland; Dugway Proving Ground (DPG), Utah; Electronic Proving Ground (EPG), Fort Huachuca, Arizona; White Sands Missile Range (WSMR), New Mexico; Yuma Proving Ground (YPG), Arizona; Cold Regions Test Center (CRTC), Fort Greely, Alaska; and Tropic Regions Test Center (TRTC) at various locations, as well as for Redstone Test Center (RTC) Redstone Arsenal, Alabama. This is the operating budget for ATEC Headquarters, which provides technical direction for the annual execution of over 2,900 developmental tests; approximately ~67 operational events; and more than ~1,080 documents supporting acquisition programs. ATEC has an authorized workforce of more than 8577 work-years, and a $1.8 billion program.

The Army Joint Test Element (JTE) examines Joint Service, Combatant Command (COCOM) and DoD agencies mission gaps, tactics and doctrine resulting in the development of Tactics Techniques and Procedures (TTP), Concept of Operations (CONOPS), and assessment documents. Products are developed through operational non-materiel solutions to urgent, specific, Joint Warfighter problems. The JTE coordinates and develops nominations for Quick Reaction Tests (QRTs), Joint Feasibility Studies (JFS); serves as the Operational Test Agency (OTA) for Army-led QRTs; and coordinates resources to support Joint Feasibility Studies (JFSs) and chartered Joint Tests (JT) under the Joint Test Unit (JTU) assigned to ATEC as the joint OTA. The ATEC Commanding General serves as the Executive Steering Committee (ESG) member, while the Executive Director serves as the Technical Advisory Board (TAB) member. DoDD 5010.41 provides policies and responsibilities for the JTE. The DA G-8 is the agent for JTE for operations and DoD level Senior Advisory Council (SAC) responsibly. Mission support also includes the support to two Joint Test Units (JTU) under the re-engineered Joint Test program. ATEC provides military resource support to Nellis Air Force Base, and Suffolk VA with Officer and Non-Commissioned Officer (NCO) support. Additional support to Joint Tests remains a requirement until the OSD Chartered projects are completed and transitioned to the respective Sponsoring COCOM.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army	Date: February 2015
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605898A / *Management HQ - R&D*

This project does not finance test facility operations, test instrumentation or test equipment.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	54.145	49.592	51.827	-	51.827
Current President's Budget	53.476	49.583	48.955	-	48.955
Total Adjustments	-0.669	-0.009	-2.872	-	-2.872
• Congressional General Reductions	-	-0.009			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.669	-			
• Adjustments to Budget Years	-	-	-2.872	-	-2.872

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040 / 6					R-1 Program Element (Number/Name) PE 0605898A / *Management HQ - R&D*				Project (Number/Name) M65 / *Army Test and Evaluation Command*			
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**
M65: *Army Test and Evaluation Command*	-	53.476	49.583	48.955	-	48.955	50.090	50.396	45.801	45.726	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Note applicable for this item.

A. Mission Description and Budget Item Justification

This project provides funding for the salaries and related personnel benefits for the authorized civilian personnel positions that provide for the management functions and the technical direction of the U.S. Army Test and Evaluation Command (ATEC) mission located at Aberdeen Proving Ground, Maryland. ATEC plans, conducts and integrates developmental testing, independent operational testing, independent evaluations, assessments and experiments to provide essential information to Soldiers and acquisition decision makers supporting the American Warfighter.

This project includes staff/management functions of resource management, human resources, safety, security, environmental, strategic planning and information/ technology support for command-wide databases in support of the developmental, evaluation and operational test mission with technical direction to the Army Evaluation Center (AEC), Aberdeen Proving Ground, Maryland; to the Operational Test Command (OTC), Fort Hood, Texas which consists of three forward Test Directorates (Airborne and Special Operations Test Directorate, Fort Bragg, North Carolina; Integrated Test and Evaluation Directorate, Fort Bliss, Texas; and the Fires Test Directorate, Fort Sill, Oklahoma) together with four other Test Directorates (Aviation; Maneuver; Mission Command; Maneuver Support and Sustainment) at Ft Hood, Texas; and to the seven Major Range and Test Facility Base (MRTFBs) and one non-MRTFB test range: Aberdeen Test Center (ATC), Aberdeen Proving Ground, Maryland; Dugway Proving Ground (DPG), Utah; Electronic Proving Ground (EPG), Fort Huachuca, Arizona; White Sands Missile Range (WSMR), New Mexico; Yuma Proving Ground (YPG), Arizona; Cold Regions Test Center (CRTC), Fort Greely, Alaska; and Tropic Regions Test Center (TRTC) at various locations, as well as for Redstone Test Center (RTC) Redstone Arsenal, Alabama. This is the operating budget for ATEC Headquarters, which provides technical direction for the annual execution of over 2,900 developmental tests; approximately ~67 operational events; and more than ~1,080 documents supporting acquisition programs. ATEC has an authorized workforce of more than 8577 work-years, and a $1.8 billion program.

