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

February 2012

Army

Justification Book

Research, Development, Test & Evaluation, Army

RDT&E - Volume III, Budget Activity 6

Department of the Army

FY 2013 RDT&E Program

President's Budget 2013

Summary

Exhibit R-1

06-Jan-2012

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

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

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

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

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

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

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

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

Exhibit R-1

Appropriation: 2040 A RDT&E, Army

06-Jan-2012

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

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Budget Activity 06: RDT&E Management Support
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Budget Activity 06: RDT&E Management Support
Appropriation 2040: Research, Development, Test & Evaluation, Army

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APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*				R-1 ITEM NOMENCLATURE PE 0604256A: *THREAT SIMULATOR DEVELOPMENT*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	25.367	26.117	18.090	-	18.090	16.934	19.180	22.863	22.932	Continuing	Continuing
976: *ARMY THREAT SIM (ATS)*	25.367	26.117	18.090	-	18.090	16.934	19.180	22.863	22.932	Continuing	Continuing

Note

FY11 includes a Congressional Add of $9,166K for the JFCOM Mission Transfer.

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. While this project originally funded simulators representing Soviet equipment, the changing world order has expanded the scope of this program to address other 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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army					DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*		R-1 ITEM NOMENCLATURE PE 0604256A: *THREAT SIMULATOR DEVELOPMENT*			
B. Program Change Summary ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**
Previous President's Budget	26.158	16.992	17.442	-	17.442
Current President's Budget	25.367	26.117	18.090	-	18.090
Total Adjustments	-0.791	9.125	0.648	-	0.648
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	9.166			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.519	-			
• Adjustments to Budget Years	-	-	0.648	-	0.648
• Other Adjustments 1	-0.272	-0.041	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0604256A: *THREAT SIMULATOR DEVELOPMENT*	PROJECT 976: *ARMY THREAT SIM (ATS)*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
976: *ARMY THREAT SIM (ATS)*	25.367	26.117	18.090	-	18.090	16.934	19.180	22.863	22.932	Continuing	Continuing
Quantity of RDT&E Articles											

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 used in Army training, developmental tests, and operational tests. While this project originally funded simulators representing Soviet equipment, the operational environment has expanded the scope of this program to address other world threats. Army Threat Simulator and Threat Simulation products are used 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 Government Accountability 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, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Continues Engineering Manfacturing and Development (EMD) for the Network Exploitation Test Tool (NETT).	3.253	3.332	3.461
Articles:	0	0	
Description: Continues EMD for the NETT as a comprehensive Computer Network Operations (CNO) tool.			
FY 2011 Accomplishments: Continued EMD for the Network Exploitation Test Tool (NETT) as a comprehensive Computer Network Operations (CNO) tool, designed for Test & 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 were 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 and has steadily incorporated leading Threat tools, tactics, techniques, and procedures.			
FY 2012 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0604256A: *THREAT SIMULATOR DEVELOPMENT*	PROJECT 976: *ARMY THREAT SIM (ATS)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Continues EMD for the Network Exploitation Test Tool (NETT). Network Exploitation Test Tool is 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 are integrated with robust reporting and instrumentation capabilities. NETT is used by Threat CNO teams to replicate the tactics of state and non-state Threat and is supported by a robust CNO development environment. Current hacking tools and capabilities are being introduced daily to the hacking community. 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. ***FY 2013 Plans:*** NETT is 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 are 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. Current hacking tools and capabilities will be introduced daily to hacking community. The NETT program researches these new capabilities and utilizes an in-depth process to clean, fix, and integrate required Threat tools, tactics, and techniques that are needed during T&E. FY13 funding will support the continuation of exploit development, will continue support to the NETT Users Group, and will maintain pace with advanced exploit research and tool integration required to support the growing demand for the Threat CNO Team and mission.			
Title: Congressional Add - Threat Simulator Development Unfunded Joint Forces Command (JFCOM) Mission Transfer. ***Articles:*** ***Description:*** Completes the engineering and manufacturing Development (EMD) for Joint Forces Command (JFCOM) Mission Transfer. ***FY 2012 Plans:*** Completes the Engineering and Manufacturing Development (EMD) required to facilitate the seamless Joint Forces Command (JFCOM) Mission Transfer.	-	9.166 0	-
Title: Government Program Management for the Threat Systems Management Office Operations (TSMO). ***Articles:*** ***Description:*** Government Program Management for TSMO. ***FY 2011 Accomplishments:*** The Government Program Management for the Threat Systems Management Office Operations funded the maintenance management, and sustainment capability for Threat systems within the Army's Threat inventory. Satisfied the requirement to	2.660 0	2.904 0	2.704

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
provide operations and maintenance, spares, training, special tools, recurring Department of Defense Information Assurance and Certification Process (DIACAP), etc, for fielded Threat systems and infrastructure. Funding supported manpower, storage, and integration facilities associated with the sustainment and operational readiness of the Army's Threat force. ***FY 2012 Plans:*** Government Program Management for the TSMO Operations funds the maintenance management, and sustainment capability for Threat systems within the Army's Threat inventory. Funding supports manpower, storage, and integration facilities associated with the sustainment and operational readiness of the Army's Threat force. Satisfies the requirement to provide operations and maintenance, spares, training, special tools, recurring DIACAP, etc, for fielded Threat systems and infrastructure. ***FY 2013 Plans:*** Government Program Management for the TSMO Operations 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. Will include acquisition life cycle management support (operation, maintenance, spares, new equipment training, special tools and instrumentation, safety, environmental, security, information assurance, etc) of new threat systems fielded into the Army's Threat inventory. Funding will support the scheduled entry and drawdown of equipment within the Threat inventory.			
Title: Continues Engineering and Manufacturing Development (EMD) for the Threat Intelligence and Electronic Warfare Environment (TIEW ENV). ***Articles:*** ***Description:*** Continues EMD for the Threat Intelligence and Electronic Warfare Environment (TIEW ENV) to simulate Electronic Warfare capabilities. ***FY 2011 Accomplishments:*** Continued EMD for the TIEW ENV that provided the constructive Threat representation environment for Army T&E and provided the primary capability to interact between live, virtual, and constructive Threat Information Operations (IO) environments. ***FY 2012 Plans:*** Continues EMD for the TIEW ENV. TIEW ENV provides the constructive Threat representation environment for Army T&E and provides the primary capability to interact between live, virtual, and constructive Threat IO environments. The TIEW ENV integrates Threat IO (Electronic Attack, Electronic Support, CNO) models into the One Semi-Automated Force (OneSAF) baseline. The models' representative effects are also integrated through use with Communications Effects Servers. Integration of OneSAF with the Integrated Threat Force (ITF) enables the Live and Constructive T&E environments to interface. ***FY 2013 Plans:***	3.874 0	4.027 0	3.967

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Will continue EMD for the TIEW ENV. The TIEW ENV will support the establishment of a wrap-around threat environment required to evaluate, demonstrate, and employ the EW capabilities of Enemy Forces in simulated real-world test/training events. The TIEW ENV will provide the capability to import vignettes, establish virtual entities, connect live assets, and interact between the live, virtual, and constructive environments. The TIEW ENV will fully integrate with the ITF to enable Opposing Forces (OPFOR) command of threat EW assets across Live, Virtual, and Constructive (LVC) domains. FY13 will satisfy Army requirements by funding development, platform integration and sustainment of this capability. Program will field incremental capabilities in support of upcoming spin out events.			
Title: Continues the Engineering and Manufacturing Development (EMD) for the Integrated Threat Force (ITF), formerly named Threat Battle Command Center (TBCC) to support new threat systems/equipment. ***Articles:*** ***Description:*** Continues the EMD for the ITF to support new threat systems/equipment. ***FY 2011 Accomplishments:*** Continued the EMD for the ITF that provided an integrated, scalable Threat command and control for all Army Threat representations as well as provided the Test & Evaluation (T&E) solution to satisfy the System of Systems (SoS) requirement of a Free Thinking Threat force. ***FY 2012 Plans:*** Continues EMD for the ITF which provides an integrated, scalable Threat command and control for all Army Threat representations to provide the T&E solution to satisfy the SoS requirement of a Free Thinking Threat force. ***FY 2013 Plans:*** Will continues EMD for the ITF which will provide an integrated, scalable Threat command and control for all Army Threat representations. This program will leverage prior Central Test & Evaluation Investment Program (CTEIP) investments to create a highly adaptable and unique threat force capability required to meet T&E requirements for the evaluation of network-centric platforms and SoS capabilities by closely simulating expected real-world threat environments. FY13 funding will be used for the continued hardware/software development/build-out supporting the threat force architecture, visualization, Command and Control (C2), and fusion needs required to successfully meet scalability and reconfigurability needs for current T&E requirements.	3.858 0	3.899 0	4.510
Title: Continues the Engineering and Manufacturing Development (EMD) for the Threat Signal Injection Jammer (TSIJ). ***Articles:*** ***Description:*** Continues the EMD for the TSIJ to provide the Army an alternative to open-air Electronic Attack (EA) in a test environment. ***FY 2011 Accomplishments:***	1.128 0	0.411 0	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Continued the EMD for the TSIJ to provide the Army an alternative to open-air Electronic Attack (EA) in a test environment by using direct input to a receiver unit and remote control on/off employment. ***FY 2012 Plans:*** Completes EMD for the TSIJ to provide the Army an alternative to open-air Electronic Attack (EA) in a test environment by using direct input to a receiver unit and remote control on/off employment. Develop design for 2-channel man-pack Remote Jamming Unit (RJU) and 10 watt environmentally sealed Control Signal Transmitter (CST) for TSIJ.			
Title: Completed the Engineering and Manufacturing Development (EMD) for the Control of Signal Transmission-Open Air Capability (CST-OAC) and Signal Intelligence/Direct Finding (SIGINT/DF). ***Articles:*** ***Description:*** Completed the EMD for the CST-OAC and SIGINT/DF sensors onto a larger aerial platform for Threat Devices capability. ***FY 2011 Accomplishments:*** Completed EMD for the CST-OAC and SIGINT/DF sensors onto a larger aerial platform for Threat Devices capability.	0.667 0	-	-
Title: Army Technical Test Instrumentation and Targets Project 62C Modeling and Simulation Instrumentation ***Articles:*** ***Description:*** Project 976 includes $7.600 million FY11 RDTE incorrectly placed in this funding line. ***FY 2011 Accomplishments:*** Project 976 includes $7.600 million FY11 RDTE incorrectly placed in this funding line. It was intended for 0605602A - Army Technical Test Instrumentation and Targets Project 62C Modeling and Simulation Instrumentation in support of operational and developmental testing.	7.600 0	-	-
Title: Continues Government Program Management for the Threat Computer Network Operations Teams (TCNOT) to support threat events. ***Articles:*** ***Description:*** Continues Government Program Management for the TCNOT to support threat events in order to maintain a team of highly qualified, trained, and certified Computer Network Operations (CNO) professionals qualified for the employment of Threat CNO in support of Army T&E. ***FY 2011 Accomplishments:***	2.327 0	2.378 0	3.448

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Continued Government Program Management for the Threat Computer Network Operations Teams (TCNOT) to support threat events in order to maintain a team of highly qualified, trained, and certified CNO professionals qualified for the employment of Threat CNO in support of Army T&E. The mission was for the Threat CNO Team to accurately replicate the hacker intent of state and non-state Threats through identification of 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. ***FY 2012 Plans:*** Continues EMD for the Threat CNO Team program. Threat CNO Team program establishes and maintains 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 hacker intent of state and non-state Threats through identification of 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. ***FY 2013 Plans:*** Will continue EMD for the Threat CNO Team program. The Threat CNO Team program will establish and maintain 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 FY13 will fund requirements to include continued research of the intelligence-based TCNO TTPs 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. The program will establish analytical services needed to identify and correlate data of historical and real time malicious activity within the Army Land Warrior Network (LWN) and external to the DOD. This program will also establish services and near real-time processing of information needed to develop threat targeting packages that accurately profile the cyber enemy, types of systems they attack, frequency of attacks, their intent, doctrine, training, techniques, tools and operational tactics. The program will result in creation of teams of Threat CNO professionals, working in concert with the Intelligence Community, capable of accurately portraying validated real world CNO threat to meet operational test requirements.			
Accomplishments/Planned Programs Subtotals	25.367	26.117	18.090

C. Other Program Funding Summary ($ in Millions)

N/A

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

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

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*				R-1 ITEM NOMENCLATURE PE 0604258A: *TARGET SYSTEMS DEVELOPMENT*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	8.362	11.229	14.034	-	14.034	13.488	12.055	11.898	16.359	Continuing	Continuing
238: *AERIAL TARGETS*	4.385	7.623	10.052	-	10.052	10.031	8.678	8.488	8.628	Continuing	Continuing
459: *GROUND TARGETS*	3.977	3.606	3.982	-	3.982	3.457	3.377	3.410	7.731	Continuing	Continuing

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 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	8.614	11.247	13.462	-	13.462
Current President's Budget	8.362	11.229	14.034	-	14.034
Total Adjustments	-0.252	-0.018	0.572	-	0.572
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.157	-			
• Adjustments to Budget Years	-	-	0.572	-	0.572
• Other Adjustments 1	-0.095	-0.018	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0604258A: *TARGET SYSTEMS DEVELOPMENT*	PROJECT 238: *AERIAL TARGETS*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
238: *AERIAL TARGETS*	4.385	7.623	10.052	-	10.052	10.031	8.678	8.488	8.628	Continuing	Continuing
Quantity of RDT&E Articles											

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, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Rotary Wing Targets.	0.478	0.497	0.468
Articles:	0	0	
Description: Continue EMD phase contract activities for the Rotary Wing Targets, including updates for obsolescence, maintenance, and safety to support Test & Evaluation (T&E) programs.			
FY 2011 Accomplishments: Continued EMD for the Rotary Wing Targets, including updates for obsolescence, maintenance, and safety to support T&E programs such as Navy Standard Missile (SM-6), Navy LHA air defense upgrades, and others.			
FY 2012 Plans: Continues EMD for the Rotary Wing Targets program to provide flight operations of Department of Defense's (DoD) current fleet of helicopters. Rotary Wing Targets also provides updates for obsolescence, maintenance, and safety to support T&E programs such as Navy Standard Missile (SM-6), Navy LHA air defense upgrades, and Army and Navy Aircraft Survivability development projects.			
FY 2013 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0604258A: *TARGET SYSTEMS DEVELOPMENT*	PROJECT 238: *AERIAL TARGETS*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Will continue EMD for the Rotary Wing Targets program to provide flight operations of DoD's current fleet of helicopters. Rotary Wing Targets will also provide updates for obsolescence, maintenance, and safety to support T&E programs such as Navy Standard Missile (SM-6), Navy LHA air defense upgrades, and Army and Navy Aircraft Survivability development projects.			
Title: Engineering and Manufacturing Development (EMD) phase contract activity for the High Speed Aerial Target. ***Articles:*** ***Description:*** Continue EMD phase contract activities for the High Speed Aerial Target (HSAT, MQM-107) equipment. ***FY 2011 Accomplishments:*** Continued EMD for the aging High Speed Aerial Target (HSAT, MQM-107) equipment 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, Joint Land Attack Cruise Missile Defense Elevated Netted Sensors (JLENS), MEADS, and classified programs for Army and Tri-Service customers. ***FY 2012 Plans:*** Continues EMD for the aging High Speed Aerial Target (HSAT, MQM-107) that provides 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 are 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, JLENS, MEADS, and classified programs for Army and Tri-Service customers. ***FY 2013 Plans:*** Will continue EMD for the 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 reseach, development, test, and evaluation of weapons systems and to aid in training operational units employing producton missile systems. Funds are 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, JLENS, MEADS, and classified programs for Army and Tri-Service customers.	1.241 0	1.297 0	1.357
Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Target Tracking Control Systems (TTCS) and aerial target control components. ***Articles:*** ***Description:*** Continue EMD phase contract activities for the TTCS and aerial target control components. ***FY 2011 Accomplishments:*** Continued EMD for the TTCS and aerial target control components. Updated documentation of the system and operations and maintenance manuals. Supported operational repair and maintenance with engineering analysis of target control system	0.535 0	0.613 0	0.620

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0604258A: *TARGET SYSTEMS DEVELOPMENT*	PROJECT 238: *AERIAL TARGETS*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
performance. Provided for design modifications to solve obsolescence problems and updated software to correct anomalies. Provided for software performance enhancement modifications to support T&E missions, improve test sets and develop upgraded operator displays. This provided support to programs such as Patriot, MEADS and others. ***FY 2012 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. This will provide support to programs such as Patriot, MEADS, and others. ***FY 2013 Plans:*** Will continue EMD for the TTCS and aerial target control components. Will provide for design modifications to solve obsolescence problems and updates software to correct anomalies. Will provide for software performance enhancement modifications to support T&E missions, improve test sets and develop upgraded operator displays. Will updates documentation of the system and operations and maintenance manuals. Will support operational repair and maintenance with engineering analysis of target control system performance. This will provide support to programs such as Patriot, MEADS, and others.			
Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Towed Targets/Ancillary devices. ***Articles:*** ***Description:*** Continue EMD phase contract activities for the Towed Targets/Ancillary devices. ***FY 2011 Accomplishments:*** Continued EMD for the Towed Targets/Ancillary devices. Continued development, enhancement, maintenance, and storage for all Research, Development, Test and Evaluation (RDT&E) aerial targets, towed targets, and ancillary devices. Continuef development and testing of Low Cost Towed target systems. ***FY 2012 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. Investigate/test other cost-saving towed systems (Glide-Tow, Height-Keeping-Tow, and Tow Test Bed) for Air Defense Weapons System customers. ***FY 2013 Plans:***	0.621 0	0.742 0	0.783

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0604258A: *TARGET SYSTEMS DEVELOPMENT*	PROJECT 238: *AERIAL TARGETS*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
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. Will continue 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. Will investigate/test other cost-saving towed systems (Glide-Tow, Height-Keeping-Tow, and Tow Test Bed) for Air Defense Weapons System customers.			
Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Integrated Avionics Package (IAP). ***Articles:*** ***Description:*** Continue EMD phase contract activities for the IAP. ***FY 2011 Accomplishments:*** Continued EMD for the IAP. Designs component changes to correct for obsolescence. Updated software to correct problems and to modify the software to support specific test and evaluation mission requirements. IAP provided the avionics for aerial targets to support multiple mission requirements for programs such as Patriot, and MEADS. ***FY 2012 Plans:*** Continues EMD for the IAP. Designs component changes to correct for obsolescence. Update software to correct issues and to modify the software to support specific test and evaluation mission requirements. IAP provides the avionics for aerial targets to support multiple mission requirements for programs such as Patriot and MEADS. ***FY 2013 Plans:*** Will continue EMD for the IAP which provides the avionics for aerial targets to support multiple mission requirements for programs such as Patriot, and MEADS. Will design component changes to correct for obsolescence. Will update software to correct issues and to modify the software to support specific test and evaluation mission requirements.	0.234 0	0.325 0	0.258
Title: Engineering and Manufacturing Development (EMD) phase contract activity for Aerial Virtual Targets. ***Articles:*** ***Description:*** Continue EMD phase contract activities for Aerial Virtual Targets. ***FY 2011 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)	0.817 0	0.936 0	1.031

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0604258A: *TARGET SYSTEMS DEVELOPMENT*	PROJECT 238: *AERIAL TARGETS*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
and operational testing (OT) 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. ***FY 2012 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 being used by multiple DoD agencies and multiple weapon systems such as Close Combat Weapon System (CCWS) and Lower Tier Patriot offices. ***FY 2013 Plans:*** Will continue EMD for Aerial Virtual Targets for evolving Army and DoD simulation standards and evolving implementation techniques; will focus 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, and will provide 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 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 will be used by multiple DoD agencies and multiple weapon systems such as Close Combat Weapon System (CCWS) and Lower Tier Patriot offices.			
Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Army Ground Aerial Target Control System (AGATCS). ***Articles:*** ***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 2012 Plans:*** Will fund EMD for the AGATCS which will provide a modern current technology target control system for control of both aerial and ground targets. The system will incorporate software for control of existing targets and have provisions for control of future target systems. Replaces the existing aerial target control TTCS and several different ground target control systems that have become or will soon become obsolete and non-supportable with a Department of Defense Information Assurance Certification and Accreditation Process (DIACAP) compliant control system. Provides control system components within the aerial and ground	-	2.636 0	4.962

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0604258A: *TARGET SYSTEMS DEVELOPMENT*	PROJECT 238: *AERIAL TARGETS*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
targets to be controlled by the AGATCS. This will provide support to programs such as Patriot, MEADS, E-IBCT, Apache, and others. ***FY 2013 Plans:*** Will continue EMD for the AGATCS which will provide a modern current technology target control system for control of both aerial and ground targets. The system will incorporate software for control of existing targets and will have provisions for control of future target systems. Will replace the existing aerial target control TTCS and several different ground target control systems that have become or will soon become obsolete and non-supportable with a DIACAP compliant control system. Will provide control system components within the aerial and ground targets to be controlled by the AGATCS. This will provide support to programs such as Patriot, MEADS, E-IBCT, Apache, and others.			
Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Unmanned Aerial System - Target (UAS-T). ***Articles:*** ***Description:*** Continue EMD phase contract activities for the UAS-T to provide threat representative support for test and experimentation missions. ***FY 2011 Accomplishments:*** Continued EMD for the UAS-T to provide threat representative support for test and experimentation missions including Counter Rockets, Artillery and Mortars (C-RAM), and Black Dart 2011. Provided management for the initial delivery of production air vehicles, initial ground support equipment, initial spares, and operational test support missions. Funds enabled identification and correction of system anomalies identified during operations. Provided for the demonstration flights of production air vehicles to verify the performance of the production equipment. Provided limited engineering capability to address minor enhancements to the basic target system identified during operations including the upgrading of the launcher pneumatic ball valve assembly, the replacement of an obsolete servo used in the parachute hatch locking and electronic payloads required to support test and range requirements. Provided for the updating of the system drawing package to incorporate launcher and parachute hatch locking mechanism modifications. ***FY 2012 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 as well as to provide threat representative support for test and experimentation missions including Counter Rockets, Artillery and Mortars (C-RAM), Black Dart 2012, missile enhancements and Littoral Combat Ship testing. Funds enable identification and correction of system anomalies identified during operations. Provide for the demonstration flights of production air vehicles to verify the performance of the production equipment. Provide limited engineering capability to address	0.459 0	0.577 0	0.573

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0604258A: *TARGET SYSTEMS DEVELOPMENT*	PROJECT 238: *AERIAL TARGETS*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
minor enhancements to the basic target system identified during operations. Provide for the updating of the system drawing package and Operation and Maintenance manual to incorporate modifications made to the system. ***FY 2013 Plans:*** Will continue 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 as well as to provide threat representative support for test and experimentation missions including Counter Rockets, Artillery and Mortars (C-RAM), Black Dart 2013, missile enhancements and Littoral Combat Ship testing. Funds will enable identification and correction of system anomalies identified during operations. Will provide for the demonstration flights of production air vehicles to verify the performance of the production equipment. Will provide limited engineering capability to address minor enhancements to the basic target system identified during operations. Will provide for the updating of the system drawing package and Operation and Maintenance manual to incorporate modifications made to the system.			
Accomplishments/Planned Programs Subtotals	4.385	7.623	10.052

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0604258A: *TARGET SYSTEMS DEVELOPMENT*	PROJECT 459: *GROUND TARGETS*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
459: *GROUND TARGETS*	3.977	3.606	3.982	-	3.982	3.457	3.377	3.410	7.731	Continuing	Continuing
Quantity of RDT&E Articles											

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, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Government System Test and Evaluation for the Mobile Ground Target Operations.	2.493	2.594	2.798
Articles:	0	0	
Description: Government System Test and Evaluation for the Mobile Ground Target Operations to provide oversight of five Primary Operating Centers to include operation, storage, maintenance, repair, safety and configuration management. Efforts support users such as Brigade Combat Team (BCT), Apache Block III, Guided Multiple Launch Rocket System (GMLRS), and others.			
FY 2011 Accomplishments: Government System Test and Evaluation for the Mobile Ground Target Operations provided oversight of five Primary Operating Centers to include operation, storage, maintenance, repair, safety and configuration management. Efforts supported users such as Brigade Combat Team (BCT), Apache Block III, Guided Multiple Launch Rocket System (GMLRS), and others.			
FY 2012 Plans: Government System Test and Evaluation for the Mobile Ground Target Operations to provide oversight of five Primary Operating Centers to include operation, storage, maintenance, repair, safety and configuration management for 138 active and 171 inactive Foreign Mobile Ground Target Vehicles, and acquisition of new material and spare parts. Efforts support users such as Brigade Combat Team (BCT), Apache Block III, Guided Multiple Launch Rocket System (GMLRS), and others.			
FY 2013 Plans: Government System Test and Evaluation for the Mobile Ground Target Operations to provide oversight of five Primary Operating Centers to include operation, storage, maintenance, repair, safety and configuration management for 138 active and 171 inactive			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0604258A: *TARGET SYSTEMS DEVELOPMENT*	PROJECT 459: *GROUND TARGETS*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Foreign Mobile Ground Target Vehicles, and acquisition of new material and spare parts. Efforts will support users such as Brigade Combat Team (BCT), Apache Block III, Guided Multiple Launch Rocket System (GMLRS), and others.			
Title: Government System Test and Evaluation for Mobile Ground Target Hardware. ***Description:*** Government System Test and Evaluation for Mobile Ground Targets threat fleet with up to date threat representative targets. ***FY 2013 Plans:*** Government System Test and Evaluation for Mobile Ground Targets threat fleet with up to date threat representative targets that emulate the visual, infrared, radio frequency, and acoustic signatures to support T&E customers such as BCT, Grey Eagle, Javelin, Apache Block III and others.	-	-	0.456
Title: Government System Test and Evaluation for Ground Virtual Targets. ***Articles:*** ***Description:*** Government System Test and Evaluation to support the research and development of Ground Virtual Targets. ***FY 2011 Accomplishments:*** Government System Test and Evaluation funded the research and development of Ground Virtual Targets for evolving Army and DoD simulation standards and implementation techniques. Involved the simulation target models of wheeled and tracked ground vehicles in commonly used model formats as well as develops 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 support 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 weapon systems such as Close Combat Weapon System (CCWS) and Longbow Hellfire. ***FY 2012 Plans:*** 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, infrared (IR) analysis simulations, and radio frequency (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 are employed to facilitate simulations for both developmental testing (DT) and operational testing (OT); Virtual Targets support test planning, test rehearsal, post-test analysis, hardware-in-the-loop testing, and execution of test events that are	0.776 0	0.751 0	0.728

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0604258A: *TARGET SYSTEMS DEVELOPMENT*	PROJECT 459: *GROUND TARGETS*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
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 the Joint Air to Ground Missile (JAGM) and Longbow Hellfire offices. ***FY 2013 Plans:*** 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, infrared (IR) analysis simulations, and radio frequency (RF) analysis simulations; will support verification and validation of models, and will provide 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 developmental testing (DT) and operational testing (OT); Virtual Targets will 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 Joint Air to Ground Missile (JAGM) and Longbow Hellfire offices.			
Title: Government System Test and Evalution for Operational Threat Vehicle Company. ***Articles:*** ***Description:*** Government System Test and Evalution to fund the acquisition and fielding of fully mission capable targets (T-72 Main Battle Tanks, BMP-2 Infantry Fighting Vehicles, and BTR-80 Armored Personnel Carriers). ***FY 2011 Accomplishments:*** Government System Test and Evalution funded the acquisition and fielding of fully mission capable targets (T-72 Main Battle Tanks, BMP-2 Infantry Fighting Vehicles, and BTR-80 Armored Personnel Carriers) to meet emerging requirements for threat representative missions. ***FY 2012 Plans:*** Government System Test and Evalution to fund certification and fielding of fully mission capable targets (T-72 Main Battle Tanks, BMP-2 Infantry Fighting Vehicles, and BTR-80 Armored Personnel Carriers) to meet emerging requirements for threat representative missions. This program provides realistic threat capable targets for use in force-on-force exercises to allow Blue Forces to think and adapts to the changing battle dynamic as it unfolds.	0.708 0	0.261 0	-
Accomplishments/Planned Programs Subtotals	3.977	3.606	3.982

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0604258A: *TARGET SYSTEMS DEVELOPMENT*	PROJECT 459: *GROUND TARGETS*

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*				R-1 ITEM NOMENCLATURE PE 0604759A: *Major T&E Investment*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	40.671	49.359	37.394	-	37.394	39.178	43.601	47.027	44.194	Continuing	Continuing
983: *Reagan Test Site (RTS) T&E Investments*	8.491	8.757	8.823	-	8.823	7.762	7.526	7.261	7.383	Continuing	Continuing
984: *Major Developmental Testing Instrumentation*	25.064	31.551	21.615	-	21.615	23.990	28.161	29.980	26.493	Continuing	Continuing
986: *Major Operational Test Instrumentation*	7.116	9.051	6.956	-	6.956	7.426	7.914	9.786	10.318	Continuing	Continuing

Note

Change Summary Explanation: Realigned to higher priority requirements.

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 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	42.102	49.437	53.933	-	53.933
Current President's Budget	40.671	49.359	37.394	-	37.394
Total Adjustments	-1.431	-0.078	-16.539	-	-16.539
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.129	-			
• Adjustments to Budget Years	-	-	-16.539	-	-16.539
• Other Adjustments 1	-0.302	-0.078	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0604759A: *Major T&E Investment*	PROJECT 983: *Reagan Test Site (RTS) T&E Investments*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
983: *Reagan Test Site (RTS) T&E Investments*	8.491	8.757	8.823	-	8.823	7.762	7.526	7.261	7.383	Continuing	Continuing
Quantity of RDT&E Articles											

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 crucial for investment protection of the sensor suite. These upgrades are critical both to maintain a state of the art instrumentation suite and to the successful collection of 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).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: RTS Distributed Operations (RDO)	2.000	-	-
Articles:	0		
Description: RTS Distributed Operations			
FY 2011 Accomplishments: Continued to provide for distributed operation of the Range instrumentation from Continental U.S. Command and Control (C2) sites.			
Title: RTS Optics Modernization Program (ROMP)	1.286	1.630	1.250
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2011 Accomplishments: Continued to modernize RTS optics sensor suite, fixed deficiencies and enabled remote operations of the equipment.			
FY 2012 Plans: Modernize RTS optics sensor suite, fixing deficiencies and enabling remote operations of the equipment.			
FY 2013 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0604759A: *Major T&E Investment*	PROJECT 983: *Reagan Test Site (RTS) T&E Investments*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Will continue modernization RTS optics sensor suite, fixing deficiencies and enabling remote operations of the equipment.			
Title: Radar Reliability Improvement Program (RRI). ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2011 Accomplishments:*** Addressed technology refresh, obsolescence and sustainment issues for critical radar system operation. ***FY 2012 Plans:*** Continue to address technology refresh, obsolescence and sustainment issues for critical radar system operation. ***FY 2013 Plans:*** Will continue to address technology refresh, obsolescence and sustainment issues for critical radar system and L-Band Modulator operation.	0.550 0	0.424 0	0.750
Title: Radar Computer and Software Refresh ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2011 Accomplishments:*** Continued to replace obsolete main radar computer for all RTS radars and refreshed software to run on new hardware. ***FY 2012 Plans:*** Replace obsolete main radar computer for all RTS radars and refresh software to run on new hardware. ***FY 2013 Plans:*** Will continue to upgrade the system to a more common and widely available hardware platform with multiple vendor support and software.	1.705 0	2.255 0	0.650
Title: Radar Open System Architecture (ROSA) Refresh. ***Articles:*** ***Description:*** ROSA Refresh ***FY 2011 Accomplishments:*** Continued to implement technology refresh in the RTS radars, replaced obsolete components.	0.350 0	-	-
Title: MMW Limited Bandwidth (BW) Expansion Program.	0.400	0.494	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0604759A: *Major T&E Investment*	PROJECT 983: *Reagan Test Site (RTS) T&E Investments*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Articles:	0	0	
Description: Funding is provided for the following effort ***FY 2011 Accomplishments:*** Funded the Upgrade of MMW bandwidth to 4 Gigahertz (GHz). ***FY 2012 Plans:*** Continues the Upgrade of MMW bandwidth to 4 Gigahertz (GHz).			
Title: Telemetry (TM) Modernization Study.	1.200	0.101	0.500
Articles:	0	0	
Description: Funding is provided for the following effort ***FY 2011 Accomplishments:*** Replaced outdated TM equipment with modern digital systems and enabled remote operation. ***FY 2012 Plans:*** Continues to replace outdated TM equipment with modern digital systems and enable remote operation. ***FY 2013 Plans:*** Will continue to replace outdated TM equipment with modern digital systems and enable remote operation.			
Title: Multiple Simultaneous Engagement (MSE) Flight Safety.	0.500	0.203	1.050
Articles:	0	0	
Description: Funding is provided for the following effort ***FY 2011 Accomplishments:*** Modernized and upgraded flight safety systems to accommodate customer requirements. ***FY 2012 Plans:*** Continues to Modernize and upgrade flight safety systems to accommodate customer requirements. ***FY 2013 Plans:*** Will continue to modernize and upgrade flight safety systems to accomodate customer requirements.			
Title: Legacy Servo Upgrade Program.	0.500	0.686	0.950
Articles:	0	0	

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0604759A: *Major T&E Investment*	PROJECT 983: *Reagan Test Site (RTS) T&E Investments*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Description: Funding is provided for the following effort ***FY 2011 Accomplishments:*** Replaced and upgraded obsolete antenna servos and interlock systems at the RTS radars. ***FY 2012 Plans:*** Continue to replace and upgrade obsolete antenna servos and interlock systems at the RTS radars. ***FY 2013 Plans:*** Will continue to replace and upgrade obsolete antenna serves and interlock systems at the RTS radars.			
Title: Mission Data Network (MDN) Modernization. ***Articles:*** ***Description:*** MDN Modernization. ***FY 2012 Plans:*** Replace outdated network equipment and improve on-atoll bandwidth to support increasing mission critical customer requirements. ***FY 2013 Plans:*** Will continue replacing outdated network equipment and will improve on-atoll bandwidth to support increasing mission critical customer requirements.	-	2.142 0	2.395
Title: RTS Automation and Decision Support. ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2012 Plans:*** Addition of automation measures and more sophisticated algorithms to improve operator efficiency. ***FY 2013 Plans:*** Will continue addition of automation measures and more sophisticated algorithms to improve operator efficiency.	-	0.822 0	1.278
Accomplishments/Planned Programs Subtotals	8.491	8.757	8.823

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0604759A: *Major T&E Investment*	PROJECT 983: *Reagan Test Site (RTS) T&E Investments*

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0604759A: *Major T&E Investment*	PROJECT 984: *Major Developmental Testing Instrumentation*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
984: *Major Developmental Testing Instrumentation*	25.064	31.551	21.615	-	21.615	23.990	28.161	29.980	26.493	Continuing	Continuing
Quantity of RDT&E Articles											

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 (generally greater than $1 Million per year or $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.

Fiber Optic Network II (FON II) is the installation of digital fiber optic cable and transmission electronics to modernize secure and expand the backbone telecommunication and data transmission network in support of Aberdeen Test Center. 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. Advanced Distributed Modular Acquisition System (ADMAS) Product Improvement Program (PIP) develops very small and low power pocket sized ADMAS systems which will extend the Versatile Information Systems Integrated Online system's (VISION) capabilities to support dismounted and small robotic platforms. Range Radar Replacement Program (RRRP) will replace obsolete tracking radars at Redstone Test Center (RTC), Aberdeen Test Center (ATC), Electronic Proving Ground (EPG), White Sands Missile Range (WSMR) and Yuma Proving Ground (YPG) with modern instrumentation radars. 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. 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.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Fiber Optic Network II (FON II) - Aberdeen Test Center (ATC)	6.813	2.370	-
Articles:	0	0	
Description: Continue EMD phase contract activities for the Fiber Optic Network II (FON II) - Aberdeen Test Center (ATC).			
FY 2011 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0604759A: *Major T&E Investment*	PROJECT 984: *Major Developmental Testing Instrumentation*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Continued EMD for the Fiber Optic Network II (FON II) - Aberdeen Test Center (ATC). Continued installation of digital fiber optic cable and transmission electronics to modernize, secure and expand the backbone telecommunication and data transmission network in support of Aberdeen Test Center. ***FY 2012 Plans:*** Completes EMD for the Fiber Optic Network II (FON II) - Aberdeen Test Center (ATC). Completes installation of digital fiber optic cable and transmission electronics to modernize, secure and expand the backbone telecommunication and data transmission network in support of Aberdeen Test Center.			
Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Systems Test and Integration Laboratory (STIL). ***Articles:*** ***Description:*** Continue EMD phase contract activities for the Systems Test and Integration Laboratory (STIL). ***FY 2011 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 2012 Plans:*** Continues 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 2013 Plans:*** Will continue 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.	3.883 0	3.966 0	5.940
Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Advanced Distributed Modular Acquisition System (ADMAS). ***Articles:*** ***Description:*** EMD phase contract activities for the Advanced Distributed Modular Acquisition System (ADMAS) Product Improvement Program (PIP). ***FY 2011 Accomplishments:***	3.530 0	1.715 0	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0604759A: *Major T&E Investment*	PROJECT 984: *Major Developmental Testing Instrumentation*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Continued EMD for the Advanced Distributed Modular Acquisition System (ADMAS) Product Improvement Program (PIP). Continued the development of very small and low power pocket sized ADMAS systems. ADMAS PIP continued expansion of the current ADMAS Instrumentation Suite, comprised of the Macro and Micro ADMAS. The expansion included updates to the existing hardware and software of current suite, plus the development of two new devices (Nano and Pico ADMAS). ***FY 2012 Plans:*** Completes EMD for the Advanced Distributed Modular Acquisition System (ADMAS) Product Improvement Program (PIP). Completes the development of very small and low power pocket sized ADMAS systems. ADMAS PIP completes expansion of the current ADMAS Instrumentation Suite, comprised of the Macro and Micro ADMAS. The expansion includes updates to the existing hardware and software of current suite, plus the development of two new devices (Nano and Pico ADMAS).			
Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Range Radar Replacement Program. ***Articles:*** ***Description:*** EMD phase contract activities for the Range Radar Replacement Program. ***FY 2011 Accomplishments:*** Continued EMD for the Range Radar Replacement Program. Continued the upgrade or replacement of obsolete tracking and surveillance radars at EPG, WSMR and YPG with modern digital equipment. ***FY 2012 Plans:*** Continues Engineering Manufacturing Development (EMD) for the Range Radar Replacement Program 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 2013 Plans:*** Will continue Engineering Manufacturing Development (EMD) for the Range Radar Replacement Program 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).	10.838 0	17.428 0	15.675
Title: Engineering and Manufacturing Development (EMD) phase contract activity of the Common Range Integrated Instrumentation System (CRIIS) Objective Program. ***Articles:*** ***Description:*** Starts EMD phase contract activities of the Common Range Integrated Instrumentation System (CRIIS) Objective Program. ***FY 2012 Plans:***	- -	0.280 0	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0604759A: *Major T&E Investment*	PROJECT 984: *Major Developmental Testing Instrumentation*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Starts 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 data link, TSPI accuracy, miniaturization, standard interfaces, and system encryption.			
Title: Engineering and Manufacturing Development (EMD) phase contract activity for the E3 Systems Modernization (EMRE) project. ***Articles:*** ***Description:*** EMD phase contract activities for the E3 Systems Modernization (EMRE) project. ***FY 2012 Plans:*** Starts EMD for the E3 Systems Modernization (EMRE). 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.	-	5.792 0	-
Accomplishments/Planned Programs Subtotals	25.064	31.551	21.615

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0604759A: *Major T&E Investment*	PROJECT 986: *Major Operational Test Instrumentation*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
986: *Major Operational Test Instrumentation*	7.116	9.051	6.956	-	6.956	7.426	7.914	9.786	10.318	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Major Instrumentation and Modeling and Simulation (M&S) in Support of Network Integration Test will develop Major Instrumentation and M&S efforts in support of Network Integration Test related to limited fiber upgrade for White Sands Missile Range (WSMR), additional common data collection devices, and updated, Army Test and Evaluation Command (ATEC)-wide, distributed data storage, analyses software, and tools. In addition, develop and field a Real-Time, Hardware-in-the-Loop, M&S Federation, which can be accredited and portray Blue and Threat Computer Network Device (CND) and Controller Area Network (CAN) will begin in FY12.

Test and Training Common Technology Initiative, Network, Real Time Casualty Assessment (RTCA), Data Collection and After Action Review (AAR) will develop and sustain Army Test and Training Instrumentation Test Bed, support Trade-Off Studies, Development of Common Standards, Analysis of Alternatives, Cost Benefit Analyses, Test Technology Demonstrations and/or Technology Readiness Events. This capability will also provide risk reduction to future developed assets required to meet test and training needs. These tools will collect, store and analyze data from this new dimension of digital battlefield warfare. This effort responds to the current Operations Tempo (OPTEMPO) and Personnel Tempo (PERSTEMPO) demands to force the U.S. Army to conduct more realistic, more accurate, and comprehensive evaluations at reduced costs by virtually replicating a greater number of troop resources in force-on-force testing and training exercises.

Operational Test Command (OTC) Advanced Simulation & Instrumentation Systems (OASIS) Enterprise Integration System (EIS) supports the OTC simulation and test support capabilities. Operational testing of enterprise/systems of systems (SoS) capabilities requires an integrated test technology tools enterprise: 1) Test Planning & Control systems / networks, 2) Live-virtual-constructive (LVC) simulations, 3) Data Collection, Reduction, Analysis (DCRA), and visualization tools and 4) tactical systems and networks. The OASIS-EIS will support test tool integration in three major areas: 1) harmonize OT test technology integration with other acquisition efforts (RTCA, networks, data collection) at the ATEC level, 2) transition Battle Command Network Integration Simulation (BCNIS) program management to PEO-STRI (PM-ITTS) to support leverage by other PEO STRI and ATEC offices (initially TSMO, EPG and RTC), and 3) develop an ATEC and PEO-STRI program to achieve efficiencies and cost savings through shared development and enhancement of key simulation (primarily gaming, virtual, and constructive), and LVC integration capabilities. Initial focus for shared simulation/LVC enablers will be in the area of network, fires and ISR simulations and LVC architecture planning, engineering and integration tools.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Operational Test-Tactical Engagement System (OT-TES).	6.400	-	-
Articles:	0		
Description: Complete EMD phase contract activities for OT-TES.			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0604759A: *Major T&E Investment*	PROJECT 986: *Major Operational Test Instrumentation*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
FY 2011 Accomplishments: Completed EMD for the development of hardware, software, interfaces, and new capabilities to ensure the Real-Time Casualty Assessment (RTCA) requirements for upcoming operational tests are supported. Developed efforts that will initially be directed toward OT-TES; Development efforts 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.			
Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Operational Test Command (OTC) Analytic Simulation and Instrumentation Suite (OASIS) Enterprise Integration Solution. ***Articles:*** ***Description:*** EMD phase contract activities for the Operational Test Command (OTC) Analytic Simulation and Instrumentation Suite (OASIS) Enterprise Integration System (EIS). ***FY 2011 Accomplishments:*** Continued EMD for the Operational Test Command (OTC) Analytic Simulation and Instrumentation Suite (OASIS) Enterprise Integration System (EIS). ***FY 2012 Plans:*** Continues EMD by developing Operational Test Command (OTC) Analytic Simulation and Instrumentation Suite (OASIS) Enterprise Integration System (EIS). Funding provides the connecting infrastructure within the enterprise to create a comprehensive operational testing Live-Virtual-Constructive (LVC) environment which also enables and supports test control, and data collection, reduction and analysis (DCRA). Developing and delivering capabilities that are necessary to adequately support evaluation of emerging systems. Systems will lack the capabilities needed to collect test data during operational tests to provide an adequate level of confidence. Without the necessary data, evaluations of Army systems will be inaccurate and incomplete. Testing of complex systems is too expensive, and augmentation of system under test and ensuring confidence in the test is the only cost effective method. Systems may include, Network Integration Event (NIE) (13.1, 13.2), Defense Common Ground Station-Army (DGCS-A), Warfighter Information Network (WIN-T), Enhanced Medium Altitude Reconnaissance and Surveillance System (EMARSS). ***FY 2013 Plans:*** Continues EMD by developing Operational Test Command (OTC) Analytic Simulation and Instrumentation Suite (OASIS) Enterprise Integration System (EIS). Funding supports integration of Federation members by OASIS EIS into a LVC environment to support OTC's operational testing support requirements for Network Integration Event (NIE) (13.1, 13.2), Defense Common	0.716 0	0.761 0	0.786

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0604759A: *Major T&E Investment*	PROJECT 986: *Major Operational Test Instrumentation*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Ground Station-Army (DGCS-A), Warfighter Information Network (WIN-T), Enhanced Medium Altitude Reconnaissance and Surveillance System (EMARSS).			
Title: Major Instrumentation and Modeling and Simulation (M&S) in Support of Network Integration Test ***Articles:*** ***Description:*** Develop Major Instrumentation and Modeling and Simulation (M&S) efforts in support of Network Integration Test. In addition, develop and field a Real-Time, Hardware-in-the-Loop, M&S Federation, which can be accredited and portray Blue and Threat Computer Network Device (CND) and Controller Area Network (CAN) ***FY 2012 Plans:*** Begin development of Major Instrumentation and Modeling and Simulation (M&S) efforts in support of Network Integration Test related to limited fiber upgrade for White Sands Missile Range (WSMR). ***FY 2013 Plans:*** Will continue to fund critical Major Instrumentation and M&S efforts in support of Network Integration Test related to limited fiber upgrade for WSMR, additional NetADMAS Production, and will update, Army Test and Evaluation Command (ATEC)-wide, will distribute data storage, analyses software and tools.	-	5.000 0	5.000
Title: Test and Training Common Technology Initiative; Network, Real Time Casualty Assessment (RTCA), Data Collection and After Action Review (AAR) ***Articles:*** ***Description:*** Develop and sustain Army Test and Training Instrumentation Test Bed. This capability will also provide risk reduction to future developed assets required to meet test and training needs. These tools will collect, store and analyze data from this new dimension of digital battlefield warfare. ***FY 2012 Plans:*** Begin to develop and sustain Army Test and Training Instrumentation Test Bed, support Trade-Off Studies, development of Common Standards, Analysis of Alternatives, Cost Benefit Analyses, and Test Technology Demonstrations or Technology Readiness Events. ***FY 2013 Plans:*** Will continue 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	-	3.290 0	1.170

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0604759A: *Major T&E Investment*	PROJECT 986: *Major Operational Test Instrumentation*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
evaluation community. The initiative will also help develop and sustain an Army Test and Training Instrumentation Test Bed, as well as increase the rigor of testing, to ensure that proposed solutions fulfill those requirements and thus will reduce risk.			
Accomplishments/Planned Programs Subtotals	7.116	9.051	6.956

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*				R-1 ITEM NOMENCLATURE PE 0605103A: *Rand Arroyo Center*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	19.763	20.352	21.026	-	21.026	21.239	21.556	21.756	22.259	Continuing	Continuing
732: *ARROYO CENTER SPT*	19.763	20.352	21.026	-	21.026	21.239	21.556	21.756	22.259	Continuing	Continuing

Note

Not applicable for this item.