The Army Joint Test Element (JTE) examines Joint Service, Combatant Command (COCOM) and DoD agencies mission gaps, tactics and doctrine resulting in the development of Tactics Techniques and Procedures (TTP), Concept of Operations (CONOPS), and assessment documents. Products are developed through operational non-materiel solutions to urgent, specific, Joint Warfighter problems. The JTE coordinates and develops nominations for Quick Reaction Tests (QRTs), Joint Feasibility Studies (JFS); serves as the Operational Test Agency (OTA) for Army-led QRTs; and coordinates resources to support Joint Feasibility Studies (JFSs) and chartered Joint Tests (JT) under the Joint Test Unit (JTU) assigned to ATEC as the joint OTA. The ATEC Commanding General serves as the Executive Steering Committee (ESG) member, while the Executive Director serves as the Technical Advisory Board (TAB) member. DoDD 5010.41 provides policies and responsibilities for the JTE. The DA G-8 is the agent for JTE for operations and DoD level Senior Advisory Council (SAC) responsibly. Mission support also includes the support to two Joint Test Units (JTU) under the re-engineered Joint Test program. ATEC provides military resource support to Nellis Air Force Base, and Suffolk VA with Officer and

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605898A / *Management HQ - R&D*	**Project (Number/Name)** M65 / *Army Test and Evaluation Command*

Non-Commissioned Officer (NCO) support. Additional support to Joint Tests remains a requirement until the OSD Chartered projects are completed and transitioned to the respective Sponsoring COCOM.

This project does not finance test facility operations, test instrumentation or test equipment.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Army Test and Evaluation Command (ATEC)	51.042	47.354	47.060
Description: Civilian labor and other support required to manage and administer the Army test and evaluation mission at ATEC. ATEC plans, conducts and integrates developmental testing, independent operational testing, independent evaluations, assessments and experiments to provide essential information to Soldiers and acquisition decision makers supporting the American Warfighter. ***FY 2014 Accomplishments:*** Funds authorized civilian salaries, associated expenses (supplies, equipment, travel, etc.) and other support required to manage and administer the Army test and evaluation mission at ATEC. ***FY 2015 Plans:*** Funds authorized civilian salaries, associated expenses (supplies, equipment, travel, etc.) and other support required to manage and administer the Army test and evaluation mission at ATEC. ***FY 2016 Plans:*** Will fund authorized civilian salaries, associated expenses (supplies, equipment, travel, etc.) and other support required to manage and administer the Army test and evaluation mission at ATEC.			
Title: Army Joint Test Element (JTE)	2.434	2.229	1.895
Description: This project also funds Army's Joint Test Element (JTE) which is comprised of civilian and military personnel. The JTE is required to research COCOM Integrated Priorities, Generate/Develop/Support efforts through rigorous COCOM engagements, and provide support during QRT/JT support through the transition phase at the end of each directed project. As the OTA, the JTE is responsible to maintain oversight status for the OSD for all directed test efforts. In addition, JTE provides for handbook development for the Warfighter throughout the world in hard copy and in electronic book form. ***FY 2014 Accomplishments:*** Funded civilian labor and travel in support of JTE initiatives, program support from remote JT stations and COCOM engagements. ***FY 2015 Plans:*** Funds civilian labor and COCOM engagements, e-book development and exploring transition efforts to TRADOC/ARCIC. ***FY 2016 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605898A / *Management HQ - R&D*	**Project (Number/Name)** M65 / *Army Test and Evaluation Command*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Will fund civilian labor and non-labor requirements such as supplies and travel in support of JTE initiatives, program support from remote JT stations and COCOM engagements.			
Accomplishments/Planned Programs Subtotals	53.476	49.583	48.955

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0909999A / *Financing for Cancelled Account Adjustments*							
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	-	0.126	-	-	-	-	-	-	-	-	-	-
900: *CLOSED ACCT ADJMT-M*	-	0.126	-	-	-	-	-	-	-	-	-	-

Note

Financing for Cancelled Account Adjustments.

A. Mission Description and Budget Item Justification

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	0.126	-	-	-	-
Total Adjustments	0.126	-	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 1	0.126	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0909999A / *Financing for Cancelled Account Adjustments*	Project (Number/Name) 900 / *CLOSED ACCT ADJMT-M*	

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
900: *CLOSED ACCT ADJMT-M*	-	0.126	-	-	-	-	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Financing for Cancelled Account Adjustments.

A. Mission Description and Budget Item Justification

This program accomplishes closed account adjustments.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Closed account adjustments	0.126	-	-
Description: This project accommodates closed accounts adjustments			
FY 2014 Accomplishments: This project accommodates closed accounts adjustments			
Accomplishments/Planned Programs Subtotals	0.126	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A