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 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	20.492	20.384	20.777	-	20.777
Current President's Budget	19.763	20.352	21.026	-	21.026
Total Adjustments	-0.729	-0.032	0.249	-	0.249
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.609	-			
• Adjustments to Budget Years	-	-	0.249	-	0.249
• Other Adjustments 1	-0.120	-0.032	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605103A: *Rand Arroyo Center*	PROJECT 732: *ARROYO CENTER SPT*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
732: *ARROYO CENTER SPT*	19.763	20.352	21.026	-	21.026	21.239	21.556	21.756	22.259	Continuing	Continuing
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, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Research addressing manpower and training	5.777	5.780	5.898
Articles:	0	0	
Description: 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 2011 Accomplishments: The Planned Study program includes 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 2012 Plans: The Planned Study program includes 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,			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
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 2013 Plans:*** The Planned Study program includes 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.			
Title: Research addressing force development and technology ***Articles:*** ***Description:*** 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 2011 Accomplishments:*** The Planned Study Program in force development and technology includes 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 2012 Plans:*** The Planned Study Program in force development and technology includes 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 2013 Plans:*** The Planned Study Program in force development and technology includes 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.	3.807 0	3.856 0	3.935
Title: Research addressing Army logistics ***Articles:*** ***Description:*** Key issues for the Army, including supply chain management; fleet management and modernization; logistics force development; and infrastructure management. ***FY 2011 Accomplishments:***	4.749 0	4.710 0	4.806

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
The Planned Study Program in Army logistics includes key issues for the Army, including supply chain management; fleet management and modernization; logistics force development; and infrastructure management. ***FY 2012 Plans:*** The Planned Study Program in Army logistics includes key issues for the Army, including supply chain management; fleet management and modernization; logistics force development; and infrastructure management. ***FY 2013 Plans:*** The Planned Study Program in Army logistics will include key issues for the Army, including supply chain management; fleet management and modernization; logistics force development; and infrastructure management.			
Title: Research addressing strategies, doctrine, and resources ***Articles:*** ***Description:*** 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 2011 Accomplishments:*** The Planned Study Program in strategy, doctrine, and resources included 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 2012 Plans:*** The Planned Study Program in strategy, doctrine, and resources includes 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 2013 Plans:*** The Planned Study Program in strategy, doctrine, and resources will include 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.	4.474 0	5.038 0	5.399
Title: Research addressing military health ***Articles:***	0.956 0	0.968 0	0.988

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Description: 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 2011 Accomplishments:*** The Planned Study Program in military health includes 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 2012 Plans:*** The Planned Study Program in military health includes 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 2013 Plans:*** The Planned Study Program in military health will include 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.			
Accomplishments/Planned Programs Subtotals	19.763	20.352	21.026

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*				R-1 ITEM NOMENCLATURE PE 0605301A: *ARMY KWAJALEIN ATOLL*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	190.005	145.377	176.816	-	176.816	65.955	63.882	61.321	59.428	Continuing	Continuing
614: *ARMY KWAJALEIN ATOLL*	190.005	145.377	176.816	-	176.816	65.955	63.882	61.321	59.428	Continuing	Continuing

Note

Additional funding in FY11 and FY13 for USAKA/RTS Sustainment, Restoration and Modernization (SRM)

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 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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army					DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*		R-1 ITEM NOMENCLATURE PE 0605301A: *ARMY KWAJALEIN ATOLL*			
B. Program Change Summary ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**
Previous President's Budget	163.788	145.606	149.178	-	149.178
Current President's Budget	190.005	145.377	176.816	-	176.816
Total Adjustments	26.217	-0.229	27.638	-	27.638
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-4.606	-			
• Adjustments to Budget Years	-	-	27.638	-	27.638
• Other Adjustments 1	30.823	-0.229	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
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COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
614: *ARMY KWAJALEIN ATOLL*	190.005	145.377	176.816	-	176.816	65.955	63.882	61.321	59.428	Continuing	Continuing
Quantity of RDT&E Articles											

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) 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 Shuttleand 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, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Management Support	10.420	10.438	10.300
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2011 Accomplishments:			

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Continued to provide management support (salaries, training, travel, Space & Missile Defense Command (SMDC) matrix, etc). ***FY 2012 Plans:*** Will continue 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. ***FY 2013 Plans:*** We will continue 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.			
Title: Sustainment and Restoration/Modernization	35.717	-	30.000
Articles:	0		
Description: Funding is provided for the following effort ***FY 2011 Accomplishments:*** Continued to accomplish facility maintenance and repaired projects, including design and demolition. ***FY 2013 Plans:*** We will continue to accomplish facility maintenance and repair projects, including design and demolition.			
Title: Procure petroleum, oils and lubricants (POL).	20.213	23.114	23.000
Articles:	0	0	
Description: Funding is provided for the following effort ***FY 2011 Accomplishments:*** Continued to procure petroleum, oils and lubricants (POL). ***FY 2012 Plans:*** Will continue to procure petroleum, oils and lubricants (POL). Approx 80% of POL is for power generation and the remainder is for intra atoll marine and aviation transportation. ***FY 2013 Plans:*** We will continue to procure petroleum, oils and lubricants (POL).			
Title: Procure other mission services.	2.153	2.115	2.160
Articles:	0	0	

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
Description: Funding is provided for the following effort ***FY 2011 Accomplishments:*** Continued to procure other mission services. ***FY 2012 Plans:*** Will continue to procure other mission services. ***FY 2013 Plans:*** We will continue to procure other mission services.				
Title: Transportation		4.532	7.072	7.200
	Articles:	0	0	
Description: Funding is provided for the following effort ***FY 2011 Accomplishments:*** Continued to provide air and sea transportation (cargo to and from continental United States). ***FY 2012 Plans:*** Will continue to provide air and sea transportation (cargo to and from continental United States). ***FY 2013 Plans:*** We will continue to provide air and sea transportation (cargo to and from continental United States).				
Title: Kwajalein Cable System (KCS)		10.958	11.197	11.400
	Articles:	0	0	
Description: Funding is provided for the following effort ***FY 2011 Accomplishments:*** Continued to provide funding for Kwajalein Cable System (KCS) fiber optic cable for annual service contract. ***FY 2012 Plans:*** Will continue to provide funding for Kwajalein Cable System (KCS) fiber optic cable for annual service contract. ***FY 2013 Plans:*** We will continue to provide funding for Kwajalein Cable System (KCS) fiber optic cable for annual service contract.				
Title: Direct Customers		49.017	48.142	49.017

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Articles:	0	0	
Description: Funding is provided for the following effort ***FY 2011 Accomplishments:*** Continued to support Army, MDA, NASA and Air Force developmental and operational missile testing. ***FY 2012 Plans:*** Will continue to support Army, MDA, NASA and Air Force developmental and operational missile testing. ***FY 2013 Plans:*** Will continue to support Army, MDA, NASA and Air Force development and operational missile testing.			
Title: Logistical Support of the self-contained islands of USAKA	52.070	38.462	40.539
Articles:	0	0	
Description: Funding is provided for the following effort ***FY 2011 Accomplishments:*** Continued to provide logistical support (facilities maintenance and repair, aviation, automotive, marine, medical, food services, education, information management, environmental compliance, etc.) to self contained islands of USAKA. ***FY 2012 Plans:*** Will continue to provide logistical support (facilities maintenance and repair, aviation, automotive, marine, medical, food services, education, information management , DIACAP certification and accreditation, environmental compliance, etc.) to self contained islands of USAKA. ***FY 2013 Plans:*** We will continue to provide logistical support (facilities maintenance and repair, aviation, automotive, marine, medical, food services, education, information management, DIACAP certification and accreditation, environmental compliance, etc.) to self contained islands of USAKA.			
Title: RTS Distributed Operations	4.925	4.837	3.200
Articles:	0	0	
Description: Funding is provided for the following effort ***FY 2011 Accomplishments:***			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Continued to provide for RTS Distributed Operations (distributed operations of the Range sensors from Continental U.S.). ***FY 2012 Plans:*** Will continue to provide for RTS Distributed Operations (distributed operations of the Range sensors from Continental U.S.). ***FY 2013 Plans:*** We will continue to provide for RTS Distributed Operations (distributed operations of the Range sensors from Continental U.S.).			
Accomplishments/Planned Programs Subtotals	190.005	145.377	176.816

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*				R-1 ITEM NOMENCLATURE PE 0605326A: *Concepts Experimentation Program*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	17.101	28.755	27.902	-	27.902	24.458	21.544	19.382	19.627	Continuing	Continuing
312: *Army/Joint Experimentation*	5.698	9.148	8.330	-	8.330	5.860	2.924	0.522	0.531	Continuing	Continuing
317: *CURRENT FORCE CAPABILITY GAPS*	9.422	17.742	17.677	-	17.677	16.714	16.745	16.970	17.256	Continuing	Continuing
33B: *SOLDIER-CENTERED ANALYSES FOR THE FUTURE FORCE*	1.981	1.865	1.895	-	1.895	1.884	1.875	1.890	1.840	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Army Experimentation mission enables integrated examinations with US Joint Forces Command (USJFCOM), Army Test and Evaluation Command (ATEC), Research, Development, and Experimentation Command (RDECOM), Army battle laboratories, operational units, research labs, materiel developers, industry and academia to collaborate in the development, refinement, and assessment of future force concepts. The intended outcome of this integrative effort is to develop concept capability plans that inform the Capabilities Integration Development System (CIDS) process and define future requirements, enabling identification and acquisition of critical Doctrine, Organization, Training, Materiel, Leader Development, Personnel and Facilities (DOTMLPF) capabilities for the future force to provide land power capabilities needed by Joint and Army commanders. In FY 2011-2013, Research, Development, Test and Evaluation (RDT&E) funding specifically enables the World Class Blue Force (subject matter experts overseeing and coordinating experiments efforts from Army Capabilities Integration Center (ARCIC) proper in collaboration with the Schools and Centers), support for Red Cell analysis, and support to Maneuver Brigade Experiments. Experimentation enables enhanced situational awareness, planning requirements, employment and management of accelerated decision cycles in a network-enabled force, and training requirements of new and emerging technologies.

ARCIC, Accelerated Capabilities Division (ACD) (formerly Asymmetric Warfare Division) develops immediate capability solutions in support of the Chief of Staff of the Army (CSA) prioritized Current Force capability gaps (i.e. Force Protection, Networked Battle Command, Logistics and Medical in Counterinsurgency Operations (COIN) and Soldier Protection). ACD conducts Concept of Operations (CONOPS) and DOTMLPF analysis required to ensure capability gap candidate solutions are properly integrated prior to being equipped to deployed forces. Supports pre-deployment and in-theater assessments to ensure candidate solutions meet identified requirements, support tactics, techniques and procedures development for use by deployed forces, and ensure equipped systems provide the necessary capability to fill an identified gap. These assessments support determination of a path forward for equipped systems by identifying them as a potential Program of Record (POR) or sustain in theater. CONOPS, DOTMLPF-Cost analysis, and assessments assist deployed forces by ensuring they are able to properly employ equipped systems and assist senior Army leadership in determining how best to resource solutions to high priority capability gaps.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army					DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*		R-1 ITEM NOMENCLATURE PE 0605326A: *Concepts Experimentation Program*			
B. Program Change Summary ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**
Previous President's Budget	17.704	28.800	27.620	-	27.620
Current President's Budget	17.101	28.755	27.902	-	27.902
Total Adjustments	-0.603	-0.045	0.282	-	0.282
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.477	-			
• Adjustments to Budget Years	-	-	0.282	-	0.282
• Other Adjustments 1	-0.126	-0.045	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605326A: *Concepts Experimentation Program*	PROJECT 312: *Army/Joint Experimentation*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
312: *Army/Joint Experimentation*	5.698	9.148	8.330	-	8.330	5.860	2.924	0.522	0.531	Continuing	Continuing
Quantity of RDT&E Articles											

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

Army Experimentation is the conduct of experiments involving Soldiers and Leaders within live, virtual, and contructive environments of exploring concepts, capability requirements and solutions across Doctrine, Organization, Training, Materiel, Leaders, 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. TRADOC's partnership with ASA(ALT) in connecting Soldiers to the ideas and capabilities earlier rather than later, provides essential user feedback and assists the acquisition community with informing the Army's investment portfolio and decreasing the number of engineering design changes. 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. In FY11-17, Research, Development, Test and Evaluation (RDT&E) funding enables World Class Blue Force (WCBLUFOR) to provide technical and tactical expertise in Army experiment efforts, in collaboration and integration with Joint, Interagency, Intergovermental, and Multinational partners. In the near-term, Army experimentation will focus on Prevent, Prevail, Prepare, and Preserve as foundational elements for this campaign, assessed across all joint campaign phases, with Army level issues across the breadth of a champaign that highlights the core competencies of combined arms maneuver and wide area security.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Experimentation - World Class Blue Force Analysts	3.524	3.524	3.524
Articles:	0	0	
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 TDAs.			
FY 2011 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605326A: *Concepts Experimentation Program*	PROJECT 312: *Army/Joint Experimentation*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
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 had learned and what remained to be learned. ***FY 2012 Plans:*** WCBLUFOR assist and mentor planning, execution and evaluation of experiments supporting Army capstone, operational and functional concepts to provide credible incorporation of concepts into experiments. WCBLUFOR also support analysis and coordination for the Army's Campaign of Learning - both what we have learned and what remains to be learned. ***FY 2013 Plans:*** WCBLUFOR will assist and will mentor planning, execution and evaluation of experiments supporting Army capstone, operational and functional concepts to provide credible incorporation of concepts into experiments. WCBLUFOR also will support 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 ***Articles:*** ***Description:*** Perform maneuver brigade experiments that will address 1) integration of Heavy-Brigade Combat Teams (H-BCT)s with spin out capabilities; 2) integration of Interim Brigade Combat Team (IBCT) /Stryker Brigade Combat Team (SBCT) with Future Brigade Combat Team (FBCT) and H-BCTs with spin out capabilities; 3) development of future IBCT, SBCT and HBCT capability Doctrine, Organization, Training, Materiel, Leader Development, Personnel and Facilities (DOTMLPF) requirements and DOTMLPF solutions; and 4) acceleration and integration of capabilities for current force Brigade Combat Teams (BCTs). ***FY 2011 Accomplishments:*** Performed maneuver brigade experiments that addressed 1) integration of Heavy-Brigade Combat Teams (H-BCT)s with spin out capabilities; 2) integration of Interim Brigade Combat Team (IBCT) /Stryker Brigade Combat Team (SBCT) with Future Brigade Combat Team (FBCT) and H-BCTs with spin out capabilities; 3) development of future IBCT, SBCT and HBCT capability DOTMLPF requirements and DOTMLPF solutions; and 4) acceleration and integration of capabilities for current force BCTs. ***FY 2012 Plans:*** Conducts experiments to address learning demands supporting assigned Army Warfighting Challenges (AWFC). Results will inform the Integrated Learning Plan for each AWFC; especifically supporting concepts, Capability Based Analysis, and Vice Chief of Staff of the Army (VCSA) portfolio reviews.	2.174 0	5.624 0	- -
Title: Experimentation - High-Fidelity Live-Virtual-Constructive Experiments	-	-	4.806

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Description: Experiments address concept and capability developments including integration of capabilities for all BCT types; development of future Doctrine, Organization, Training, Materiel, Leader Development, Personnel and Facilities (DOTMLPF) requirements and solutions; and acceleration and integration of capabilities for current force Brigade Combat Teams (BCTs) ***FY 2013 Plans:*** Experiments will continue to address learning demands supporting critical Army Warfighting Challenges (AWFC); capstone, operational and concepts; and Capability Based Analysis. Experiments will support 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.			
Accomplishments/Planned Programs Subtotals	5.698	9.148	8.330

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605326A: *Concepts Experimentation Program*	PROJECT 317: *CURRENT FORCE CAPABILITY GAPS*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
317: *CURRENT FORCE CAPABILITY GAPS*	9.422	17.742	17.677	-	17.677	16.714	16.745	16.970	17.256	Continuing	Continuing
Quantity of RDT&E Articles											

Note

Not applicable for this item.

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.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Improvised Explosive Device (IED) Integrated Concept Development Team (ICDT)	4.587	3.072	3.447
Articles:	0	0	
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 2011 Accomplishments: Continued to coordinate home-station training programs of IED-Defeat initiatives. Was responsible for coordinating and facilitating the IED-Defeat Council of Colonels and General Officer Steering Committees producing guidance and directives for Army-wide IED-Defeat training, initiative, and systems. Supported various TRADOC Centers of Excellence with Counter-IED subject matter experts.			
FY 2012 Plans: Leads 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. Is responsible for coordination and facilitating IED-Defeat Council of Colonels and General Officer Steering Committees producing guidance and			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
directives for Army-wide IED-Defeat Training initiatives and systems. Support TRADOC CoEs with CIED SMEs and products for all CIED Lines of Effort (DtD, ATN, Robotics). ***FY 2013 Plans:*** Will 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. Will be responsible for coordination and faciliating 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 (DtD, ATN, Robotics).			
Title: Airborne Electronic Attack (AEA), Full Spectrum Effects Platform (FSEP), Land Warrior, Robotics ***Articles:*** ***Description:*** Funding is needed for AEA, FSEP, Land Warrior, and Robotics. ***FY 2011 Accomplishments:*** AEA is a capability to provide organic or direct support airborne electronic attack capabilities to the Brigade Combat Team. This capability provided the unit the ability to perform airborne pre-detonation as well as threat communications suppression across the electro-magnetic spectrum in order to enhance freedom of maneuver and mission effectiveness across the unit's battlespace.	1.377 0	-	-
Title: Demo/Assess Electronic Warfare - Base Expeditionary Target and Surveillance System Combined (BETSS-C) ***Articles:*** ***Description:*** Funding is needed for the Demo/Assess Electronic Warfare - Base Expeditionary Target and Surveillance System Combined. ***FY 2011 Accomplishments:*** Supported USCENTCOM Operation Needs Statement to provide reconnaissance, surveillance, and target acquisition (RSTA) by integrating eight ground-based-intelligence-surveillance-reconnaissance and battle command capabillities through an integrated sensor system of systems approach to blue force operating locations (Joint Security Stations/Command Out Posts) and along key transit routes in Operation Enduring Freedom. Persistent surveillance around blue force operating locations was necessary to counter threats, provide early warning, increase force protection and improve security response.	1.038 0	-	-
Title: Demo/Assess Command and Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR)- Joint Integration and Non-Lethal Fires ***Articles:***	2.420 0	2.400 0	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Description: Command, Control, Communications, Computers, Combat Systems, Intelligence, Surveillance, and Reconnaissance (C5ISR) Operation Needs Statement (ONS) (classified) is a compliation of C5ISR capabilities that eliminate critical capability performance gaps in Operation Enduring Freedom (OEF). Phase 1 improvements include higher level network security and increased network bandwidth down to battalion level, network modem upgrades, increased biometrics and support, aerial layer network extension, network extension to mobile user (hand held), and full motion video. ***FY 2011 Accomplishments:*** C5ISR ONS (classified) is a compliation of C5ISR capabilities that eliminate critical capability performance gaps in OEF. Phase 1 improvements include higher level network security and increased network bandwidth down to battalion level, network modem upgrades, increased biometrics and support, aerial layer network extension, network extension to mobile user (hand held), and full motion video. ***FY 2012 Plans:*** C5ISR ONS (classified) is a compliation of C5ISR capabilities that eliminate critical capability performance gaps in OEF. Phase 1 improvements include higher level network security and increased network bandwidth down to battalion level, network modem upgrades, increased biometrics and support, aerial layer network extension, network extension to mobile user (hand held), and full motion video.			
Title: Aerial Sensor Portfolio	-	3.300	0.280
Articles:		0	
Description: Funding is needed to support the Aerial Sensor Portolio. ***FY 2012 Plans:*** Aerial Sensor Portfolio (excluding Task Force Observe, Detect, Indentify, and Neutralize - TF ODIN systems) supports the accelerated developments of directed, ONS-based, quick reaction aerial sensor capabilities (Desert Owl I and II, Radiant Falcon, Copperhead II, Black Kite). Supports improved Aerial Intelligence, Surveillance, and Reconnaissance (ISR) Information System processing. Consists of aerial sensor and command control systems organized to defeat assigned threats in current operational environments by integrating collection and analysis of intelligence data, shorten sensor to responder timelines, and facilitate planning, sensor cueing, data collection, and communications. ***FY 2013 Plans:*** Aerial Sensor Portfolio (excluding Task Force Observe, Detect, Indentify, and Neutralize - TF ODIN systems) will support the accelerated developments of directed, ONS-based, quick reaction aerial sensor capabilities (Desert Owl I and II, Radiant Falcon, Copperhead II, Black Kite). Will support improved Aerial Intelligence, Surveillance, and Reconnaissance (ISR) Information System processing. Will consist of aerial sensor and command control systems organized to defeat assigned threats in current			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
operational environments by integrating collection and analysis of intelligence data, shorten sensor to responder timelines, and will facilitate planning, sensor cueing, data collection, and communications.			
Title: Communications and Networks Portfolio ***Articles:*** ***Description:*** Funding is needed for Communications and Networks Portfolio. ***FY 2012 Plans:*** Communications and Network Portfolio capabilities include Intelligence, Surveillance, and Reconnaissance (ISR) Net, Trojan Swarm, Heterogeneous Aerial Reconnaissance Team (HART), Enroute Mission Planning and Rehearsal System (EMPRS), Army Cellular Capability Development and Connecting Soldiers to Digital Applications (CSDA). Task is to support development, deployment, and assessment of communications and networking of these and other directed systems to provide the Warfighter a network connectivity with mission command applications. Network provides single user interface, including aerial tier, capable of assessing all required data applications, and service via the common operating environment. Network supports distributed and small unit operations beyond line-of-sight with focus on Company and below Brigade and Battalion mission command on-the-move capabilities. Additionally network reduces dependence on satellite communications when connectivity is lost. ***FY 2013 Plans:*** Communications and Network Portfolio capabilities will include Intelligence, Surveillance, and Reconnaissance (ISR) Net, Trojan Swarm, Heterogeneous Aerial Reconnaissance Team (HART), Enroute Mission Planning and Rehearsal System (EMPRS), Army Cellular Capability Development and Connecting Soldiers to Digital Applications (CSDA). Task will be to support development, deployment, and assessment of communications and networking of these and other directed systems to provide the Warfighter a network connectivity with mission command applications. Network will provide single user interface, including aerial tier, capable of assessing all required data applications, and service via the common operating environment. Network will support distributed and small unit operations beyond line-of-sight with focus on Company and below Brigade and Battalion mission command on-the-move capabilities. Additionally network will reduce dependence on satellite communications when connectivity is lost.	-	2.693 0	0.535
Title: Demo/Assess Operational Power and Energy ***Articles:*** ***Description:*** Funding is needed for Operational Power and Energy ***FY 2012 Plans:*** TRADOC Accelerated Capability Developments supports TRADOC Power and Energy staff management and integration responsibilities. Supports proponents with their responsibilities relative to doctrine, organization, training, material, leader development and education, personnel, and facilities plus related matters. Leverages Proponent input to Joint Capabilities	-	2.250 0	1.846

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Integration and Development System, Science and Technology, Concept Development, Capability Development for Rapid Transition, and Capability Gap Analysis Army. ***FY 2013 Plans:*** TRADOC Accelerated Capability Developments will support TRADOC Power and Energy staff management and integration responsibilities. Will supports proponents with their responsibilities relative to doctrine, organization, training, material, leader development and education, personnel, and facilities plus related matters. Leverages Proponent input to Joint Capabilities Integration and Development System, Science and Technology, Concept Development, Capability Development for Rapid Transition, and Capability Gap Analysis Army.			
Title: Integrated Protection Initiative (IPI) ***Articles:*** ***Description:*** Funds are needed for Integrated Protection Initiative. ***FY 2012 Plans:*** 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. ***FY 2013 Plans:*** TRADOC Accelerated Capability Developments initiative will provide 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.	-	4.027 0	2.468
Title: Prototype Solution Demonstrations ***Description:*** Army Expeditionary Warrior Experiment (AEWE) addresses live, prototype experimentation requirements. ***FY 2013 Plans:*** AEWE will address live, prototype experimentation requirements with a primary focus on the Soldier and Small Unit, examining concepts and capabilities for the current and future force. AEWE will provide Capability Developers, the S&T community and industry a repeatable, credible, rigorous, and validated operational experiment venue to support DOTMLPF concepts and materiel development efforts. FY13 will focus on Spiral H and J support.	-	-	1.200
Title: Capability Packages (CP)	-	-	0.800

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Description: Capability Packages are a key element of the Army's transition to a brigade combat team (BCT) modernization strategy. ***FY 2013 Plans:*** Capability Packages will be a key element of the Army's transition to a brigade combat team (BCT) modernization strategy to build a versatile mix of mobile, networked and combat effective BCTs. Following the Defense Secretary's guidance to accelerate proven solutions, these packages will upgrade our units every few years so the best capabilities available at that time go to the Soldiers who need them most, based on the continually evolving combat environment. These bundles of capabilities will include doctrine, organization, and training in conjunction with materiel to fill the highest priority shortfalls and mitigate risk for Soldiers. The incremental deliveries will build upon one another as the Army continually adapts and modernizes.			
Title: Robotics ***Description:*** Testing and demonstration of increased unmanned ground vehicle capabilities. ***FY 2013 Plans:*** Will be testing and demonstration of increasingly capable unmanned ground vehicles in four separate categories (soldier transportable, self transportable, vehicle transportable, and applique?) through venues such as the Robotics Rodeo, Mounted Maneuver Battle Lab (MMBL), and Brigade Modernization Command (BMC) events. Successful robotic systems will be considered for in theater usage and DOTMLPF assessments for transition decisions.	-	-	1.325
Title: Tunnel Detection (TD) ***Description:*** Test and demonstration of sensor technology. ***FY 2013 Plans:*** Will test and demonstrate a suite of sensor technology systems capable of detecting, exploiting, and remediating, clandestine purpose-built tunnels.	-	-	1.175
Title: Exploitation ***Description:*** Document and Media Exploitation (DOMEX) is the collection and exploitation of captured equipment, documents, and media. ***FY 2013 Plans:*** Document and Media Exploitation (DOMEX) Tactical, operational, and strategic leaders are enabled with accurate information about enemy forces through the rapid and accurate extraction, exploitation, and analysis of captured enemy documents, media, and materiel. Tactically, DOMEX will be the collection and exploitation of captured equipment, documents, and media to generate	-	-	1.400

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
actionable intelligence. The DOMEX will be a critical part of target exploitation, especially as it relates to actions on the objective during site exploitation activities. Efforts in exploitation will also support Special Operations Command (SOCOM) with DOTMLPF assessments of classified solutions supporting technical reconnaissance, and information operations associated with exploitation.			
Title: 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 2013 Plans:*** The Army has not established an approved mechanism to train non-standard equipment within operational formations or COEs. This deficiency compels training independent of evaluated/verifiable methods. There will be minimal assistance in the development of Training Support Packages (TSP) and varying levels of oversight to validate if the maximum benefit of the training and capability has been attained. This incongruity will be detrimental to effective and consistent training for the force. Training for accelerated capabilities will accomplished primarily through mandated New Equipment Training (NET) with no process for follow on efforts. Will support TRADOC CoEs in development of Pilot Training Programs to establish process for the integration on non-standard capability training.	-	-	3.201
Accomplishments/Planned Programs Subtotals	9.422	17.742	17.677

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605326A: *Concepts Experimentation Program*	PROJECT 33B: *SOLDIER-CENTERED ANALYSES FOR THE FUTURE FORCE*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
33B: *SOLDIER-CENTERED ANALYSES FOR THE FUTURE FORCE*	1.981	1.865	1.895	-	1.895	1.884	1.875	1.890	1.840	Continuing	Continuing
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, workload and skill demands are considered, 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, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Manpower and Personnel Integration (MANPRINT)	1.217	1.865	1.895
Articles:	0	0	
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 2011 Accomplishments: Directly linked Human System Integration (HSI) analyses to systems engineering, costs, and design trade study analyses.			
FY 2012 Plans: Develop method to trace quantified HSI risks from Warfighter and platform performance up to mission execution.			
FY 2013 Plans: Will develop analysis methodology to link HSI risk mitigation (i.e. specific system design changes) to manpower and health care cost avoidance.			
Title: MANPRINT Manpower, Personnel and Training (MPT)	0.764	-	-
Articles:	0		

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Description: Provide MANPRINT MPT force requirements determination support to TRADOC on selected systems. ***FY 2011 Accomplishments:*** Linked MPT analyses and risks to other MANPRINT domains (i.e. human engineering, system safety, health hazards).			
Accomplishments/Planned Programs Subtotals	1.981	1.865	1.895

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*						R-1 ITEM NOMENCLATURE PE 0605502A: *SMALL BUSINESS INNOVATIVE RESEARCH*					
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	27.633	-	-	-	-	-	-	-	-	Continuing	Continuing
861: *SMALL BUS TECH - AMC*	27.633	-	-	-	-	-	-	-	-	Continuing	Continuing

Note

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.

A. Mission Description and Budget Item Justification

There is no FY13 funding. This program is for SBIR only and only shows prior years.

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	-	-	-	-	-
Current President's Budget	27.633	-	-	-	-
Total Adjustments	27.633	-	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 1	27.633	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
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COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
861: *SMALL BUS TECH - AMC*	27.633	-	-	-	-	-	-	-	-	Continuing	Continuing
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.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: SBIR	27.633	-	-
Articles:	0		
Description: SBIR			
FY 2011 Accomplishments: SBIR			
Accomplishments/Planned Programs Subtotals	27.633	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*				R-1 ITEM NOMENCLATURE PE 0605601A: *ARMY TEST RANGES AND FACILITIES*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	399.931	311.650	369.900	-	369.900	366.330	339.705	305.256	307.183	Continuing	Continuing
F30: *ARMY TEST RANGES & FACILITIES*	399.931	311.650	369.900	-	369.900	366.330	339.705	305.256	307.183	Continuing	Continuing

Note

Restored the funds that were previously taken out because of efficiency.

A. Mission Description and Budget Item Justification

This project provides the institutional funding required to operate the developmental test activities, in accordance with Section 232 of the FY2003 National Defense Authorization Act (NDAA), required by Department of Defense (DOD) Program Executive Officers, Program and Product Managers, and Research, Development, and Engineering Centers. This project provides resources to operate seven elements of the DoD Major Range and Test Facility Base (MRTFB): White Sands Test Range (WSTC),White Sands Missile Range, New Mexico; High Energy Laser System Test Facility (HELSTF), 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, 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 developmental test capability at Redstone Test Center (RTC), Redstone Arsenal, Alabama. Test management and safety verification is also supported by this program element.

This project finances the overhead (institutional) test operating cost not appropriately billed to test customers, 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 developmental test capabilities at these test 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 and quality of materiel in development and in production.

In accordance with the FY03 NDAA, this project funds the indirect test costs associated with the rapid testing of systems and equipment needed in support of the Overseas Contingency Operations (OCO), such as Individual soldier protection equipment and uparmoring the Army's wheeled vehicle fleet. This project sustains the developmental Test & Evaluation capability required to support Army as well as Joint Service or Other Service systems, materiel, and technologies. Types of systems scheduled for developmental testing include; Aircraft, Air Delivery, Unmanned Aerial Systems, Unmanned Ground Vehicles, Engineering Equipment, Direct fire, Indirect fire, Nonlethal weapons, Ammunition, Automotive Systems, Intelligence Surveillance and Reconnaissance, Ground Soldier System, Missiles, Rockets, Directed Energy Weapons, Network Centric and Command, Control, and Communication.

Specific systems supported in FY11 with continued support in FY12 include: Network Integration Evaluations (NIE), personnel protective equipment (including Body Armor), up-armoring vehicle ballistic protection on route clearance vehicles, Family of Medium Tactical Vehicles Long Term Armor Strategy (FMTV LTAS), and Joint Light Tactical Vehicle (JLTV); Stryker upgrades; armor gun shields for tactical vehicles; reactive and active armor; Personnel Screening Systems; the Mine Resistant Ambush Protected (MRAP) Vehicles; Counter-Rocket Artillery Mortar (C-RAM); High Mobility Artillery Rocket System (HIMARS); Guided Multiple Launch Rocket System (GMLRS) Unitary Rocket; Unattended Ground Sensors; Intelligence Surveillance and Reconnaissance (ISR); Counter Remote Control IED (RCIED) Electronic Warfare (CREW); Warfighter Information Network Tactical (WIN-T); Distributed Common Ground System - Army (DCGS-A); Aviation Transformation (AH-64 Block III);

aviation protection systems (Common Missile Warning System (CMWS) and Common Infrared Countermeasure (CIRCM); missile defense (PAC-3), Terminal High Altitude Area Defense (THAAD), Surfaced Launched Advanced Medium Range Air-to-Air Missile (SLAMRAAM), Joint Land Attack Cruise Missile Defense Elevated Netted Sensor System (JLENS); Unmanned Aerial Systems (Tactical Unmanned Aerial Systems, Extended Range Multi-Purpose, Hunter, RQ-16 Class I UAS, Long Endurance Multi-INT Vehicle (LEMV, Telluride, Raven), Unmanned Ground Vehicles (Small Unmanned Ground Vehicle (SUGV), Multi-Mission UGV/Common Mobility Platform - ANS), Remote Mine Detection Systems (RMDS), M160, Workhorse, Modular Advanced Armed Robot System (MAARS), Kiowa Warrior Upgrades, CMWS Hostile Fire Indication, Excalibur, Green Ammo, Remote Weapon Station (RWS), Joint Chemical Agent Detector (JCAD) M4EI, Net Warrior, Mounted Soldier System (MSS), Joint Tactical Radio System (JTRS), Aircraft Hostile Fire Detection System (HFDS), Paladim Integrated Management (PIM), and Longbow Hellfire Modular Missile System (LBHMMS).

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 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	393.937	270.969	277.990	-	277.990
Current President's Budget	399.931	311.650	369.900	-	369.900
Total Adjustments	5.994	40.681	91.910	-	91.910
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-7.724	-			
• Adjustments to Budget Years	-	-	91.910	-	91.910
• OMNIBUS Reprogramming	13.718	40.681	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605601A: *ARMY TEST RANGES AND FACILITIES*	PROJECT F30: *ARMY TEST RANGES & FACILITIES*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
F30: *ARMY TEST RANGES & FACILITIES*	399.931	311.650	369.900	-	369.900	366.330	339.705	305.256	307.183	Continuing	Continuing
Quantity of RDT&E Articles											

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

This project provides the institutional funding required to operate the developmental test activities, in accordance with Section 232 of the FY2003 National Defense Authorization Act (NDAA), required by Department of Defense (DOD) Program Executive Officers, Program and Product Managers, and Research, Development, and Engineering Centers. This project provides resources to operate seven elements of the DoD Major Range and Test Facility Base (MRTFB): White Sands Test Range (WSTC),White Sands Missile Range, New Mexico; High Energy Laser Test Facility (HELSTF), 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, 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 developmental test capability at Redstone Test Center (RTC), Redstone Arsenal, Alabama. Test management and safety verification is also supported by this program element.

This project finances the overhead (institutional) test operating cost not appropriately billed to test customers, 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 developmental test capabilities at these test 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 and quality of materiel in development and in production.

In accordance with the FY03 NDAA, this project funds the indirect test costs associated with the rapid testing of systems and equipment needed in support of the Overseas Contingency Operations (OCO), such as Individual soldier protection equipment and uparmoring the Army's wheeled vehicle fleet. This project sustains the developmental Test & Evaluation capability required to support Army as well as Joint Service or Other Service systems, materiel, and technologies. Types of systems scheduled for developmental testing include; Aircraft, Air Delivery, Unmanned Aerial Systems, Unmanned Ground Vehicles, Engineering Equipment, Direct fire, Indirect fire, Nonlethal weapons, Ammunition, Automotive Systems, Intelligence Surveillance and Reconnaissance, Ground Soldier System, Missiles, Rockets, Directed Energy Weapons, Network Centric and Command, Control, and Communication.

Specific systems supported in FY11 with continued support in FY12 include: Network Integration Evaluations (NIE), personnel protective equipment (including Body Armor), up-armoring vehicle ballistic protection on route clearance vehicles, Family of Medium Tactical Vehicles Long Term Armor Strategy (FMTV LTAS), and Joint Light Tactical Vehicle (JLTV); Stryker upgrades; armor gun shields for tactical vehicles; reactive and active armor; Personnel Screening Systems; the Mine Resistant Ambush Protected (MRAP) Vehicles; Counter-Rocket Artillery Mortar (C-RAM); High Mobility Artillery Rocket System (HIMARS); Guided Multiple Launch Rocket System (GMLRS) Unitary Rocket; Unattended Ground Sensors; Intelligence Surveillance and Reconnaissance (ISR); Counter Remote Control IED (RCIED) Electronic Warfare (CREW); Warfighter Information Network Tactical (WIN-T); Distributed Common Ground System - Army (DCGS-A); Aviation Transformation (AH-64 Block III);

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605601A: *ARMY TEST RANGES AND FACILITIES*	PROJECT F30: *ARMY TEST RANGES & FACILITIES*

aviation protection systems (Common Missile Warning System (CMWS) and Common Infrared Countermeasure (CIRCM); missile defense (PAC-3), Terminal High Altitude Area Defense (THAAD), Surfaced Launched Advanced Medium Range Air-to-Air Missile (SLAMRAAM), Joint Land Attack Cruise Missile Defense Elevated Netted Sensor System (JLENS); Unmanned Aerial Systems (Tactical Unmanned Aerial Systems, Extended Range Multi-Purpose, Hunter, RQ-16 Class I UAS, Long Endurance Multi-INT Vehicle (LEMV, Telluride, Raven), Unmanned Ground Vehicles (Small Unmanned Ground Vehicle (SUGV), Multi-Mission UGV/Common Mobility Platform - ANS), Remote Mine Detection Systems (RMDS), M160, Workhorse, Modular Advanced Armed Robot System (MAARS), Kiowa Warrior Upgrades, CMWS Hostile Fire Indication, Excalibur, Green Ammo, Remote Weapon Station (RWS), Joint Chemical Agent Detector (JCAD) M4EI, Net Warrior, Mounted Soldier System (MSS), Joint Tactical Radio System (JTRS), Aircraft Hostile Fire Detection System (HFDS), Paladim Integrated Management (PIM), and Longbow Hellfire Modular Missile System (LBHMMS).

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, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Mission Support	139.311	113.441	157.992
Articles:	0	0	

Description: Mission Support. 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 2011 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 2012 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. 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

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605601A: *ARMY TEST RANGES AND FACILITIES*	PROJECT F30: *ARMY TEST RANGES & FACILITIES*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
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 2013 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 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 ***Articles:*** ***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 2011 Accomplishments:*** This funding supported the overhead costs of the civilian labor for Program Budget Guidance (PBG) authorizations. The balance was customer funded. The test customer paid all direct costs that were directly attributable to the use of a test facility or resource for testing of a particular program. Funding was essential to maintain core T&E skills as part of the Government civilian workforce. ***FY 2012 Plans:*** 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 2013 Plans:*** This funding 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 that are 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.	155.000 0	121.539 0	134.829
Title: Contractor Support	80.000	59.319	64.105

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605601A: *ARMY TEST RANGES AND FACILITIES*	PROJECT F30: *ARMY TEST RANGES & FACILITIES*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Articles:	0	0	
Description: This funding supports contractor labor costs not appropriately 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. Funding supports contractor efforts related to mission support. ***FY 2011 Accomplishments:*** This funding supported contractor labor costs not appropriately billable to the customer. Contract labor was 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. Funding supported contractor efforts related to mission support. ***FY 2012 Plans:*** This funding supports contractor labor costs not appropriately 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. Funding supports contractor efforts related to mission support. ***FY 2013 Plans:*** This funding will support contractor labor costs not appropriately 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. Funding will support contractor efforts related to mission support.			
Title: Revitalization/Upgrade	24.808	5.000	10.000
Articles:	0	0	
Description: 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 distributed test operations, joint and Army network centric testing. ***FY 2011 Accomplishments:***			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605601A: *ARMY TEST RANGES AND FACILITIES*	PROJECT F30: *ARMY TEST RANGES & FACILITIES*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Revitalization/Upgrade of test infrastructure and capabilities. MRTFB elements were required to use institutional funding to sustain, upgrade or create capabilities that support multiple customers. Funding were focused on improving test and evaluation capabilities for distributed test operations, joint and Army network centric testing. ***FY 2012 Plans:*** 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 distributed test operations, joint and Army network centric testing. ***FY 2013 Plans:*** 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 distributed test operations, joint and Army network centric testing.			
Title: Automotive Technology Facility (ATEF) ***Articles:*** ***Description:*** Provides funding for sustainment and maintenance for the Automotive Technology Facility (ATEF). ATEF is an engineered test track located at Aberdeen Proving Ground, Maryland for sustained high speed testing of the entire gamut of wheeled and tracked vehicles, manned and robotic, ranging from 2 to 119 tons on multiple surfaces. ***FY 2011 Accomplishments:*** Provided funding for sustainment and maintenance for the Automotive Technology Facility (ATEF) requirements. ***FY 2012 Plans:*** Provides funding for sustainment and maintenance for the Automotive Technology Facility (ATEF) requirements.	0.812 0	0.900 0	-
Title: Critical Overseas Contingency Operations Requirements ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2012 Plans:*** The purpose for this request is the requirement for additional funding to support increased infrastructure sustainment requirements that have resulted from supporting unplanned OCO workload. This unplanned workload reduced funds available to test capability sustainment and facility upgrades and increased wear and tear on test facilities and equipment used during tests. Obligation of funds to support unanticipated OCO work with a subsequent negative impact upon sustainment requirements.	-	8.513 0	-
Title: High Energy Laser System Test Facility (HELSTF)	-	2.938	2.974

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605601A: *ARMY TEST RANGES AND FACILITIES*	PROJECT F30: *ARMY TEST RANGES & FACILITIES*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Articles:		0	
Description: Provides partial funding for the sustainment requirement for HELSTF capability at White Sands Missile Range (WSMR) in New Mexico. HELSTF includes an array of chemical and solid state laser systems, beam directors, sensors, associated test instrumentation and centralized data processing capabilities. ***FY 2012 Plans:*** Provides partial funding for the sustainment requirement for HELSTF capability at White Sands Missile Range (WSMR) in New Mexico. HELSTF includes an array of chemical and solid state laser systems, beam directors, sensors, associated test instrumentation and centralized data processing capabilities. ***FY 2013 Plans:*** Will provide partial funding for the sustainment requirement for HELSTF capability at White Sands Missile Range (WSMR) in New Mexico. HELSTF will include an array of chemical and solid state laser systems, beam directors, sensors, associated test instrumentation and centralized data processing capabilities.			
Accomplishments/Planned Programs Subtotals	399.931	311.650	369.900

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*				R-1 ITEM NOMENCLATURE PE 0605602A: *Army Technical Test Instrumentation and Targets*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	68.118	70.116	69.183	-	69.183	64.432	62.607	64.990	66.002	Continuing	Continuing
628: *Developmental Test Technology & Sustainment*	47.197	46.977	45.498	-	45.498	44.619	42.949	46.423	47.122	Continuing	Continuing
62C: *MODELING AND SIMULATION INSTRUMENTATION*	20.921	23.139	23.685	-	23.685	19.813	19.658	18.567	18.880	Continuing	Continuing

Note

Taxes witheld and congressional add in FY11

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 M&S and instrumentation prototypes; and the full development of systems 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); Redstone Test Center (RTC), Redstone Arsenal, Alabama; and West Desert Test Center (WDTC) at Dugway Proving Ground (DPG), Utah. OTC consists of four forward Test Directorates (Airborne Special Operations Test Directorate, Fort Bragg, North Carolina; Air Defense Artillery Test Directorate, Fort Bliss, Texas; Fire Support Test Directorate, Fort Sill, Oklahoma; and Intelligence Electronic Warfare Test Directorate, Fort Huachuca, Arizona) together with five other Test Directorates (Aviation; Maneuver; Battle Command and Computers; Engineer and Combat Support; and Future Force) at Ft Hood, Texas. These capabilities support the development and fielding cycle of all Army acquisition programs including rapid fielding initiatives in support of operations in Iraq and Afghanistan. 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 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 Mine Resistant Ambush Protected (MRAP) vehicles, Ground Combat Vehicle (GCV), Network Integration Evaluation (NIE), Terminal High Altitude Area Defense (THAAD), Patriot Advance Capability Phase 3 (PAC 3), Mobile Gun System (MGS), Warfighter Information Network - Tactical (WIN-T), Joint Tactical Radio System (JTRS),and the Army Battle Command System (ABCS) which includes Force XXI Battle Command Brigade and Below (FBCB2)/Blue Force Tracking (BFT). This Program Element develops and sustains developmental and operational test capabilities that provide key support to the Army's Transformation. In addition this Program Element supports Overseas Contingency Operations by providing instrumentation to support ATEC's 24/7 mission at YTC, Arizona, WSMR, New Mexico and ATC, Maryland supporting the Joint Improvised Explosive Device Defeat Organization (JIEDDO) - as well as efforts throughout ATEC in support of the Army's Rapid Equipping the Force (REF) initiative.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army					DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*		R-1 ITEM NOMENCLATURE PE 0605602A: *Army Technical Test Instrumentation and Targets*			
B. Program Change Summary ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**
Previous President's Budget	59.040	70.227	68.506	-	68.506
Current President's Budget	68.118	70.116	69.183	-	69.183
Total Adjustments	9.078	-0.111	0.677	-	0.677
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	8.720	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.888	-			
• Adjustments to Budget Years	-	-	0.677	-	0.677
• Other Adjustments 1	2.246	-0.111	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605602A: *Army Technical Test Instrumentation and Targets*	PROJECT 628: *Developmental Test Technology & Sustainment*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
628: *Developmental Test Technology & Sustainment*	47.197	46.977	45.498	-	45.498	44.619	42.949	46.423	47.122	Continuing	Continuing
Quantity of RDT&E Articles											

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), which include: 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 Ground (YPG), Arizona (including the Cold Regions Test Center (CRTC), Fort Greely, Alaska and the Tropic Regions Test Center (TRTC), (at various locations); Redstone Test Center (RTC), Redstone Arsenal, Alabama; and West Desert Test Center (WDTC) Dugway Proving Ground (DPG), Utah. These capabilities are required to support developmental testing requirements of high priority Army systems being rapidly fielded to Iraq and Afghanistan, and those systems supporting Army modernization efforts.

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, refurbishment of kineto-tracking mounts (precise optical instruments used in missile and aviation testing), 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, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Program Management	6.320	5.943	5.756
Articles:	0	0	
Description: Provides command-level oversight, management and technical support for the DTC test technology and instrumentation investment accounts. Provides support to ATEC Capstone efforts in coordinating development of common instrumentation and technology needs for developmental and operational testing. Provides management and support costs for direct interface with the T&E Executive Agent, management of needs and solutions calls for T&E Reliance oversight, management of the Small Business Innovation Research (SBIR), and support of the Army principal of the Test Resource Advisory Group (TRAG).			
FY 2011 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605602A: *Army Technical Test Instrumentation and Targets*	PROJECT 628: *Developmental Test Technology & Sustainment*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Continuation of the existing requirement for the development of common instrumentation and technology to support developmental and operational testing. Management of the Small Business Innovation Research (SBIR), and support of the Army principal of the Test Resource Advisory Group (TRAG). ***FY 2012 Plans:*** Continuation of the existing requirement for the development of common instrumentation and technology to support developmental and operational testing. Management of the Small Business Innovation Research (SBIR), and support of the Army principal of the Test Resource Advisory Group (TRAG). ***FY 2013 Plans:*** Continuation of the existing requirement for the development of common instrumentation and technology to support developmental and operational testing. Management of the Small Business Innovation Research (SBIR), and support of the Army principal of the Test Resource Advisory Group (TRAG).			
Title: Developmental Test Technology Investment	36.732	36.795	36.377
Articles:	0	0	
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 the 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; acquires instrumentation for electromagnetic environment effects 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 environments as 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 2011 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 2012 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605602A: *Army Technical Test Instrumentation and Targets*	PROJECT 628: *Developmental Test Technology & Sustainment*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
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 2013 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.			
Title: Automotive Technology Evaluation Facility ***Articles:*** ***Description:*** Automotive Technology Evaluation Facility (ATEF) Test Track Upgrades - An automated traffic control system will be installed to monitor vehicle positions on the course and control accesses to and from the facility. Continuous vehicle monitoring is required for range safety and automatic collision avoidance while simultaneously conducting sustained speed endurance, vehicle dynamics and stability, robotic/autonomous vehicle control and traction control testing. ***FY 2011 Accomplishments:*** Maintained automated traffic control system and continue monitoring range safety while conducting simultaneous vehicle testing. ***FY 2012 Plans:*** Maintain automated traffic control system and continue monitoring range safety while conducting simultaneous vehicle testing. An instrumentation suite will be procured to collect and transmit real-time test data, consisting of on-board data acquisition equipment, telemetry receiving stations, wireless communications network, vehicle position systems, a fiber-optic network interface, and will be equipped with a driverless test vehicle guidance system. ***FY 2013 Plans:*** Will maintain automated traffic control system and instrumentation suite. Will continue monitoring range safety while conducting simultaneous vehicle testing.	3.314 0	2.995 0	2.901
Title: Army Test and Evaluation Command (ATEC) Common Test Technology for Developmental Testing, Operational Testing, and Evaluation ***Articles:*** ***Description:*** Army Test and Evaluation Command (ATEC) Common Test Technology for Developmental Testing, Operational Testing, and Evaluation. Provides support for development of the Versatile Information System Integrated, On-line (VISION) Digital Library to enable a centrally accessible repository for test data; 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	0.831 0	1.244 0	0.464

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605602A: *Army Technical Test Instrumentation and Targets*	PROJECT 628: *Developmental Test Technology & Sustainment*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
FY 2011 Accomplishments: Continued to provide support for development of the VISION digital library, the development of test and evaluation enterprises to facilitate use of common tools and standards. Continued to support critical test technology domain focus areas of instrumentation, modeling and simulation, threats, data management and Networks. Implementation of ATEC Reg 70-15 ***FY 2012 Plans:*** Continue to provide support for development of the VISION digital library, the development of test and evaluation enterprises to facilitate use of common tools and standards. Continue to support critical test technology domain focus areas of instrumentation, modeling and simulation, threats, data management and Networks. Implementation of ATEC Reg 70-15 ***FY 2013 Plans:*** Will continue to provide support for development of the VISION digital library, the development of test and evaluation enterprises to facilitate use of common tools and standards. Will continue to support critical test technology domain focus areas of instrumentation, modeling and simulation, threats, data management and Networks. Implementation of ATEC Reg 70-15			
Accomplishments/Planned Programs Subtotals	47.197	46.977	45.498

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605602A: *Army Technical Test Instrumentation and Targets*	PROJECT 62C: *MODELING AND SIMULATION INSTRUMENTATION*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
62C: *MODELING AND SIMULATION INSTRUMENTATION*	20.921	23.139	23.685	-	23.685	19.813	19.658	18.567	18.880	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The United States Army Operational Test Command (USAOTC) 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 activity. 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) Program Manager for Instrumentation, Targets and Threat Simulators (PM ITTS) provides development of major simulation and instrumentation systems while USAOTC adapts systems from other organizations, purchases off-the-shelf systems, develops minor new systems, and sustains all USAOTC 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 PM funding.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: ATEC Common Technology Tools	2.029	0.734	0.665
Articles:	0	0	
Description: These funds also support development of the Command, Control and Communication Driver (C3 Driver), Test and Evaluation Enterprise Architecture (TEEA), and ATEC Technology Tools. The C3 Driver supports the Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR), specifically Army Battle Command System (ABCS) 6.3, and, 6.4, development and integration at the Central Technical Support Facility (CTSF) Fort Hood, TX and contractor locations.			
FY 2011 Accomplishments: Funded the development of the C3 Driver, TEEA, and ATEC Common Technology Tools.			
FY 2012 Plans: Funds the development of the TEEA and ATEC Common Technology Tools.			
FY 2013 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605602A: *Army Technical Test Instrumentation and Targets*	PROJECT 62C: *MODELING AND SIMULATION INSTRUMENTATION*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Will fund the development of the TEEA and ATEC Common Technology Tools.			
Title: Modeling, Simulation and Instrumentation	18.892	22.405	23.020
Articles:	0	0	

Description: The individual accomplished technology projects within all the domains as described in ATEC Regulation 70-15, Table 1, 22 Mar 06, include but are not limited to: DoD Information Assurance Certification and Accreditation Process (DIACAP) for many OTC Modeling, Simulation, and Instrumentation Systems, Sustainment and Operations of all OTC Technology Capabilities and associated data management, Test Technology Integration, Operational Test Command Analytic Simulation and Instrumentation Suite (OASIS) Integration and Architecture, Test Technology Execution Capabilities, Network Control Systems, Battle Command Integration System, and Instrumentation, Real Time Casualty Assessment (RTCA) Sustainment, Extensible C4ISR Instrumentation system Fire Support Application (ExCIS FSA), Intelligence Surveillance and Reconnaissance (ISR) Simulation and Instrumentation - Intelligence Modeling ans Simulation for Evaluation (IMASE), Performance Instrumentation, Voice/Video Emulation Systems, etc.

FY 2011 Accomplishments:
FY11 current program funds were utilized for the sustainment, development, and upgrade of OTCs high priority modeling, simulation, and instrumentation systems identified under the POM submission FY12-17. The programs executed that fall under the ATEC domain categories shown above but were not limited to: RTCA equipment procurement, sustainment, and minor upgrades, TTEC Operations to sustain M&S capability, and integration of systems of systems, OTC Technology Base Support, ExCIS FSA, IMASE Simulation Scoring System (ISSS) & IMASE Scenario Generation Tool (ISGT), BCNIS, Geometric Advanced Video Enhanced Location Systems (GAVELS), High-speed Digital Recording System, and OASIS Integration and Architecture.

FY 2012 Plans:
FY 12 Planned Programs: The individual accomplished technology projects within all the domains as described in ATEC Regulation 70-15, Table 1, 22 Mar 06, include but are not limited to DIACAP for many OTC Modeling, Simulation, and Instrumentation Systems, Sustainment and Operations of all OTC Technology Capabilities and associated data management, Test Technology Integration, OASIS Integration and Architecture, Test Technology Execution Capabilities, Network Control Systems, Battle Command Integration System, and Instrumentation, RTCA Sustainment, ExCIS FSA, ISR Simulation and Instrumentation - IMASE, Performance Instrumentation, Voice/Video Emulation Systems, etc.

FY 2013 Plans:
FY 13 Planned Programs: The individual will accomplish technology projects within all the domains as described in ATEC Regulation 70-15, Table 1, 22 Mar 06, include but are not limited to DIACAP for many OTC Modeling, Simulation, and Instrumentation Systems, Sustainment and Operations of all OTC Technology Capabilities and associated data management, Test Technology Integration, OASIS Integration and Architecture, Test Technology Execution Capabilities, Network Control

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605602A: *Army Technical Test Instrumentation and Targets*	PROJECT 62C: *MODELING AND SIMULATION INSTRUMENTATION*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Systems, Battle Command Integration System, and Instrumentation, RTCA Sustainment, ExCIS FSA, ISR Simulation and Instrumentation - IMASE, Performance Instrumentation, Voice/Video Emulation Systems, etc.			
Accomplishments/Planned Programs Subtotals	20.921	23.139	23.685

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*				R-1 ITEM NOMENCLATURE PE 0605604A: *Survivability/Lethality Analysis*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	42.320	43.414	44.753	-	44.753	43.280	41.736	41.350	41.616	Continuing	Continuing
675: *Army Survivability Analysis & Evaluation Support*	42.320	43.414	44.753	-	44.753	43.280	41.736	41.350	41.616	Continuing	Continuing

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. Specific survivability analysis products include assessments of systems such as WIN-T, Mine Resistant Ambush Protected (MRAP), Stryker, Ground Combat Vehicle (GCV), 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 systems 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; information assurance 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

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	**R-1 ITEM NOMENCLATURE** PE 0605604A: *Survivability/Lethality Analysis*

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 highly technical specialized information assurance and computer network defense 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, anal

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	41.812	43.483	44.598	-	44.598
Current President's Budget	42.320	43.414	44.753	-	44.753
Total Adjustments	0.508	-0.069	0.155	-	0.155
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.456	-			
• Adjustments to Budget Years	-	-	0.155	-	0.155
• Other Adjustments 1	0.964	-0.069	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605604A: *Survivability/Lethality Analysis*	PROJECT 675: *Army Survivability Analysis & Evaluation Support*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
675: *Army Survivability Analysis & Evaluation Support*	42.320	43.414	44.753	-	44.753	43.280	41.736	41.350	41.616	Continuing	Continuing
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. Specific survivability analysis products include assessments of systems such as WIN-T, Mine Resistant Ambush Protected (MRAP), Stryker, Ground Combat Vehicle (GCV), 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 systems 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; information assurance 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

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605604A: *Survivability/Lethality Analysis*	PROJECT 675: *Army Survivability Analysis & Evaluation Support*

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 highly technical specialized information assurance and computer network defense 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. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Survivability, Lethality, Vulnerability (SLV) Analyses	20.603	20.576	20.768
Articles:	0	0	

Description: Conduct integrated survivability, lethality and vulnerability assessments for developmental ground, soldier and munition systems including Tactical Wheel Vehicles (TWV), Joint Light Tactical Vehicle (JLTV), Mine Resistant Ambush Protected (MRAP) Vehicles, Ground Combat Vehicle (GCV) , Paladin Integrated Management (PIM) Vehicle, and Stryker. Solder systems include Nett Warrior and Mounted Soldier System. Munition systems include Excaliber, Joint Air and Ground Missile (JAGM) and the Guided Multiple Launch Rocket System (GMLRS). Analyses include pre-shot predictions and post shot damage assessments for each live fire shot, behind armor debris (BAD) and crew survivability assessments and providing SLV input for the preparation of the ATEC formal evaluation reports supporting milestone events. Additionally, Soldier Survivability Assessments are prepared in preparation for a system overall MANPRINT Assessment for milestone events.

FY 2011 Accomplishments:
Conducted pre-shot predictions and post shot damage assessments for live fire shots conducted on the Stryker Mobile Gun System , NBC Reconnaissance Vehicle and Double V Hull (DVH), Tactical Wheeled Vehicles and also the Joint Light Tactical Vehicle. Conducted electronic warfare assessments on the Stryker. Initiated the Ground Combat Vehicle (GCV) Analysis of Alternatives (AoA) Dynamic Update as required by the OSD Acquisition Decision Memorandum (ADM). Conducted crew casualty assessments on the MRAP variants. Conducted a Soldier Survivability and electronic warfare assessment of the Mounted Soldier System. Conducted planning of the Excalibur System Engineering Test (SET) and the Initial Operational Test and Evaluation (IOTE).

FY 2012 Plans:
Complete the GCV AoA Dynamic Update (Bradley variants, Technology Development contractor designs and Non-developmental vehicles) in support of the GCV MS B. Provide lethality analysis for the Excalibur 1b MS C. Conduct pre-shot predictions and

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605604A: *Survivability/Lethality Analysis*	PROJECT 675: *Army Survivability Analysis & Evaluation Support*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
crew casualty assessments for MRAP vehicle design improvements. Conduct a Soldier Survivability assessment for the Nett Warrior MS C. Continue live fire shot activities (pre-shot predictions and post shot damage assessments) on the Stryker Mobile Gun System, NBC Reconnaissance Vehicle and Double V Hull (DVH). Develop crew survivability methodology for the high voltage (600v) driven Paladin PIM turret. Complete Mission based Test and Evaluation (MBTE) activities for the Joint Light Tactical Vehicle (JLTV) prototypes. ***FY 2013 Plans:*** Will conduct survivability/vulnerability assessments of the RPG Protection and Underbody Blast Protection demonstrators provided by the GCV Technology Development contractors. Will initiate the Paladin Improvement Management (PIM) vehicle Component Ballistic Tests.			
Title: C4ISR System Survivability Assessments	14.700	15.100	15.805
Articles:	0	0	
Description: This effort produces assessments of the survivability of C4ISR systems in Electronic Warfare (EW) and Information Warfare (IW) threat environments. Conducts Information Assurance (IA) analysis and electronic warfare studies on systems and networks which identify critical vulnerabilities in C4ISR systems. This work also defines, demonstrates, and recommends mitigation options to proponents and evaluators of C4ISR systems. An IA vulnerability database is maintained for the benefit of the Army community. ***FY 2011 Accomplishments:*** Conducted priority EW/IA vulnerability modeling, testing and analyses of systems such as Joint Tactical Radio System (JTRS) waveforms and hardware, Warfighter Information Network-Tactical (WIN-T) Increment 2, Distributed Common Ground System-Army (DGCS-A), SINCGARS, and rapid acquisition radio projects. IA testing and analysis was conducted on systems during Capability Set/Software blocking events. Performed EW and IA testing and analysis during NIE events. Developed modeling and simulation tools as required to enhance analysis capabilities especially to simulate and evaluate mobile ad-hoc networks which are critical to future Army mobile networks. Conducted SoS Network Vulnerability Assessments for CIO Army G6. Completed C4ISR Soldier Survivability Assessment (SSvA) and report for Milestone Decision Reviews technical areas of concern for - Enhanced Medium Altitude Reconnaissance and Surveillance System (EMARSS), AN/TPQ-50 Lightweight Counter Mortar Radar (LCMR), Enhanced AN/TPQ-36 (EQ-36) Counterfire Target Acquisition Radar System, and Distributed Common Ground Station-Army Mobile Basic. ***FY 2012 Plans:*** Continue to conduct priority EW/IA modeling, testing and analyses of Joint Tactical Radio System (JTRS) waveforms and hardware, Warfighter Information Network-Tactical (WIN-T) increment 2. Will provide verification and validation data in EW modeling and simulation to support AEC accreditation decision. Develop modeling and simulation tools as required. Continue to			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605604A: *Survivability/Lethality Analysis*	PROJECT 675: *Army Survivability Analysis & Evaluation Support*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
develop capabilities to simulate and evaluate mobile ad-hoc networks which are critical to future Army mobile networks. Conduct IA and EW modeling, testing and analysis to determine the survivability of systems evaluated during NIE 12.1 and 12.2. Perform SoS Network Vulnerability Assessments. Support C4ISR Quick Reaction Capability / Urgent Material Requirements (QRC/UMR) systems survivability test verification and validation of performance to include for example: live fire pretest analysis and test preparation, LFT&E planning and participation, EW modeling and simulation (M&S) to assess limitations of platform communication capability, conduct IA/CNO, and Document analyses in technical reports. Analyze the evolving EW threat environment to Army C4ISR and GPS embedded in weapons systems such as the Fire Support Element and determine mitigation approaches. ***FY 2013 Plans:*** EW and IA/CND modeling and analysis results will be provided to AEC for their evaluation reports. Will continue conducting EW and IA modeling, testing and analysis of systems evaluated in NIE events. Support C4ISR systems survivability EW/IA modeling, analysis and test verification and validation of performance, for example, multi-spectral signature measurements. Conduct C4ISR system IO/EW/EA/ES assessment. At the completion of the survivability assessment; if warranted, ARL/SLAD, Product Manager and Combat Developer in concert with the intelligence community should consider the initiation of a product improvement program (P3I strategy) to develop and field additional survivability enhancement measures [Electronic Protect/CND] to address future threat capabilities which may place the Army C4ISR system at risk to enemy targeting in the evolving EW threat environment during Army RESET.			
Title: Survivability, Lethality, Vulnerability (SLV) Analyses for Developmental Air and Missile Defense Systems	5.517	5.938	6.230
Articles:	0	0	
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 2011 Accomplishments:*** Developed and provided electronic attack environment to support PATRIOT PDB-7 contractor verification test and DTE events. Provided target simulator support to JLENS DT testing. Provided BMDS Operational Test Agency with CNO assessments. ***FY 2012 Plans:*** Provide engineering analysis and computer network operations testing and assessment to support PDB-7 limited user test. Begin mobile Flight Mission Simulation (mFMS) Advanced Electronic Attack (AEA) upgrade. Provide electronic counter measure ground support to JLENS DT testing. ***FY 2013 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605604A: *Survivability/Lethality Analysis*	PROJECT 675: *Army Survivability Analysis & Evaluation Support*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Will continue FMS AEA upgrade for Patriot. Will prepare for PDB-8 testing. Will provide electronic countermeasures ground support to JLENS Limited User Test (LUT) testing and provide JLENS computer network operations testing and assessment to ATEC.			
Title: System-of-systems survivability simulation (S4) ***Articles:*** ***Description:*** SLV analyses in a system-of-systems environment. ***FY 2011 Accomplishments:*** Demonstrated S4 capability to support acquisition decisions and evaluation analysis for PEO-Integration and ATEC. ***FY 2012 Plans:*** Conduct evaluation study for ATEC on select communications programs of record. ***FY 2013 Plans:*** Will conduct system-of-systems analyses to support major program decisions in support of ATEC formal evaluations.	1.500 0	1.800 0	1.950
Accomplishments/Planned Programs Subtotals	42.320	43.414	44.753

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*				R-1 ITEM NOMENCLATURE PE 0605605A: *DOD High Energy Laser Test Facility*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	4.568	0.018	-	-	-	-	-	-	-	Continuing	Continuing
E97: *DOD HELSTF*	4.568	0.018	-	-	-	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

The High Energy Laser Systems Test Facility (HELSTF) provides a one-of-a-kind, broad based high energy laser (HEL) test and evaluation capability which directly supports testing of laser variants of the Future Combat Systems (FCS). Specifically, HEL weapons will play a major role in the Counter Rockets, Artillery and Mortars (CRAM) initiative and can be a key component of the Future Force supporting Full Dimensional Protection. HELSTF is part of the Department of Defense (DoD) Major Range and Test Facility Base (MRTFB) and supports Tri-Service HEL research and development to include damage, vulnerability, propagation, and lethality laser testing as well as HEL weapon developmental and operational test and evaluation (DTE&OTE). The HELSTF's laser development support capabilities include a fully certified open-air HEL test range, test cells for bringing breadboard to brassboard test devices, fully integrated Command, Control, Communications & Intelligence (C3I) systems and a suite of beam directors to perform both static and dynamic tracking tests. Other capabilities include an extensive array of fully instrumented test sites, full laser meteorological support, and an approved site for above-the-horizon dynamic HEL testing certified for predictive avoidance by the Laser Clearing House. HELSTF's location on White Sands Missile Range (WSMR) provides unparalleled testing flexibility because of WSMR's 3200 square miles of controlled land mass and 7000 square miles of controlled airspace. This location also enables HELSTF to leverage the existing WSMR T&E infrastructure. Current HELSTF facilities include the Sea Lite Beam Director (SLBD), the Mid-Infrared Advanced Chemical Laser (MIRACL), the Large Vacuum Chamber (LVC) with associated Vacuum Test System (VTS), the Solid State Laser testbed, the Tactical High Energy Laser (THEL) testbed, and the Low Power Chemical Laser (LPCL). This multiple use facility supports testing of laser effects for targets ranging from material coupon testing up through full-scale static and dynamic targets, explosive targets, and testing of targets in a high altitude space environment. HELSTF has embarked on its own modernization to fully upgrade its mission control systems, develop state-of-the-art HEL diagnostic capabilities, data reduction, and a mobile HEL diagnostic test suite to support DTE and OTE for potential HEL weapons in the Army Future Force in all relevant combat environments.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army					DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*		R-1 ITEM NOMENCLATURE PE 0605605A: *DOD High Energy Laser Test Facility*			
B. Program Change Summary ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**
Previous President's Budget	4.710	0.018	0.019	-	0.019
Current President's Budget	4.568	0.018	-	-	-
Total Adjustments	-0.142	-	-0.019	-	-0.019
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.094	-			
• Adjustments to Budget Years	-	-	-0.019	-	-0.019
• Other Adjustments 1	-0.048	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605605A: *DOD High Energy Laser Test Facility*	PROJECT E97: *DOD HELSTF*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
E97: *DOD HELSTF*	4.568	0.018	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

Note

Beginning FY12, the funding will be moved to Army Test Ranges and Facilities project F30.

A. Mission Description and Budget Item Justification

The High Energy Laser Systems Test Facility (HELSTF) provides a one-of-a-kind, broad based high energy laser (HEL) test and evaluation capability which directly supports testing of laser variants of the Future Combat Systems (FCS). Specifically, HEL weapons will play a major role in the Counter Rockets, Artillery and Mortars (CRAM) initiative and can be a key component of the Future Force supporting Full Dimensional Protection. HELSTF is part of the Department of Defense (DoD) Major Range and Test Facility Base (MRTFB) and supports Tri-Service HEL research and development to include damage, vulnerability, propagation, and lethality laser testing as well as HEL weapon developmental and operational test and evaluation (DTE&OTE). The HELSTF's laser development support capabilities include a fully certified open-air HEL test range, test cells for bringing breadboard to brassboard test devices, fully integrated Command, Control, Communications & Intelligence (C3I) systems and a suite of beam directors to perform both static and dynamic tracking tests. Other capabilities include an extensive array of fully instrumented test sites, full laser meteorological support, and an approved site for above-the-horizon dynamic HEL testing certified for predictive avoidance by the Laser Clearing House. HELSTF's location on White Sands Missile Range (WSMR) provides unparalleled testing flexibility because of WSMR's 3200 square miles of controlled land mass and 7000 square miles of controlled airspace. This location also enables HELSTF to leverage the existing WSMR T&E infrastructure. Current HELSTF facilities include the Sea Lite Beam Director (SLBD), an IPG Photonics 20 kilo-watt fiber laser, the Large Vacuum Chamber (LVC) with associated Vacuum Test System (VTS), the Ground Target Irradiance Measurement (GTIM) system, the Target Reflected Energy Measurement (TREM) system, the Solid State Laser testbed, the Pointer Tracker System (PTS) beam director, and a suite of low power lasers to support testing. This multiple use facility supports testing of laser effects for targets ranging from material coupon testing up through full-scale static and dynamic targets, explosive targets, and testing of targets in a high altitude space environment. HELSTF has embarked on its own modernization to fully upgrade its mission control systems, develop state-of-the-art HEL diagnostic capabilities, data reduction, and a mobile HEL diagnostic test suite to support DTE and OTE for potential HEL weapons in the Army Future Force in all relevant combat environments.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Laser T&E programs	4.568	0.018	-
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2011 Accomplishments: Provided limited support to the Laser T&E programs of all Services and DoD Agencies using the Solid State Laser (SSL) Lethality Test bed and the SSL Transition Test bed. Projected test to be supported include the Joint High Power Solid State Laser Program, a 100Kw solid state laser device to be housed at HELSTF for lethality and dynamic testing, a series of Relay Mirror			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605605A: *DOD High Energy Laser Test Facility*	PROJECT E97: *DOD HELSTF*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
experiments for the Air Force and numerous low power Counter Rocket and Mortar (CRAM) type laser systems for close in engagements. ***FY 2012 Plans:*** Beginning FY12, the funding will be moved to Army Test Ranges and Facilities PE 0605601 project F30.			
Accomplishments/Planned Programs Subtotals	4.568	0.018	-

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*				R-1 ITEM NOMENCLATURE PE 0605606A: *AIRCRAFT CERTIFICATION*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	4.938	5.621	5.762	-	5.762	6.054	6.023	5.998	6.099	Continuing	Continuing
092: *AIRCRAFT CERTIFICATION*	4.938	5.621	5.762	-	5.762	6.054	6.023	5.998	6.099	Continuing	Continuing

Note

FY13 funds realigned to higher priority requirements

A. Mission Description and Budget Item Justification

The Airworthiness Certification program ensures flight safety and safe 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 of 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 Flight 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 Block II and III; Chinook F-model; Blackhawk M-model and; Special Operations MH-47G and MH-60M; Armed Aerial Scout (AAS); Light Utility Helicopter; Extended Range/Multi Purpose (ER/MP) unmanned aircraft system (UAS); Enhanced Multi-sensor Airborne Reconnaissance and Sensor System (EMARSS); and Shadow-C 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 radios like the Joint Tactical Radio System (JTRS) and digital data links, Common Sensor (electro-optical multi-spectrum visual sensor), and Blue Force Tracker. The D092 funding profile for the FY13 President's Budget Submission marginally 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 airworthiness related tri-service activities (e.g. National Airworthiness Council, Joint Aviation 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) helicopter and other Office of the Secretary of Defense initiatives.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army					DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605606A: *AIRCRAFT CERTIFICATION*				
B. Program Change Summary ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**
Previous President's Budget	5.055	5.630	8.403	-	8.403
Current President's Budget	4.938	5.621	5.762	-	5.762
Total Adjustments	-0.117	-0.009	-2.641	-	-2.641
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.100	-			
• Adjustments to Budget Years	-	-	-2.641	-	-2.641
• Other Adjustments 1	-0.017	-0.009	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605606A: *AIRCRAFT CERTIFICATION*	PROJECT 092: *AIRCRAFT CERTIFICATION*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
092: *AIRCRAFT CERTIFICATION*	4.938	5.621	5.762	-	5.762	6.054	6.023	5.998	6.099	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The Airworthiness Certification program ensures flight safety and safe 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 of 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 Flight 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 Block II and III; Chinook F-model; Blackhawk M-model and; Special Operations MH-47G and MH-60M; Armed Aerial Scout (AAS); Light Utility Helicopter; Extended Range/Multi Purpose (ER/MP) unmanned aircraft system (UAS); Enhanced Multi-sensor Airborne Reconnaissance and Sensor System (EMARSS); and Shadow-C 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 radios like the Joint Tactical Radio System (JTRS) and digital data links, Common Sensor (electro-optical multi-spectrum visual sensor), and Blue Force Tracker. The D092 funding profile for the FY13 President's Budget Submission marginally 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 airworthiness related tri-service activities (e.g. National Airworthiness Council, Joint Aviation 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) helicopter and other Office of the Secretary of Defense initiatives.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Certification Assessments and Studies Force Modernization Aircraft	0.050	0.050	0.050
Articles:	0	0	
Description: Perform assessments and studies in support of Force Modernization Aircraft Systems			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605606A: *AIRCRAFT CERTIFICATION*	PROJECT 092: *AIRCRAFT CERTIFICATION*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
FY 2011 Accomplishments: 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-64 Block III, UH-60M, MH-47G, MH-60M, AAS, etc). ***FY 2012 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-64 Block III, UH-60M, MH-47G, MH-60M, AAS, etc). ***FY 2013 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-64 Block III, UH-60M, MH-47G, MH-60M, AAS, etc).			
Title: Certification Requirements and Studies for Future Aircraft ***Articles:*** ***Description:*** Perform studies to support airworthiness certification requirements for Future Aircraft Systems ***FY 2011 Accomplishments:*** Conducted studies of Airworthiness Certification requirements for future aircraft systems and other technology transition programs (e.g. Joint Multi-Roll Aircraft, Versatile Affordable Advanced Turbine Engine Program) ***FY 2012 Plans:*** Conduct studies of Airworthiness Certification requirements for future aircraft systems and other technology transition programs (e.g. Joint Multi-Roll Aircraft, Versatile Affordable Advanced Turbine Engine Program) ***FY 2013 Plans:*** Will conduct studies of Airworthiness Certification requirements for future aircraft systems and other technology transition programs (e.g. Joint Multi-Roll Aircraft, Versatile Affordable Advanced Turbine Engine Program)	0.735 0	0.773 0	0.773
Title: Design Standards ***Articles:*** ***Description:*** Support the development, implementation and maintenance to support Army Aeronautical Design Standards, airworthiness procedures and tools, and overarching Airworthiness qualification documentation	2.541 0	2.922 0	2.951

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605606A: *AIRCRAFT CERTIFICATION*	PROJECT 092: *AIRCRAFT CERTIFICATION*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
FY 2011 Accomplishments: Developed, implemented, and maintained Army Aeronautical Design Standards, airworthiness procedures and tools, and overarching airworthiness qualification documentation. ***FY 2012 Plans:*** Develop, implement, and maintain Army Aeronautical Design Standards, airworthiness procedures and tools, and overarching airworthiness qualification documentation. ***FY 2013 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 ***Articles:*** ***Description:*** Perform certification assessments of technology upgrades. ***FY 2011 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 2012 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 2013 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)	0.050 0	0.050 0	0.050
Title: Commercial Derivative Aircraft ***Articles:*** ***Description:*** Technical and airworthiness qualification for Commercial Derivative Aircraft ***FY 2011 Accomplishments:***	0.548 0	0.548 0	0.548

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605606A: *AIRCRAFT CERTIFICATION*	PROJECT 092: *AIRCRAFT CERTIFICATION*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Provided technical and airworthiness qualification for Commercial Derivative Aircraft through the Federal Aviation Administration ***FY 2012 Plans:*** Provide technical and airworthiness qualification for Commercial Derivative Aircraft through the Federal Aviation Administration ***FY 2013 Plans:*** Will provide technical and airworthiness qualification for Commercial Derivative Aircraft through the Federal Aviation Administration			
Title: Technology Advancement	1.014	1.278	1.390
Articles:	0	0	
Description: Support efforts to establish and maintain aircraft safety for a fleet of aircraft. ***FY 2011 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, Global Air Traffic Management working groups). ***FY 2012 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 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 2013 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 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).			
Accomplishments/Planned Programs Subtotals	4.938	5.621	5.762

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605606A: *AIRCRAFT CERTIFICATION*	PROJECT 092: *AIRCRAFT CERTIFICATION*

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*				R-1 ITEM NOMENCLATURE PE 0605702A: *Meteorological Support to RDT&E Activities*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	6.983	7.171	7.402	-	7.402	7.325	7.216	7.206	7.243	Continuing	Continuing
128: *Meteorological Support to RDT&E Activities*	6.983	7.171	7.402	-	7.402	7.325	7.216	7.206	7.243	Continuing	Continuing

A. Mission Description and Budget Item Justification

All functions and resources in this Program Element (PE) are managed by the U.S. Army Test and Evaluation Command (ATEC). Meteorological support to research, development, test, and evaluation (RDT&E) activities 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, ballistic meteorological measurements, snow characterization and crystal structure; (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 Missile Range (WSMR), New Mexico; Electronic Proving Ground (EPG), Fort Huachuca, Arizona; Dugway Proving Ground (DPG), Utah; Aberdeen Test Center (ATC), Aberdeen Proving Ground, Maryland; Redstone Test Center (RTC), Redstone Arsenal, Alabama; Yuma Proving Ground (YPG), Arizona (including the Cold Regions Test Center (CRTC), Fort Greely, AK); 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 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 2013 Army					DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*		R-1 ITEM NOMENCLATURE PE 0605702A: *Meteorological Support to RDT&E Activities*			
B. Program Change Summary ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**
Previous President's Budget	7.185	7.182	7.366	-	7.366
Current President's Budget	6.983	7.171	7.402	-	7.402
Total Adjustments	-0.202	-0.011	0.036	-	0.036
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.113	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	0.036	-	0.036
• Other Adjustments 1	-0.089	-0.011	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605702A: *Meteorological Support to RDT&E Activities*	PROJECT 128: *Meteorological Support to RDT&E Activities*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
128: *Meteorological Support to RDT&E Activities*	6.983	7.171	7.402	-	7.402	7.325	7.216	7.206	7.243	Continuing	Continuing
Quantity of RDT&E Articles											

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, ballistic meteorological measurements, snow characterization and crystal structure; (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 Missile Range (WSMR), New Mexico; Electronic Proving Ground (EPG), Fort Huachuca, Arizona; Dugway Proving Ground (DPG), Utah; Aberdeen Test Center (ATC), Aberdeen Proving Ground, Maryland; Redstone Test Center (RTC), Redstone Arsenal, Alabama; Yuma Proving Ground (YPG), Arizona (including the Cold Regions Test Center (CRTC), Fort Greely, AK); 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 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, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Civilian Pay and Support Costs	2.346	2.680	2.534
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2011 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 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.			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605702A: *Meteorological Support to RDT&E Activities*	PROJECT 128: *Meteorological Support to RDT&E Activities*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Includes collaboration between Army meteorologists and the National Center for Atmospheric Research (NCAR) toward improvements to the Four-Dimensional Weather (4DWX) System. ***FY 2012 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 2013 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. Includes 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	4.637	4.491	4.868
Articles:	0	0	
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 2011 Accomplishments:*** 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, renovation of radar wind profilers, replacement of Doppler acoustic sounders (wind profile measurements), and relocation of sodar systems (equipment to measure vertical weather profiles) between ranges to maximize use of equipment. ***FY 2012 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605702A: *Meteorological Support to RDT&E Activities*	PROJECT 128: *Meteorological Support to RDT&E Activities*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Continue 4DWX system enhancements and modernization to improve forecast accuracy in support of Army RDT&E mission requirements, including selection of probabilistic modeling approach, development of parameterizations of wind flow over mountains and other complex terrain features, improved data assimilation procedures, and configuration of 4DWX for each test range to optimize accuracy; and development of a Verification, Validation and Accreditation (VV&A) system 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, renovation of radar wind profilers, replacement of Doppler acoustic sounders (wind profile measurements), and relocation of sodar systems (equipment to measure vertical weather profiles) between ranges to maximize use of equipment. ***FY 2013 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, 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 and implementation of a VV&A system 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, renovation of radar wind profilers, replacement of Doppler acoustic sounders (wind profile measurements), and relocation of sodar systems (equipment to measure vertical weather profiles) between ranges to maximize use of equipment.			
Accomplishments/Planned Programs Subtotals	6.983	7.171	7.402

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*				R-1 ITEM NOMENCLATURE PE 0605706A: *MATERIEL SYSTEMS ANALYSIS*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	18.863	19.638	19.954	-	19.954	19.809	19.138	18.998	19.055	Continuing	Continuing
541: *MATERIEL SYS ANALYSIS*	18.863	19.638	19.954	-	19.954	19.809	19.138	18.998	19.055	Continuing	Continuing

Note

FY13 funds realigned to higher priority efforts.

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 acquisitions; 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 systems performance methodology and Models and Simulations (M&S).

AMSAA is the Army's center for item/system level performance analysis and certified data. 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, 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 Lessons Learned. 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 2013 Army	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	**R-1 ITEM NOMENCLATURE** PE 0605706A: *MATERIEL SYSTEMS ANALYSIS*

As the Army's Executive Agent for reliability and maintainability standardization improvement, AMSAA develops and implements reliability and maintainability acquisition reform initiatives. AMSAA develops and applies engineering approaches that assess the reliability of Army materiel and also provides recommendations on ways to improve reliability, thereby reducing the 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 sys

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	18.078	19.669	20.294	-	20.294
Current President's Budget	18.863	19.638	19.954	-	19.954
Total Adjustments	0.785	-0.031	-0.340	-	-0.340
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.074	-			
• Adjustments to Budget Years	-	-	-0.340	-	-0.340
• Other Adjustments 1	0.859	-0.031	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605706A: *MATERIEL SYSTEMS ANALYSIS*	PROJECT 541: *MATERIEL SYS ANALYSIS*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
541: *MATERIEL SYS ANALYSIS*	18.863	19.638	19.954	-	19.954	19.809	19.138	18.998	19.055	Continuing	Continuing
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 acquisitions; 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 systems performance methodology and Models and Simulations (M&S).

AMSAA is the Army's center for item/system level performance analysis and certified data. 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, 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 Lessons Learned. 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.

As the Army's Executive Agent for reliability and maintainability standardization improvement, AMSAA develops and implements reliability and maintainability acquisition reform initiatives. AMSAA develops and applies engineering approaches that assess the reliability of Army materiel and also provides recommendations on ways to improve reliability, thereby reducing the logistics footprint, reducing life cycle costs, and extending failure-free periods for deployed equipment. AMSAA's

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605706A: *MATERIEL SYSTEMS ANALYSIS*	PROJECT 541: *MATERIEL SYS ANALYSIS*

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 various ACAT systems' evaluations 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, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Materiel Systems Analysis	18.863	19.638	19.954
Articles:	0	0	
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 FY13-18. 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 2011 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605706A: *MATERIEL SYSTEMS ANALYSIS*	PROJECT 541: *MATERIEL SYS ANALYSIS*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Critical AMSAA analyses supported Army Modernization programs and follow-on studies associated with the Ground Combat Vehicle (GCV), Joint Light Tactical Vehicle (JLTV), Ground Soldier System, Armed Aerial Scout, the Joint Aerial Layer Network, the Joint Urban Test Capability, Information Operations analyses, Precision Artillery and Survivability analyses, and other current operations-related efforts. Initial efforts were performed in support of Irregular Warfare (IW) related tasks, analyses, and model enhancements. AMSAA conducted initial planning efforts and began the stand-up of an Army Center for Reliability Growth. Efforts continued to focus on constant enhancements to methodologies and M&S that are the foundation for accurate and timely analytical products and data (which include, enhancements to power and energy (soldier and vehicle) methodology, Improvised Explosive Device (IED) and Counter IED modeling, target acquisition methodology, sensor fusion modeling, mechanical and electronic Physics of Failure (PoF) modeling, vehicle performance methodology, fuel consumption modeling, Active Protection System performance, System of Systems Communications Network Model development, non-lethal weapons performance and effectiveness estimation methodology, and the Infantry Warrior Simulation (IWARS), to include modeling operations in urban terrain).			
FY 2012 Plans: Critical AMSAA analyses continues to support Army Modernization efforts and key milestone decision reviews. AMSAA conducts follow-on studies for major Army programs as required and continues to provide essential certified weapons system performance data for Army studies as needed. Efforts continues on Irregular Warfare (IW) related tasks, analyses, and model enhancements. AMSAA is fully operational as a key part of the Army Center for Reliability Growth (CRG). The CRG develops critical tools, methodology, policies, formal guidance and educational materials needed to assist acquisition programs to achieve and/or stay on their required reliability growth curves. AMSAA also, pursuant to Army Acquisition Executive memo dated 8 January 2012, establishes the Center for Army Acquisition Lessons Learned (CAALL). CAALL is a critical link in addressing requirements from the 2009 Weapons Systems Acquisition Reform Act (WSARA) as well as the Decker-Wagner study on acquisition reform to conduct acquisition program risk assessments and trade-space analyses between cost, schedule and system performance in order to allow earlier identification, and corrective action, of risks and hazards concerning major Army acquisition efforts. AMSAA achieves Initial Operational Capability (IOC) of the CAALL by the end of fiscal year 2012. AMSAA continues to enhance the essential methodologies, tools, and models and simulations to facilitate accurate analytical prodcts.			
FY 2013 Plans: Critical AMSAA analyses will continue to support Army Modernization efforts and key milestone decision reviews for conceptual and developmental (Acquisition Category (ACAT) 1, ACAT 2 and ACAT 3) programs. AMSAA will conduct follow-on studies for major Army programs as required and continue to provide essential certified weapons system performance data for all major Army studies. AMSAA's technical work program relating to Analyses of Alternative (AoA) (both providing analysis inputs and certified data as well as leading specified AoAs), Business Case Analyses, Cost Benefit Analyses and Risk Assessments will continue to increase substantially (from already high levels in fiscal year 2011 and expected fiscal year 2012 levels) as a result of DOD/DA efforts to meet the requirements laid out in the Weapons System Acquisition Reform Act (WSARA) of 2009. Efforts			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605706A: *MATERIEL SYSTEMS ANALYSIS*	PROJECT 541: *MATERIEL SYS ANALYSIS*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
will continue on current operations and Irregular Warfare (IW) related tasks, analyses, and model enhancements. AMSAA will be fully operational as a key part of the Army Center for Reliability Growth (CRG). The CRG will develop critical tools, methodology, policies, formal guidance and educational materials needed to assist acquisition programs achieve and/or stay on their required reliability growth curves, thus leading to increased system reliability and reduced operating and support costs. AMSAA will achieve Full Operational Capability (FOC) of the Center for Army Acquisition Lessons Learned (CAALL) by the end of fiscal year 2013 as directed by Army Acquisition Executive memo dated 8 January 2012 to fully operationalize and implement its acquisition risk assessment and cost, schedule and system performance trade-space analysis capability. 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	18.863	19.638	19.954

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*				R-1 ITEM NOMENCLATURE PE 0605709A: *EXPLOITATION OF FOREIGN ITEMS*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	5.285	5.436	5.535	-	5.535	5.593	5.652	5.708	5.764	Continuing	Continuing
C28: *ACQ/EXPLOIT THREAT ITEMS (MIP)*	5.285	5.436	5.535	-	5.535	5.593	5.652	5.708	5.764	Continuing	Continuing

A. Mission Description and Budget Item Justification

This is a continuing program for acquisition and exploitation of foreign materiel constituting potential advanced technology threats to U.S. systems. The primary aim of this program is to maximize the efficiency of research and development for force and materiel development by reducing the uncertainties concerning these threats. The program also answers general scientific and technical intelligence requirements, aids in the development of countermeasures to threat materiel and threat technology, and provides materiel for realistic testing and training. Operations in Afghanistan have increased the number of items of captured threat material that require immediate exploitation to develop countermeasures and force protection measures for deployed forces. Acquisitions and exploitations are executed according to an Army Foreign Materiel Program Plan and with the approval of the Army, Director of Intelligence (G2).

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	5.460	5.445	5.476	-	5.476
Current President's Budget	5.285	5.436	5.535	-	5.535
Total Adjustments	-0.175	-0.009	0.059	-	0.059
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.144	-			
• Adjustments to Budget Years	-	-	0.059	-	0.059
• Other Adjustments 1	-0.031	-0.009	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605709A: *EXPLOITATION OF FOREIGN ITEMS*	PROJECT C28: *ACQ/EXPLOIT THREAT ITEMS (MIP)*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
C28: *ACQ/EXPLOIT THREAT ITEMS (MIP)*	5.285	5.436	5.535	-	5.535	5.593	5.652	5.708	5.764	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

To perform acquisition and exploitation of weapons systems that directly threaten soldiers engaged in current combat operations. Such weapons include -- but are not limited to -- improvised explosive devices (IEDs), rockets and mortar systems, small arms and ammunition, improvised chemical or biological agents or weapons, and camouflage systems.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Army Foreign Material Program Acquisition	1.765	1.819	1.835
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2011 Accomplishments: Continued to focus efforts toward the acquisition of threat-related foreign materiel systems			
FY 2012 Plans: Continue to focus efforts toward the acquisition of threat-related foreign materiel systems			
FY 2013 Plans: Will continue to focus efforts toward the acquisition of threat-related foreign materiel systems			
Title: FMP Exploitation	3.520	3.617	3.700
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2011 Accomplishments: Continued to test threat-related foreign materiel systems.			
FY 2012 Plans: Base: Initiates, continues, or completes exploitation projects on ground systems of Army interest identified in the appropriate Army FMP Exploitation Programs.			
FY 2013 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605709A: *EXPLOITATION OF FOREIGN ITEMS*	PROJECT C28: *ACQ/EXPLOIT THREAT ITEMS (MIP)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Will Initiate, continue, or complete exploitation projects on ground systems of Army interest identified in the appropriate Army FMP Exploitation Programs.			
Accomplishments/Planned Programs Subtotals	5.285	5.436	5.535

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*				R-1 ITEM NOMENCLATURE PE 0605712A: *Support of Operational Testing*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	68.481	68.678	67.789	-	67.789	62.737	60.175	60.156	60.669	Continuing	Continuing
001: *ATEC Joint Tests and Follow-On Test & Evaluations*	4.266	4.407	4.565	-	4.565	4.547	3.114	3.122	3.172	Continuing	Continuing
V02: *ATEC ACTIVITIES*	64.215	64.271	63.224	-	63.224	58.190	57.061	57.034	57.497	Continuing	Continuing

A. Mission Description and Budget Item Justification

This Program Element provides the resources to operate the Army's operational test directorates located at Fort Hood, TX; Fort Bragg, NC; Fort Bliss, TX; Fort Huachuca, AZ; and Fort Sill, OK; all managed by the Operational Test Command (OTC), a subordinate command of the Army Test and Evaluation Command (ATEC). Also funds the Test and Evaluation Coordination Offices (TECOs) located at Fort Benning, GA; Fort Knox, KY; Fort Lee, VA; and Fort Leonard Wood, MO; as well as recurring support costs of Headquarters, Army Test and Evaluation Command (HQ ATEC), joint testing, operational test and evaluations without an Army Program Executive Officer/Project Manager and follow-on test and evaluations, all of which are managed by HQ, ATEC.

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	68.191	68.786	70.745	-	70.745
Current President's Budget	68.481	68.678	67.789	-	67.789
Total Adjustments	0.290	-0.108	-2.956	-	-2.956
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.410	-			
• Adjustments to Budget Years	-	-	-2.956	-	-2.956
• Other Adjustments 1	0.700	-0.108	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605712A: *Support of Operational Testing*	PROJECT 001: *ATEC Joint Tests and Follow-On Test & Evaluations*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
001: *ATEC Joint Tests and Follow-On Test & Evaluations*	4.266	4.407	4.565	-	4.565	4.547	3.114	3.122	3.172	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

This project funds the Army's direct costs of planning and conducting Multi-service Tests and Evaluations (MOTE) for which there is no Army Project Manager (PM) and Army requirements for Joint Test and Evaluation (JT&E). These are required to evaluate concepts and address needs and issues that occur in joint military environments and provides information required by Congress, Office of the Secretary of Defense, the Unified Commands, and the Department of Defense components relative to joint operations. This project also funds Follow-on Test and Evaluation (FOTE), as necessary. FOTE may be required after a full production decision to assess system training and logistics, to verify correction of deficiencies identified during earlier testing and evaluation, and to ensure that initial production items meet operational effectiveness, suitability and supportability thresholds. There has been a shift of focus for items funded by this project due to continuing operations in the US Central Command (CENTCOM). Traditional system workload has dropped off and has been replaced by rapid fielding initiatives. In response to this shift, the Army Test and Evaluation Command (ATEC) has established a forward operational assessment team in theater and a rapid response cell. These groups facilitate MOTE, JT&E, and FOTE events in the rapid environment. Traditional acquisition requirements are expected to return to normal when operations in Iraq and Afghanistan wind down.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Joint operational testing and evaluation.	0.940	1.042	1.035
Articles:	0	0	
Description: Joint operational testing and evaluation			
FY 2011 Accomplishments: Provided funding to support OCO task force requirements (TDY, Civ Pay and associated overhead expenses)			
FY 2012 Plans: Provides funding to support OCO task force requirements (TDY, Civ Pay and associated overhead expenses)			
FY 2013 Plans: Will provide funding to support OCO task force requirements (TDY, Civ Pay and associated overhead expenses)			
Title: Other-Special projects/Operational Test and Evaluation without Army Project Manager	0.813	-	-
Articles:	0		
Description: Other-Special projects/Operational Test and Evaluation without Army Project Manager.			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605712A: *Support of Operational Testing*	PROJECT 001: *ATEC Joint Tests and Follow-On Test & Evaluations*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
FY 2011 Accomplishments: Forward Operational Assessment (FOA) teams provided ATEC and U.S. Central Command area of responsibility in support of OCO, as well as conducted liaison with the MNC-I, USFOR-A, and ARCENT to plan, coordinate, and integrate forward assessment, operational and developmental testing, evaluation, and experimentation of selected systems in order to provide essential information to Army leadership, acquisition decision makers and the Warfighter.			
Title: Multi-Service Operational Test and Evaluation/Follow-on testing and evaluations ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2011 Accomplishments:*** Continued to Fund Integrated broadcasting service spiral enterprise T&E ***FY 2012 Plans:*** Continue to Fund Integrated broadcasting service spiral enterprise T&E ***FY 2013 Plans:*** Will continue to Fund Integrated broadcasting service spiral enterprise T&E	0.378 0	3.365 0	3.530
Title: Operational Assessment Team Support ***Articles:*** ***Description:*** Operational Assessment Team Support ***FY 2011 Accomplishments:*** Funding for Forward Operational Assessment Team Support.	2.135 0	-	-
Accomplishments/Planned Programs Subtotals	4.266	4.407	4.565

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605712A: *Support of Operational Testing*	PROJECT V02: *ATEC ACTIVITIES*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
V02: *ATEC ACTIVITIES*	64.215	64.271	63.224	-	63.224	58.190	57.061	57.034	57.497	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The Operational Test Command (OTC) conducts operational tests required by public law that provide significant data to the Army decision-makers on key Army systems and concepts. This project finances recurring costs for the Operational Test Command 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. This project funds requirements for the Operational Test Command's seven test directorates and one support activity located at Fort Hood, TX; Fort Bragg, NC; Fort Sill, OK/Ft. Bliss, TX; and Fort Huachuca, AZ. 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). Project V02 also provides support for the four Test and Evaluation Coordination Offices (TECOs) located at Fort Benning, GA; Fort Knox, KY; Fort Lee, VA; and Fort Leonard Wood, MO as well as for the recurring support costs of Headquarters, Army Test and Evaluation Command (HQ ATEC).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Operational Test Command (OTC) Activities	49.186	51.757	52.728
Articles:	0	0	
Description: Operational costs including: civilian pay, support contracts, temporary duty, supplies and equipment for subordinate elements of the Operational Test Command.			
FY 2011 Accomplishments: Operational costs including: civilian pay, support contracts, temporary duty, supplies and equipment for subordinate elements of the Operational Test Command.			
FY 2012 Plans: Operational costs including: civilian pay, support contracts, temporary duty, supplies and equipment for subordinate elements of the Operational Test Command.			
FY 2013 Plans: Operational costs including: civilian pay, support contracts, temporary duty, supplies and equipment for subordinate elements of the Operational Test Command.			
Title: Operational cost for HQ ATEC activities	12.729	12.514	10.496
Articles:	0	0	

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605712A: *Support of Operational Testing*	PROJECT V02: *ATEC ACTIVITIES*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Description: Operational costs for HQ ATEC including: civilian pay, support contracts, temporary duty, supplies and equipment for non-AMHA (Army Management Headquarters Activity) HQ ATEC. ***FY 2011 Accomplishments:*** Operational costs for HQ ATEC including: civilian pay, support contracts, temporary duty, supplies and equipment for non-AMHA (Army Management Headquarters Activity) HQ ATEC. ***FY 2012 Plans:*** Operational costs for HQ ATEC including: civilian pay, support contracts, temporary duty, supplies and equipment for non-AMHA (Army Management Headquarters Activity) HQ ATEC. ***FY 2013 Plans:*** Operational costs for HQ ATEC including: civilian pay, support contracts, temporary duty, supplies and equipment for non-AMHA (Army Management Headquarters Activity) HQ ATEC.			
Title: Testing of Jammers. ***Articles:*** ***Description:*** Testing of Jammers. ***FY 2011 Accomplishments:*** Testing of Jammers.	2.300 0	-	-
Accomplishments/Planned Programs Subtotals	64.215	64.271	63.224

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*				R-1 ITEM NOMENCLATURE PE 0605716A: *Army Evaluation Center*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	60.694	63.202	62.765	-	62.765	62.444	60.386	59.063	59.470	Continuing	Continuing
302: *Army Evaluation Center*	60.694	63.202	62.765	-	62.765	62.444	60.386	59.063	59.470	Continuing	Continuing

Note

This project funds the salaries of civilian employees conducting Test and Evaluation (T&E) early involvement, evaluation and test design missions and associated personnel support/sustainment costs including: temporary duty, professional training, supplies, equipment. This project does not finance test facility operations, test instrumentation or test equipment.

A. Mission Description and Budget Item Justification

The Army Evaluation Center (AEC) provides independent and integrated technical and operational evaluations, and life-cycle Continuous Evaluation (CE) of assigned Major Defense Acquisition Programs (MDAP), Major Automated Information Systems, and In-Process Review (IPR) programs for major milestone decisions, materiel changes, and materiel releases in support of the Army Acquisition Executive, other Service Acquisition Executives, Joint Program Executive Officers, other governmental agencies, and force development. AEC is The Army's independent evaluator. AEC develops the evaluation strategy, designs tests, and evaluates the test results to address a system's combat effectiveness, suitability, and survivability factors pertinent to the decision process, such as: Critical Operational Issues and Criteria (COIC), system performance, soldier survivability, performance in countermeasures, system survivability, reliability, supportability, etc. AEC has the lead in planning and execution of Army Live Fire Tests and Continuous Evaluations through its evaluation and test design responsibilities. The evaluations produced by AEC are required by the Army Chief of Staff, the Army Acquisition Executive, other Army, Service, Joint, and agency senior leaders and the Department of Defense Director of Operational Test and Evaluation for acquisition decisions. In addition, Army leadership has recognized the numerous benefits of an early involvement initiative.

This project funds the salaries of civilian employees conducting T&E early involvement, evaluation and test design missions and associated personnel support/ sustainment costs including: temporary duty, professional training, supplies, and equipment. This project does not finance test facility operations, test instrumentation or test equipment.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army					DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*		R-1 ITEM NOMENCLATURE PE 0605716A: *Army Evaluation Center*			
B. Program Change Summary ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**
Previous President's Budget	61.450	63.302	65.696	-	65.696
Current President's Budget	60.694	63.202	62.765	-	62.765
Total Adjustments	-0.756	-0.100	-2.931	-	-2.931
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.570	-			
• Adjustments to Budget Years	-	-	-2.931	-	-2.931
• Other Adjustments 1	-0.186	-0.100	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605716A: *Army Evaluation Center*	PROJECT 302: *Army Evaluation Center*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
302: *Army Evaluation Center*	60.694	63.202	62.765	-	62.765	62.444	60.386	59.063	59.470	Continuing	Continuing
Quantity of RDT&E Articles											

Note

This project funds the salaries of civilian employees conducting Test and Evaluation (T&E) early involvement, evaluation and test design missions and associated personnel support/sustainment costs including: temporary duty, professional training, supplies, and equipment. This project does not finance test facility operations, test instrumentation or test equipment.

A. Mission Description and Budget Item Justification

The Army Evaluation Center (AEC) provides independent and integrated technical and operational evaluations, and life-cycle Continuous Evaluation (CE) of assigned Major Defense Acquisition Programs (MDAP), Major Automated Information Systems, and In-Process Review (IPR) programs for major milestone decisions, materiel changes, and materiel releases in support of the Army Acquisition Executive, other Service Acquisition Executives, Joint Program Executive Officers, other governmental agencies, and force development. AEC is The Army's independent evaluator. AEC develops the evaluation strategy, designs tests, and evaluates the test results to address a system's combat effectiveness, suitability, and survivability factors pertinent to the decision process, such as: Critical Operational Issues and Criteria (COIC), system performance, soldier survivability, performance in countermeasures, system survivability, reliability, supportability, etc. AEC has the lead in planning and execution of Army Live Fire Tests and Continuous Evaluations through its evaluation and test design responsibilities. The evaluations produced by AEC are required by the Army Chief of Staff, the Army Acquisition Executive, other Army, Service, Joint, and agency senior leaders and the Department of Defense Director of Operational Test and Evaluation for acquisition decisions. In addition, Army leadership has recognized the numerous benefits of an early involvement initiative.

This project funds the salaries of civilian employees conducting T&E early involvement, evaluation and test design missions and associated personnel support/ sustainment costs including: temporary duty, professional training, supplies, and equipment. This project does not finance test facility operations, test instrumentation or test equipment.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Army Evaluation Center	57.052	59.409	58.999
Articles:	0	0	
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),			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605716A: *Army Evaluation Center*	PROJECT 302: *Army Evaluation Center*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
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 371 authorizations for FY 11 and 411 civilian authorizations FY12 and beyond. ***FY 2011 Accomplishments:*** Provided 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. Continued to prepare integrated System Evaluation Plans and conduct integrated technical and operational evaluations for all Army weapon systems. In support of Overseas Contingency Operations (OCO), Continued workload focus towards the evaluation of Rapid Initiative (RI) systems, Counter Improvised Explosive Device (IED) systems, and Urgent Material Releases. to include civilian pay costs for 371 authorizations for FY 11 (equates to 92% of AEC's total budget). ***FY 2012 Plans:*** 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. Continue to prepare integrated System Evaluation Plans and conduct integrated technical and operational evaluations for all Army weapon systems. In support of Overseas Contingency Operations (OCO), Continue workload focus towards the evaluation of Rapid Initiative (RI) systems, Counter Improvised Explosive Device (IED) systems, and Urgent Material Releases. to include civilian pay costs for 411 authorizations for FY 12 (equates to approximately 93% of AEC's total budget). Additionally, provide Underbody Blast Modeling and Simulation support to provide early identification of vehicle improvements that directly impact Soldier survivability; improves test design; provides additional evaluation data to support acquisition. Endstate is to have a valid, accredited model to evalute crew survivability. Also, provide Center for Reliability and Growth in response to DUSD (ATL) and AAE policies mandating Reliability Growth programs and periodic assessments for major systems. These DOD and DA policies became Public Law 111-23 (The Weapon System Reform Act of 2009 - signed 22 May 2009). The Law emphasizes that the service acquisition executive must ensure acquisition personnel have appropriate training and expertise to formulate robust RAM growth programs. The policies and Law are a result of a Defense Science Board report on Developmental Test and Evaluation (May 2008), showing that there has been a significant increase in the number of Department of Defense weapon system programs evaluated as not being operationally suitable. The report shows that about two thirds of Army systems from 1997 to 2006 failed to meet their realiability requirements during operational testing - primarily due to lack of material readiness due to poor system reliability and maintenance (RAM). Funding provides resources dedicated to			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605716A: *Army Evaluation Center*	PROJECT 302: *Army Evaluation Center*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
developing critical tools, methodologies, policies, formal guidance, and educational materials required to implement new policies and improve weapon system reliability. ***FY 2013 Plans:*** Will 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. Will continue to prepare integrated System Evaluation Plans and conduct integrated technical and operational evaluations for all Army weapon systems. To include civilian pay costs for 386 authorizations for FY 13 (equates to approximately 94% of AEC's total budget). Additionally, will provide Underbody Blast Modeling and Simulation support to provide early identification of vehicle improvements that directly impact Soldier survivability; improves test design; provides additional evaluation data to support acquisition. Endstate is to have a valid, accredited model to evalute crew survivability. Also, will provide Center for Reliability and Growth in response to DUSD (ATL) and AAE policies mandating Reliability Growth programs and periodic assessments for major systems. These DOD and DA policies became Public Law 111-23 (The Weapon System Reform Act of 2009 - signed 22 May 2009). The Law emphasizes that the service acquisition executive must ensure acquisition personnel have appropriate training and expertise to formulate robust RAM growth programs. The policies and Law are a result of a Defense Science Board report on Developmental Test and Evaluation (May 2008), showing that there has been a significant increase in the number of Department of Defense weapon system programs evaluated as not being operationally suitable. The report shows that about two thirds of Army systems from 1997 to 2006 failed to meet their realiability requirements during operational testing - primarily due to lack of material readiness due to poor system reliability and maintenance (RAM). Funding will provide resources dedicated to developing critical tools, methodologies, policies, formal guidance, and educational materials required to implement new policies and improve weapon system reliability.			
Title: Early Involvement	3.642	3.793	3.766
Articles:	0	0	
Description: Supports the Commanding General's early involvement initiative which positions acquisition certified liaison officers at 2 Joint and 9 Army Program Executive Offices (PEO), TRADOC/ARCIC, REF, JIEDDO, and RDECOM. Assigned personnel provide continuous support to materiel and combat developers from the inception of their programs. The early involvement of LNOs supports the sections of the ATEC Mission Essential Task List (METL) that apply to ongoing contingency operations. ATEC performance continues to meet 120 day rapid equipping requirement set by the CSA. Liaison officers continue to enable ATEC to sustain rapid, flexible T&E support in the evaluation of Rapid Initiative Systems, Counter IED systems, and Urgent Material Releases. Effort results in cost savings, cost avoidance and critical design efficiencies being identified early in a system's development, thereby avoiding more expensive product improvement programs later in a system's life cycle. T&E efficiency gains continue to be realized through early identification of instrumentation, modeling and simulation tools, and other resources needed for testing, as well as making more efficient use of data from developmental testing and experiments.			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605716A: *Army Evaluation Center*	PROJECT 302: *Army Evaluation Center*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
FY 2011 Accomplishments: Continued support of the Commanding General's early involvement initiative which positions acquisition certified liaison officers at 2 Joint and 9 Army Program Executive Offices (PEO), TRADOC/ARCIC, REF, JIEDDO, and RDECOM. ***FY 2012 Plans:*** Continue support of the Commanding General's early involvement initiative which positions acquisition certified liaison officers at 2 Joint and 9 Army Program Executive Offices (PEO), TRADOC/ARCIC, REF, JIEDDO, and RDECOM. ***FY 2013 Plans:*** Will continue support of the Commanding General's early involvement initiative which positions acquisition certified liaison officers at 2 Joint and 9 Army Program Executive Offices (PEO), TRADOC/ARCIC, REF, JIEDDO, and RDECOM.			
Accomplishments/Planned Programs Subtotals	60.694	63.202	62.765

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*				R-1 ITEM NOMENCLATURE PE 0605718A: *Army Modeling & Sim X-Cmd Collaboration & Integ*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	3.787	3.415	1.545	-	1.545	1.283	1.555	1.510	1.638	Continuing	Continuing
S02: *HQDA DECISION SUPPORT TOOLS & SERVICES*	0.466	-	-	-	-	-	-	-	-	Continuing	Continuing
S03: *Analysis M&S Tools and Services*	1.917	1.950	1.424	-	1.424	1.159	1.438	1.392	1.520	Continuing	Continuing
S05: *SIMULATION TECHNOLOGY (SIMTECH) PROGRAM*	1.404	1.465	0.121	-	0.121	0.124	0.117	0.118	0.118	Continuing	Continuing

Note

Funds realigned to higher priority requirements.

A. Mission Description and Budget Item Justification

"Army Modeling and Simulation Cross-Command Collaboration and Integration (M&SC3I)" promotes the Army's goal to achieve affordable, interoperable and networked Modeling and Simulation (M&S) capabilities. In support of Army operations, Generating-Force functions and institutional processes, M&S Cross-Command Collaboration and Integration addresses analytical efforts underlying decision making, capability development, and life-cycle costs by capitalizing on M&S technologies (accomplished through collaborative efforts of the training/operations and acquisition communities). The RDTE component of M&SC3I encompasses efforts that (1) develop/improve new/existing models and simulations to reduce time, resources and risks associated with operational/institutional decision making and the acquisition process and (2) advance the following disciplines: M&S research, analysis and experimentation; simulation technology; and M&S tools and services. M&SC3I applies to development of tactics and doctrine, experimentation and exercises, traditional weapon system development, and assessment and transition of advanced technologies to operational capabilities. The overarching goal of M&SC3I is to reduce the time and cost of providing improved capabilities to the war fighter. Emerging information-age technologies continue to revolutionize the Army's ability to collaborate among all stakeholders using data descriptions, digital representations, and virtual prototypes to improve understanding of required capabilities, shorten procurement time, reduce procurement and sustainment costs, and, ultimately, reduce total life-cycle cost. M&SC3I advocates the use of advanced technologies to enable future capabilities through improved understanding of operational requirements, collaborative analyses of emerging technologies, and cross-domain participation in experiments and exercises. The following are discussions of efforts under the three projects of PE 0605718. Under the project "HQDA Decision Support Tools and Services, HQDA and its agencies develop new analytical M&S tools and/or obtain commercially available analytical M&S tools and services that provide rapid and reliable decision support to Army staff and field operating agencies assigned to Headquarters, Department of the Army. " Under the project "Analysis M&S Tools and Services" the Army develops M&S tools and services (e.g., hardware, software, infrastructure) for the Army's analysis community. The primary users of these tools and services are the Training and Doctrine Command Analysis Center (TRAC), the Army Materiel Systems Analysis Activity (AMSAA), and the Center for Army Analysis (CAA). Efforts focus on (1) development of analysis tools that will enable assessment of emerging technologies during concept exploration and (2) development of infrastructure and enabling technologies to support the Current and Future Force. These critical efforts are required for 1) analysis-of-futures work to justify Army requirements, 2) assessment of alternative approaches to satisfy those requirements, 3) development of current and emerging war fighting doctrine from the tactical to the operational levels of warfare and 4) the closing of closing

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	**R-1 ITEM NOMENCLATURE** PE 0605718A: *Army Modeling & Sim X-Cmd Collaboration & Integ*

capability gaps in the areas of irregular warfare, M&S data and standards, cyberspace operations, army network modeling, and non-lethal weapons. Under the project "Army Simulation Technology (SIMTECH)," the Army enhances force effectiveness by inducing research organizations on a short-term basis to conduct high-priority, promising simulation research initiatives that are outside the scope of Small Business Innovative Research (SBIR) and Army Science and Technology (S&T) programs. SIMTECH focuses simulation research initiatives on short-term Army needs and serves as a catalyst for technology breakthroughs in embedded simulation, rapid prototyping, commercial innovation and related simulation technology.

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	3.926	3.420	3.499	-	3.499
Current President's Budget	3.787	3.415	1.545	-	1.545
Total Adjustments	-0.139	-0.005	-1.954	-	-1.954
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.116	-			
• Adjustments to Budget Years	-	-	-1.954	-	-1.954
• Other Adjustments 1,	-0.023	-0.005	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605718A: *Army Modeling & Sim X-Cmd Collaboration & Integ*	PROJECT S02: *HQDA DECISION SUPPORT TOOLS & SERVICES*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
S02: *HQDA DECISION SUPPORT TOOLS & SERVICES*	0.466	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The project "HQDA Decision Support Tools and Services" enables HQDA and its agencies to develop new analytical M&S tools and/or obtain commercially available analytical M&S tools and services that provide rapid and reliable decision support to Army staff and field operating agencies assigned to Headquarters, Department of the Army. The project emcompasses the following efforts: Cross-Command Collaboration Effort (3CE); enhanced ARFORGEN Synchronization Tool (AST) (ARFORGEN = Army Force Generation); 3D Crew Injury Visualization; Network Traffic Load Stimulator; and Visual Intelligence, Reconnaissance, Surveillance (ISR) Re-Tasking Tool. The 3CE is a cross-command modeling and simulation data environment for design, development, integration and testing of capabilities, systems and prototypes across the life cycle of a program. The AST, directed in the Army Campaign Plan, is the only tool in operation under ARFORGEN that is capable of synchronizing readiness requiremetns. Three-dimension Crew Injury Visualization provides a virtual means to assess expected crew injuries resulting from live-fire testing. Network Traffic Load Stimulator provides real-world electro-magnetic spectrum configurations that permit a robust test scenario for communications and electronic warfare systems. The Visual ISR Re-tasking Tool assists planners in synchronizing ISR collection operations with changes in the operational battle plan within Army Mission Command systems such as Distributed Common Ground System - Army (DCGS-A), Force XXI Battle Command, Brigade-and-Below (FBCB2) and Command Post of the Future (CPOF).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Network Traffic Load Stimulator	0.216	-	-
Articles:	0		
Description: The Network Traffic Load Stimulator creates real-world electro-magnetic sprectrum configurations that provide a robust test senario for communications and electronic warfare.			
FY 2011 Accomplishments: ..FY11 Funds permitted accelerated development of the Network Load Stimulator.			
Title: M&S Visualization Tools	0.250	-	-
Articles:	0		
Description: 1. 3D Crew Injury Visualization Tool -- a virtual means to access expected crew injuries resulting from live-fire testing. 2. Visual Intelligence, Surveillance, Reconnaissance (ISR) Re-Tasking Tool -- assists planners in synchronizing ISR collection operations with changes in the operational battle plan within Army Mission Command Systems such as Distributed			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605718A: *Army Modeling & Sim X-Cmd Collaboration & Integ*	PROJECT S02: *HQDA DECISION SUPPORT TOOLS & SERVICES*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Common Ground System - Army (DCGS-A); Force XXI Battle Command Battle Command, Brigade-and-Below (FBCB); Command Post of the Future (CPOF). ***FY 2011 Accomplishments:*** ..FY11 Funds permitted accelerated development of theh 3D Crew Injury Visualization Tool and the Visual IRS Re-Tasking Tool.			
Accomplishments/Planned Programs Subtotals	0.466	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605718A: *Army Modeling & Sim X-Cmd Collaboration & Integ*	PROJECT S03: *Analysis M&S Tools and Services*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
S03: *Analysis M&S Tools and Services*	1.917	1.950	1.424	-	1.424	1.159	1.438	1.392	1.520	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Under the project "Analysis M&S Tools and Services" the Army develops Modeling and Simulation (M&S) tools and services (e.g., hardware, software, infrastructure) for the Army's analysis community. The primary users of these tools and services are the Training and Doctrine Command Analysis Center (TRAC), the Army Materiel Systems Analysis Activity (AMSAA), and the Center for Army Analysis (CAA). Efforts focus on (1) development of analysis tools to enable assessment of emerging technologies during concept exploration, (2) development of infrastructure and enabling technologies to support the Current and Future Force, and (3) application of M&S capabilities to One Semi-Automated Forces (OneSAF) that increase over all use of the OneSAF software and hence reduce Army life-cycle costs. These critical efforts are required for four essential purposes: analysis-of-futures work to justify Army requirements; assessment of alternative approaches to satisfy those requirements; development of current and emerging war fighting doctrine from the tactical to the operational levels of warfare; and the closing of capability gaps in the areas of irregular warfare, M&S data and standards, cyberspace operations, army network modeling, and non-lethal weapons.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: M&S Concepts and Global Employment of the Force (GEF) ***Articles:*** ***Description:*** The Army represents in simulation the emerging M&S concepts that will become an essential part of the Global Employment of the Force (GEF). ***FY 2011 Accomplishments:*** ..FY11 efforts enabled the Army to represent in simulation the emerging M&S concepts that will become an essential part of the Global Employment of the Force (GEF).	0.418 0	-	-
Title: Army Modeling and Simulation Data Strategy ***Articles:*** ***Description:*** Army M&S data strategy is directed toward collection, storage and dissemination of M&S data required for the development and use of M&S tools and services (e.g., hardware, software, infrastructure) for the Army's analysis community. ***FY 2011 Accomplishments:*** ..FY11 efforts enabled the M&S community to collect, store and disseminate data worldwide.	0.418 0	-	-
Title: Capability Gaps Identified by Army Modeling and Simulation (M&S) Specialists ***Articles:***	1.081 0	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Description: Army M&S specialists conduct HQDA-directed research to develop solutions for high priority M&S objectives that impact current warfigting capabilities. M&S specialists focus, first and foremost, on areas that have near-term operational impact or have been difficult to model but are, nonetheless, critical to closing capability gaps. ***FY 2011 Accomplishments:*** ..FY11 efforts enabled the Army to find M&S solutions to capability gaps in irregular warfare, non-lethal technologies, social networks, cyberspace operations, battle command systems, counter-insurgency operations, and other areas.			
Title: Irregular Warfare ***Articles:*** ***Description:*** Modeling for irregular warfare will put the Army on the path toward achieving its strategic objectives through indirect means with the same degree of dominance it employs in major combat operations. Military operations associated with irregular warfare are foreign internal defense, stability operations, counterinsurgency, combating terrorism, unconventional warfare, and application of the dynamics of cultural and human behavior. ***FY 2012 Plans:*** ..FY12 efforts are in the area of modeling for the following operations associated with irregular warfare: foreign internal defense, stability operations, counterinsurgency, combating terrorism, unconventional warefare, and application of the dynamics of cultural and human behavior. The goal is to ensure the Army will retain the ability to conduct major combat operations while expanding the capabilities for irregular warfare. ***FY 2013 Plans:*** ..FY13 efforts will be in the area of modeling for one or more of the following operations associated with irregular warfare: foreign internal defense, stability operations, counterinsurgency, combating terrorism, unconventional warefare, and application of the dynamics of cultural and human behavior. The goal will be to ensure the Army will retain the ability to conduct major combat operations while expanding the capabilities for irregular warfare.	-	0.582 0	0.200
Title: M&S Data and Standards ***Articles:*** ***Description:*** M&S data and standards allow the Army M&S community to acquire an improved, robust data collection process; a robust data mining process; and an accessible data repository to enable more responsive, credible modeling (especially for current operating and generating environments). These improvements will enable the Army to close current gaps in its ability to provide M&S support to the decision-making, concept development, operational assessment, and training processes. ***FY 2012 Plans:***	-	0.800 0	0.500

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605718A: *Army Modeling & Sim X-Cmd Collaboration & Integ*	PROJECT S03: *Analysis M&S Tools and Services*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
..FY12 efforts pertain to development of M&S data and standards to allow the Army M&S community to acquire an improved, robust data collection process; a robust data mining process; and an accessible data repository to enable more responsive, credible modeling (especially for current operating and generating environments). Specific projects are selected by way of a request for proposals to the Army M&S community. The request is issued by the Army Modeling and Simulation Office. ***FY 2013 Plans:*** ..FY13 efforts will pertain to development of M&S data and standards to allow the Army M&S community to acquire an improved, robust data collection process; a robust data mining process; and an accessible data repository to enable more responsive, credible modeling (especially for current operating and generating environments). Specific projects will be selected by way of a request for proposals to the Army M&S community. The request will be issued by the Army Modeling and Simulation Office.			
Title: Cyberspace Operations ***Articles:*** ***Description:*** Cyberspace operations are defined as the employment of cyber capabilities for the purpose of achieving objectives in and through cyberspace. M&S cyberspace operations are directed toward computer network operations and operation/ defense of the Global Information Grid (GIG). Cyberspace is a global domain within the information environment consisting of the interdependent networks of information technology infrastructures. These include telecommunications networks, computer systems, and embedded processors and controllers. ***FY 2012 Plans:*** ..FY12 efforts pertained to simulation enhancements for Extended Air Defense Simulation (EADSIM) cyber modeling and cyber operations.	-	0.176 0	-
Title: Army Network Modeling ***Articles:*** ***Description:*** The Army Network is an enhanced, interoperable communications network that assists leaders in making timely, informed decisions and promotes organizational agility, lethality and sustainability. The network links soldiers on the battlefield with space-based and aerial sensors, robots and command posts. These systems provide situational awareness and control by locating the enemy, friendly forces and civilian populations; by revealing weapon-system availability at any given time; and by enabling the application of precise lethal fires. ***FY 2012 Plans:*** ..FY12 activities cover modeling for the Army Network to maximize the effectiveness and accuracy of systems (spaced-based and aerial sensors, robots, and command posts) that provide situational awareness and control. ***FY 2013 Plans:***	-	0.292 0	0.200

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605718A: *Army Modeling & Sim X-Cmd Collaboration & Integ*	PROJECT S03: *Analysis M&S Tools and Services*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
..FY13 activities will cover modeling for the Army Network to maximize the effectiveness and accuracy of systems (spaced-based and aerial sensors, robots, and command posts) that provide situational awareness and control.			
Title: Non-Lethal Weapons ***Articles:*** ***Description:*** Current M&S activities in the field of non-lethal weapons focus on two areas -- development of methodologies for establishing priority non-lethal weapons and enhancement of non-lethal weapon simulations now in operation. ***FY 2012 Plans:*** ..FY12 activies pertain to development of methodologies for establishing priority non-lethal weapons and enhancement of non-lethal weapon simulations now in operation.	-	0.100 0	-
Title: Application of Modeling & Simulation (M&S) Capabilities to One Semi-Automated Forces (OneSAF) ***Description:*** Application of M&S capabilities to OneSAF increases overall use of the OneSAF software to reduce Army life-cycle costs. Increasing OneSAF capabilities leads to the goal of implementing ONE TIME (rather than through the use of multiple software products) updates and changes associated with transformation, modernization and operations across the simulation life cycle. The reduction of reduncies; i.e., multiple software products with similar or interchangable features, is an esstential outcome of the expanded OneSAF domain. Current efforts: threat-jamming precision-guided weapons in OneSAF; micro-satellite BF SIGINT capabilities; set of web-based XML services to support integrated initialization of simulation-based mission rehearsal, planning and training with C2 standards, C2 Core and JC3IEDM. XML = Extensible Markup Language. BF SIGINT = Blue-Force Signals Intelligence. C2 = Command and Control. JC3IEDM = Joint Command, Control and Consultation Information Exchange Data Model. ***FY 2013 Plans:*** ..FY13 efforts will enable the application of new capabilities to the OneSAF software.	-	-	0.524
Accomplishments/Planned Programs Subtotals	1.917	1.950	1.424

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605718A: *Army Modeling & Sim X-Cmd Collaboration & Integ*	PROJECT S03: *Analysis M&S Tools and Services*

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605718A: *Army Modeling & Sim X-Cmd Collaboration & Integ*	PROJECT S05: *SIMULATION TECHNOLOGY (SIMTECH) PROGRAM*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
S05: *SIMULATION TECHNOLOGY (SIMTECH) PROGRAM*	1.404	1.465	0.121	-	0.121	0.124	0.117	0.118	0.118	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The Army Simulation Technology (SIMTECH) program enhances force effectiveness by assisting Modeling and Simulation (M&S) research agencies and organizations in conducting low-cost, promising simulation technology research that is outside the scope of the Small Business Innovative Research (SBIR) and the Army science and technology programs. The SIMTECH program provides a source of competitive funds to Army research agencies and organizations to stimulate high quality, innovative M&S research with significant opportunity for payoff in Army war fighting capability. The SIMTECH program focuses simulation technology research initiatives on immediate short-term Army capability requirements by including a theme in the annual call for proposals. The SIMTECH program serves as a vehicle for major M&SC3I-related technology breakthroughs in war gaming, embedded simulation, collaboration capability, rapid prototyping, commercial innovation and related simulation technology. (M&SC3I = Modeling and Simulation Cross-Command Collaboration and Integration.) Performers of SIMTECH activities are the Army Materiel Command, the Army Corps of Engineers, the Army Research and Development Centers (ARDECs), the Army Research Institute, the Army Training and Doctrine Command Analysis Center (TRAC), the Program Executive Office for Simulation, Training and Instrumentation (PEO-STRI), White Sands Missile Range, Space and Missile Defense Command (SMDC), Natick Soldier Research Development and Engineering Center (NSRDEC), Edgewood Chemical and Biological Center (ECBC), and other Army agencies.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Mobility Common Operational Picture (MCOP); geo-Battlefield Management Language (geoBML); and integrated use of common geo-environmental, maneuver, and command and control behaviors.	0.500	-	-
Articles:	0		
Description: To meet the information needs of operational commmanders, data and services available in the Global Information Grid are designed to create a Common Operating Picture (COP). The COP is defined as a single identical display of relevant information shared by more than one command. The COP facilititates collaborative planning and situational awareness. One area of the COP of particular interest to land warfare decision-makers is representation of the ground mobility characteristics of the battle space from which war fighters can assess the ability of forces to achieve maneuver dominance in a variety of regions under multiple environmental conditions and tactical situations. The unified knowledge space for supporting such mobility planning is the Mobility Common Operational Picture (MCOP). A Battlefield Management Language (BML) is an unambiguous language intended to provide for (1) command and control of simulated and live forces conducting military operations and (2) situational awareness and a shared, common operational picture. GeoBML is an extension of BML to the geospatial/ environmental arena.			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605718A: *Army Modeling & Sim X-Cmd Collaboration & Integ*	PROJECT S05: *SIMULATION TECHNOLOGY (SIMTECH) PROGRAM*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
FY 2011 Accomplishments: ..FY11 efforts enabled the Army to improve commonality and consistency in the simulation results of an operations plan (OPLAN) during mission rehearsal.			
Title: GIS-Enabled Modeling and Simulation (GEMS) (GIS = Geospatial Information Systems) ***Articles:*** ***Description:*** Current C4ISR* and simulation systems use a variety of tools and formats for generating and storing geospatial information. C4ISR systems tend to use GIS for geospatial information, while simulation systems use proprietary terrain database formats that are generated from a number of different tools. This leads to problems in the sharing of geospatial information between systems, making mission planning or embedded training difficult, as well as problems maintaining geospatial information as it is updated. GEMS provides a common geospatial database that can be generated with a single set of tools and shared across applications, thereby allowing a higher integration of diverse military systems. *C4ISR=Command, Control, Commuications, Computers, Intelligence, Surveillance, Reconnaisance. ***FY 2011 Accomplishments:*** ..FY11 efforts provided interoperability of M&S and C4ISR systems within GEMS.	0.400 0	-	-
Title: Improvement of the various components of Modeling and Simulation (M&S) in accordance with M&S focus areas established within the SIMTECH program. ***Articles:*** ***Description:*** SIMTECH projects are selected at the beginning of (and executed during) each fiscal year in accordance with the M&S focus areas of that fiscal year. Project selections reflect the critical needs of the Army. ***FY 2011 Accomplishments:*** ..FY11 activities were the following: correlation of visual systems for simulators, automated modeling and simulation standards ontology, modeling image compression effects on target acquisition performance, enhancements of terrain generation through night vision imaging, and representation of the effects of civilian/military operations on the civilian population . ***FY 2012 Plans:*** ..FY12 efforts consist of a variety of projects aimed at improving the various components of M&S. Projects are selected in accordance with the M&S focus areas for FY12. Projects are requested by the Army M&S community; e.g., TRADOC Research and Acquisiton Center (TRAC); US Army Research Lab; Army Research, Development & Engineering Centers, via data calls and councils of colonels. ***FY 2013 Plans:***	0.504 0	0.880 0	0.121

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605718A: *Army Modeling & Sim X-Cmd Collaboration & Integ*	PROJECT S05: *SIMULATION TECHNOLOGY (SIMTECH) PROGRAM*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
..FY13 efforts will consist of a variety of projects aimed at improving the various components of M&S. Projects will be selected in accordance with the M&S focus areas for FY13. Projects will be requested by the Army M&S community; e.g., TRADOC Research and Acquisiton Center (TRAC); US Army Research Lab; Army Research, Development & Engineering Centers, via data calls and councils of colonels.			
Title: Simulation Technology Program (SIMTECH) in Support of Advanced Technologies ***Articles:*** ***Description:*** The SIMTECH program accelerates advanced technologies to ensure battlefield superiority by enhancing force effectiveness through research and development of innovative, low-cost Modeling and Simulation (M&S). The program provides funds to organizations for low-cost, promising simulation technology research initiatives that are outside the scope of the Small Business Innovative Research Program (SBIR) and Army Technology Objectives (ATOs). SIMTECH projects provide high payoff opportunities in warfighting simulation capabilities such as a portable COA/wargaming development and analysis tool, collaboration capability, embedded training, rapid prototyping, commercial innovation, and correlation of visual systems for simulators. (COA = Course of Action.) ***FY 2012 Plans:*** ..FY12 efforts consist of a variety of SIMTECH projects selected by way of request for proposals to the Army M&S community and research agencies. The request for proposals is issued by the Army Modeling and Simulation Office (AMSO). AMSO selects SIMTECH projects that promise innovative M&S research with significant opportunity for payoff in Army war fighting capability.	-	0.585 0	-
Accomplishments/Planned Programs Subtotals	1.404	1.465	0.121

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*				R-1 ITEM NOMENCLATURE PE 0605801A: *Programwide Activities*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	71.984	82.923	83.422	-	83.422	84.600	83.784	83.648	84.380	Continuing	Continuing
M02: *MED CMD SPT (NON-AMHA)*	20.185	22.109	22.220	-	22.220	22.436	22.672	22.513	22.633	Continuing	Continuing
M15: *ARI MGMT/ADM ACT*	1.934	5.319	5.481	-	5.481	5.483	5.445	5.504	5.515	Continuing	Continuing
M16: *STANDARDIZATION GROUPS*	4.985	4.213	4.385	-	4.385	4.361	4.353	4.450	4.444	Continuing	Continuing
M42: *ARDEC CMD/CTR Support*	7.041	8.207	8.488	-	8.488	8.478	8.426	8.412	8.466	Continuing	Continuing
M44: *CECOM CMD/CTR SPT*	4.841	5.634	5.830	-	5.830	5.733	5.724	5.689	5.785	Continuing	Continuing
M46: *AMCOM CMD/CTR SPT*	10.321	12.699	13.362	-	13.362	13.607	12.759	12.812	13.026	Continuing	Continuing
M47: *TACOM CMD/CTR SPT*	3.298	3.841	3.969	-	3.969	3.922	3.959	3.908	3.973	Continuing	Continuing
M53: *Developmental Test Command/Ctr Spt*	9.253	9.471	8.099	-	8.099	7.944	7.752	7.726	7.757	Continuing	Continuing
M55: *Edgewood Chemical Biological Center (ECBC)*	6.456	7.309	7.329	-	7.329	8.293	8.802	8.904	8.972	Continuing	Continuing
M58: *SSCOM CMD/CTR SPT*	2.382	2.777	2.869	-	2.869	2.935	2.504	2.396	2.453	Continuing	Continuing
M76: *Armament Group Support*	1.288	1.344	1.390	-	1.390	1.408	1.388	1.334	1.356	Continuing	Continuing

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 2013 Army					DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*		R-1 ITEM NOMENCLATURE PE 0605801A: *Programwide Activities*			
B. Program Change Summary ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**
Previous President's Budget	73.685	83.054	85.654	-	85.654
Current President's Budget	71.984	82.923	83.422	-	83.422
Total Adjustments	-1.701	-0.131	-2.232	-	-2.232
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.496	-			
• Adjustments to Budget Years	-	-	-2.232	-	-2.232
• Other Adjustments 1	-1.205	-0.131	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605801A: *Programwide Activities*	PROJECT M02: *MED CMD SPT (NON-AMHA)*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
M02: *MED CMD SPT (NON-AMHA)*	20.185	22.109	22.220	-	22.220	22.436	22.672	22.513	22.633	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

This project provides funding for Headquarters (HQ) activities that support the medical research, development, test, and evaluation (RDTE) program 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, the USAMRMC is implementing the Medical Research Information Technology System (MeRITS), an electronic data and document-handling system needed to standardize animal and human clinical trial documentation in support of FDA requirements. This system will create centralized storage and access between Headquarters and its five subordinate laboratories. MeRITS is an integral part of an overall USAMRMC effort to enhance its laboratories performance, efficiency, and accountability and will be completed in FY11 with sustainment starting in late FY 2012.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Medical Research Information Technology System (MeRITS)	1.210	0.980	-
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2011 Accomplishments: Delivered completed software to field installations, sustained delivered subsystems, and continued with customization of remaining subsystems. Selected contractor positions considered for in-sourcing.			
FY 2012 Plans: Provide for sustainment of MeRITS capabilities.			
Title: Civilian Authorized Salaries and other operational requirements	18.975	21.129	22.220
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2011 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605801A: *Programwide Activities*	PROJECT M02: *MED CMD SPT (NON-AMHA)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Civilian authorizations were increased due to an administrative change and selected contractor positions underwent review for in-sourcing. Also, provided regulatory, clinical monitoring and data support for Special Immunization Program (SIP). This program provided non-licensed vaccines and other biological products under FDA oversight to personnel at risk of exposure to selected infectious diseases; and partially funded other USAMRMC operational costs (e.g., supplies, equipment, and services) that support Medical RDTE. ***FY 2012 Plans:*** Funds authorized civilian salaries assigned to HQ, USAMRMC and USAMRAA. Also, provides regulatory, clinical monitoring and data support for SIP. This program provides non-licensed vaccines and other biological products under FDA oversight to personnel at risk of exposure to selected infectious diseases; and partially funds other USAMRMC operational costs (e.g., supplies, equipment, and services) that support Medical RDTE. ***FY 2013 Plans:*** Will fund authorized civilian salaries and associated expenses (supplies, equipment, travel, etc.) at HQ, USAMRMC, and USAMRAA.			
Accomplishments/Planned Programs Subtotals	20.185	22.109	22.220

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605801A: *Programwide Activities*	PROJECT M15: *ARI MGMT/ADM ACT*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
M15: *ARI MGMT/ADM ACT*	1.934	5.319	5.481	-	5.481	5.483	5.445	5.504	5.515	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

This project supports the non-Army Management Headquarters Activity (AMHA) management and administrative functions for the U.S. Army Research Institute (ARI) for the Behavioral and Social Sciences to accomplish its mission to conduct the Army's research and development (R&D) in personnel, training, and leader development issues that will ensure the future Army remains ready and relevant. Specifically, this project provides technical and administrative support to the headquarters element and to six field research units and three liaison units to include budget execution, procurement oversight, RDT&E program planning and evaluation, management control, security/safety, logistics, information technology, and personnel/manpower execution and oversight.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: ARI	1.934	5.319	5.481
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2011 Accomplishments: Continued 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 2012 Plans: Continues 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 2013 Plans: Will 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.			
Accomplishments/Planned Programs Subtotals	1.934	5.319	5.481

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605801A: *Programwide Activities*	PROJECT M15: *ARI MGMT/ADM ACT*

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605801A: *Programwide Activities*	PROJECT M16: *STANDARDIZATION GROUPS*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
M16: *STANDARDIZATION GROUPS*	4.985	4.213	4.385	-	4.385	4.361	4.353	4.450	4.444	Continuing	Continuing
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, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: International Technology Centers Management	4.985	4.213	4.385
Articles:	0	0	
Description: Management / adminstrative support to International Technology Centers			
FY 2011 Accomplishments: Provided continued management and administrative functions at a level consistent with mission requirements and support needs at the nine International Technology Centers.			
FY 2012 Plans: Provide continued management and administrative functions at a level consistent with mission requirements and support needs at the nine International Technology Centers.			
FY 2013 Plans: Will provide continued management and administrative functions at a level consistent with mission requirements and support needs at the nine International Technology Centers.			
Accomplishments/Planned Programs Subtotals	4.985	4.213	4.385

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605801A: *Programwide Activities*	PROJECT M16: *STANDARDIZATION GROUPS*

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605801A: *Programwide Activities*	PROJECT M42: *ARDEC CMD/CTR Support*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
M42: *ARDEC CMD/CTR Support*	7.041	8.207	8.488	-	8.488	8.478	8.426	8.412	8.466	Continuing	Continuing
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 Armament Research, Development and Engineering Center (ARDEC), Picatinny Arsenal, NJ.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Management Support	7.041	8.207	8.488
Articles:	0	0	
Description: ARDEC management / administrative efforts			
FY 2011 Accomplishments: Provided continued management and administrative functions at a level consistent with mission requirements and support needs at ARDEC.			
FY 2012 Plans: Provide continued management and administrative functions at a level consistent with mission requirements and support needs at ARDEC.			
FY 2013 Plans: Will provide continued management and administrative functions at a level consistent with mission requirements and support needs at ARDEC.			
Accomplishments/Planned Programs Subtotals	7.041	8.207	8.488

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605801A: *Programwide Activities*	PROJECT M44: *CECOM CMD/CTR SPT*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
M44: *CECOM CMD/CTR SPT*	4.841	5.634	5.830	-	5.830	5.733	5.724	5.689	5.785	Continuing	Continuing
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), Ft. Monmouth, NJ.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Management Support	4.841	5.634	5.830
Articles:	0	0	
Description: CERDEC management and administrative efforts			
FY 2011 Accomplishments: Provided continued management and administrative functions at a level consistent with mission requirements and support needs at CERDEC.			
FY 2012 Plans: Provide continued management and administrative functions at a level consistent with mission requirements and support needs at CERDEC.			
FY 2013 Plans: Will provide continued management and administrative functions at a level consistent with mission requirements and support needs at CERDEC.			
Accomplishments/Planned Programs Subtotals	4.841	5.634	5.830

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605801A: *Programwide Activities*	PROJECT M46: *AMCOM CMD/CTR SPT*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
M46: *AMCOM CMD/CTR SPT*	10.321	12.699	13.362	-	13.362	13.607	12.759	12.812	13.026	Continuing	Continuing
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 Aviation and Missile Research and Development Center (AMRDEC), Redstone Arsenal, AL.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Management Support	6.482	8.006	8.498
Articles:	0	0	
Description: AMRDEC management and administrative efforts ***FY 2011 Accomplishments:*** Provided continued management and administrative functions at a level consistent with mission requirements and support needs at AMRDEC. ***FY 2012 Plans:*** Provide continued management and administrative functions at a level consistent with mission requirements and support needs at AMRDEC. ***FY 2013 Plans:*** Will provide continued management and administrative functions at a level consistent with mission requirements and support needs at AMRDEC.			
Title: Protection Technology (PT) Program (formerly Anti-Tamper (AT))	3.839	4.693	4.864
Articles:	0	0	
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 2011 Accomplishments:*** Maintained the core team of subject matter experts (SMEs) available for this mission and conducted technical assessments of micro-electronic parts used in the board designs of the Army's weapon systems including the FCS. ***FY 2012 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605801A: *Programwide Activities*	PROJECT M46: *AMCOM CMD/CTR SPT*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Maintain the core team of subject matter experts (SMEs) available for this mission and conduct technical assessments of micro-electronic parts used in the board designs of the Army's weapon systems including the FCS. ***FY 2013 Plans:*** Will continue to maintain the core team of subject matter experts (SMEs) available for this mission and will conduct technical assessments of micro-electronic parts used in the board designs of the Army's weapon systems including the FCS			
Accomplishments/Planned Programs Subtotals	10.321	12.699	13.362

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605801A: *Programwide Activities*	PROJECT M47: *TACOM CMD/CTR SPT*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
M47: *TACOM CMD/CTR SPT*	3.298	3.841	3.969	-	3.969	3.922	3.959	3.908	3.973	Continuing	Continuing
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, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Management Support	3.298	3.841	3.969
Articles:	0	0	
Description: TARDEC management and administrative efforts			
FY 2011 Accomplishments: Provided continued management and administrative functions at a level consistent with mission requirements and support needs at TARDEC.			
FY 2012 Plans: Provide continued management and administrative functions at a level consistent with mission requirements and support needs at TARDEC.			
FY 2013 Plans: Will provide continued management and administrative functions at a level consistent with mission requirements and support needs at TARDEC.			
Accomplishments/Planned Programs Subtotals	3.298	3.841	3.969

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605801A: *Programwide Activities*	PROJECT M53: *Developmental Test Command/Ctr Spt*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
M53: *Developmental Test Command/Ctr Spt*	9.253	9.471	8.099	-	8.099	7.944	7.752	7.726	7.757	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Project M53 funds civilian labor and support costs for the technical direction and administrative functions of the Headquarters, U.S. Army Developmental Test Command (DTC) located at Aberdeen Proving Ground, Maryland, and is required to support the accomplishment of assigned developmental test missions not directly related to specific test and evaluation projects. This project includes staff/management functions of resource management, safety, security, environmental, strategic planning and ADPE/information/technology support for command-wide databases in support of the developmental test mission with technical direction of seven Major Range and Test Facility Bases (MRTFBs) and one test center: White Sands Missile Range(WSMR), New Mexico; Aberdeen Test Center (ATC), Aberdeen Proving Ground, Maryland; Dugway Proving Ground (DPG), Utah; Electronic Proving Ground (EPG) Fort Huachuca, Arizona; and Yuma Proving Ground (YPG), Arizona; Cold Regions Test Center (CRTC), Fort Greeley, Alaska; and Tropic Regions Test Center (TRTC) at various locations, as well as for Redstone Test Center (RTC) Redstone Arsenal and Fort Rucker, Alabama. This is the operating budget for DTC Headquarters, which provides technical direction for the annual execution of over 3484 tests, 8801 workyears, and a $2.0 billion program.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Civilian Labor and Other Support Costs	9.253	9.471	8.099
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2011 Accomplishments: Civilian labor and other support costs needed to provide technical direction and to administer the assigned Army developmental test mission.			
FY 2012 Plans: Civilian labor and other support costs are needed to provide technical direction and to administer the assigned Army developmental test mission.			
FY 2013 Plans: Civilian labor and other support costs will be needed to provide technical direction and administer the assigned Army developmental test mission			
Accomplishments/Planned Programs Subtotals	9.253	9.471	8.099

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	**R-1 ITEM NOMENCLATURE** PE 0605801A: *Programwide Activities*	**PROJECT** M53: *Developmental Test Command/Ctr Spt*

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605801A: *Programwide Activities*	PROJECT M55: *Edgewood Chemical Biological Center (ECBC)*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
M55: *Edgewood Chemical Biological Center (ECBC)*	6.456	7.309	7.329	-	7.329	8.293	8.802	8.904	8.972	Continuing	Continuing
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, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Management Support	6.456	7.309	7.329
Articles:	0	0	
Description: ECBC management and administrative efforts			
FY 2011 Accomplishments: Provided continued management and administrative functions at a level consistent with mission requirements and support needs at ECBC.			
FY 2012 Plans: Provide continued management and administrative functions at a level consistent with mission requirements and support needs at ECBC.			
FY 2013 Plans: Will provide continued management and administrative functions at a level consistent with mission requirements and support needs at ECBC.			
Accomplishments/Planned Programs Subtotals	6.456	7.309	7.329

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605801A: *Programwide Activities*	PROJECT M58: *SSCOM CMD/CTR SPT*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
M58: *SSCOM CMD/CTR SPT*	2.382	2.777	2.869	-	2.869	2.935	2.504	2.396	2.453	Continuing	Continuing
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, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Management Support	2.382	2.777	2.869
Articles:	0	0	
Description: NSRDEC management and administrative functions ***FY 2011 Accomplishments:*** Provided continued management and administrative functions at a level consistent with mission requirements and support needs at NSRDEC. ***FY 2012 Plans:*** Provide continued management and administrative functions at a level consistent with mission requirements and support needs at NSRDEC. ***FY 2013 Plans:*** Will provide continued management and administrative functions at a level consistent with mission requirements and support needs at NSRDEC.			
Accomplishments/Planned Programs Subtotals	2.382	2.777	2.869

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605801A: *Programwide Activities*	PROJECT M76: *Armament Group Support*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
M76: *Armament Group Support*	1.288	1.344	1.390	-	1.390	1.408	1.388	1.334	1.356	Continuing	Continuing
Quantity of RDT&E Articles											

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, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Army scientific support	0.286	0.295	0.305
Articles:	0	0	
Description: Funds 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 2011 Accomplishments: Funds supported 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 2012 Plans: Funds support 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. NA			
FY 2013 Plans: Funds will support 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.			
Title: Executive Agent	1.002	1.049	1.085
Articles:	0	0	

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605801A: *Programwide Activities*	PROJECT M76: *Armament Group Support*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
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 2011 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 2012 Plans:*** Provides 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 2013 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.			
Accomplishments/Planned Programs Subtotals	1.288	1.344	1.390

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*				R-1 ITEM NOMENCLATURE PE 0605803A: *Technical Information Activities*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	49.579	55.286	50.820	-	50.820	48.427	51.240	50.770	51.243	Continuing	Continuing
720: *TECH INFO FUNC ACTV*	8.534	8.630	8.692	-	8.692	8.455	8.910	8.498	8.646	Continuing	Continuing
727: *TECH INFO ACTIVITIES*	9.187	14.833	15.110	-	15.110	12.998	13.873	13.223	12.748	Continuing	Continuing
729: *YOUTH SCIENCE ACTIV*	4.552	3.123	-	-	-	-	-	-	-	Continuing	Continuing
730: *PERS & TRNG ANALYS ACT*	1.280	2.193	2.222	-	2.222	2.157	2.185	2.212	2.247	Continuing	Continuing
731: *ARMY HIGH PERFORMANCE COMPUTING CENTERS (AHPCC)*	7.479	7.678	7.074	-	7.074	7.012	7.900	7.931	8.226	Continuing	Continuing
733: *ACQUISITION TECH ACT*	15.365	15.335	14.050	-	14.050	14.292	14.781	15.275	15.521	Continuing	Continuing
C16: *FAST*	2.153	2.764	2.365	-	2.365	2.277	2.304	2.330	2.541	Continuing	Continuing
C18: *BAST*	1.029	0.730	1.307	-	1.307	1.236	1.287	1.301	1.314	Continuing	Continuing

Note

A congressional reduction of $9.000M and $.500M congressional add in FY12.
FY13 funding transfer to PE 0601104A Youth Sciences Activities to support higher priority efforts.

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 studies and analyses using behavioral science-based analytic tools to provide policy and decision makers with Soldier-oriented recommendations 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 Secreatary 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 (ARI) for the Behavioral and Social Sciences, Arlington, 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 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	48.309	63.872	71.390	-	71.390
Current President's Budget	49.579	55.286	50.820	-	50.820
Total Adjustments	1.270	-8.586	-20.570	-	-20.570
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	2.793	-			
• SBIR/STTR Transfer	-1.269	-			
• Adjustments to Budget Years	-	-	-20.570	-	-20.570
• Other Adjustments 1	-0.254	-0.086	-	-	-
• Other Adjustments 2	-	-8.500	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605803A: *Technical Information Activities*	PROJECT 720: *TECH INFO FUNC ACTV*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
720: *TECH INFO FUNC ACTV*	8.534	8.630	8.692	-	8.692	8.455	8.910	8.498	8.646	Continuing	Continuing
Quantity of RDT&E Articles											

Note

Not applicable for this item.

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 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 Secreatary of Defense for Research and Engineering science and technology priority focus areas and the Army Modernization Strategy

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

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
Title: Provide Army funding support for Federal Laboratory Consortium as required by Public Law 104-113.		0.234	0.247	0.247
	Articles:	0	0	
Description: Funding is provided for the following effort				
FY 2011 Accomplishments: Provided Army funding support for Federal Laboratory Consortium as required by Public Law 104-113.				
FY 2012 Plans:				

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605803A: *Technical Information Activities*	PROJECT 720: *TECH INFO FUNC ACTV*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Provide Army funding support for Federal Laboratory Consortium as required by Public Law 104-113. ***FY 2013 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. ***Articles:*** ***Description:*** Funding is provided for the following effort. ***FY 2011 Accomplishments:*** Provided administrative and contractual support for the Army Science Board. ***FY 2012 Plans:*** Provide administrative and contractual support for the Army Science Board. ***FY 2013 Plans:*** Will provide administrative and contractual support for the Army Science Board.	2.034 0	2.112 0	2.126
Title: Administrative support for the Army's SBIR and STTR programs. ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2011 Accomplishments:*** Provided administrative support for the Army's SBIR and STTR programs. ***FY 2012 Plans:*** Provide administrative support for the Army's SBIR and STTR programs. ***FY 2013 Plans:*** Will provide administrative support for the Army's SBIR and STTR programs.	1.230 0	1.250 0	1.248
Title: Provide funding for patent fees and patent legal expenses for Army Materiel Command (AMC) commands and laboratories. ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2011 Accomplishments:***	0.905 0	0.844 0	0.844

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605803A: *Technical Information Activities*	PROJECT 720: *TECH INFO FUNC ACTV*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Provided funding for patent fees and patent legal expenses for AMC commands and laboratories. ***FY 2012 Plans:*** Provide funding for patent fees and patent legal expenses for AMC commands and laboratories. ***FY 2013 Plans:*** Will provide funding for patent fees and patent legal expenses for AMC commands and laboratories.			
Title: Provide funding for S&T Strategic Planning and Support. ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2011 Accomplishments:*** Provided funding for S&T Strategic Planning and Support. ***FY 2012 Plans:*** Provide funding for S&T Strategic Planning and Support. ***FY 2013 Plans:*** Will provide funding for S&T Strategic Planning and Support.	0.378 0	0.390 0	0.390
Title: Provide funding for the Army Science Conference. ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2011 Accomplishments:*** Provided funding for the Army Science Conference. ***FY 2012 Plans:*** Provide funding for the Army Science Conference. ***FY 2013 Plans:*** Will provide funding for the Army Science Conference.	0.545 0	0.495 0	0.545
Title: Administer S&T database computer engineering support contract and support RDECOM databases S&T management support. ***Articles:*** ***Description:*** Funding is provided for the following effort	3.208 0	3.292 0	3.292

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605803A: *Technical Information Activities*	PROJECT 720: *TECH INFO FUNC ACTV*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
FY 2011 Accomplishments: Administered S&T database computer engineering support contract and support RDECOM databases S&T management support. ***FY 2012 Plans:*** Administer S&T database computer engineering support contract and support RDECOM databases S&T management support. ***FY 2013 Plans:*** Will administer S&T database computer engineering support contract and support RDECOM databases S&T management support.			
Accomplishments/Planned Programs Subtotals	8.534	8.630	8.692

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605803A: *Technical Information Activities*	PROJECT 727: *TECH INFO ACTIVITIES*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
727: *TECH INFO ACTIVITIES*	9.187	14.833	15.110	-	15.110	12.998	13.873	13.223	12.748	Continuing	Continuing
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), including support of the Army Science and Technology (S&T) Master Plan. 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, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Conduct and support S&T program portfolio assessments and analysis.	2.500	1.800	2.147
Articles:	0	0	
Description: Funding is provided for the following effort. ***FY 2011 Accomplishments:*** Conducted and supported S&T program portfolio assessments and analysis. ***FY 2012 Plans:*** Conduct and support S&T program portfolio assessments and analysis. ***FY 2013 Plans:*** Will conduct and support S&T program portfolio assessments and analysis.			
Title: Support Army S&T strategic planning, analysis, and prioritization.	3.010	7.676	8.146
Articles:	0	0	

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605803A: *Technical Information Activities*	PROJECT 727: *TECH INFO ACTIVITIES*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Description: Funding is provided for the following effort. ***FY 2011 Accomplishments:*** Supported Army S&T strategic planning, analysis, and prioritization. ***FY 2012 Plans:*** Support Army S&T strategic planning, analysis, and prioritization. ***FY 2013 Plans:*** Will support Army S&T strategic planning, analysis, and prioritization.			
Title: Provide funding and support for Army Science and Technology Master Plan development and publication. ***Articles:*** ***Description:*** Funding is provided for the following effort. ***FY 2011 Accomplishments:*** Provided funding and support for Army Science and Technology Master Plan development and publication. ***FY 2012 Plans:*** Provide funding and support for Army Science and Technology Master Plan development and publication.	0.950 0	0.950 0	-
Title: Provide funding and support for Army Acquisition Program Technology Readiness Assessments for Program Milestone Decisions. ***Articles:*** ***Description:*** Funding is provided for the following effort. ***FY 2011 Accomplishments:*** Provided funding and support for Army Acquisition Program Technology Readiness Assessments for Program Milestone Decisions. ***FY 2012 Plans:*** Provide funding and support for Army Acquisition Program Technology Readiness Assessments for Program Milestone Decisions. ***FY 2013 Plans:***	2.237 0	3.427 0	3.836

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605803A: *Technical Information Activities*	PROJECT 727: *TECH INFO ACTIVITIES*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Will provide funding and support for Army Acquisition Program Technology Readiness Assessments for Program Milestone Decisions.			
Title: Provide Army support to Director, Defense Research and Engineering Executive Staff for DoD-wide Science and Technology oversight. ***Articles:*** ***Description:*** Funding is provided for the following effort. ***FY 2011 Accomplishments:*** Provided Army support to Assistant Secreatary of Defense for Research and Engineering Executive Staff for DoD-wide Science and Technology oversight. ***FY 2012 Plans:*** Provide Army support to Assistant Secreatary of Defense for Research and Engineering Executive Staff for DoD-wide Science and Technology oversight. ***FY 2013 Plans:*** Will provide Army support to Assistant Secreatary of Defense for Research and Engineering Executive Staff for DoD-wide Science and Technology oversight.	0.490 0	0.980 0	0.981
Accomplishments/Planned Programs Subtotals	9.187	14.833	15.110

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605803A: *Technical Information Activities*	PROJECT 729: *YOUTH SCIENCE ACTIV*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
729: *YOUTH SCIENCE ACTIV*	4.552	3.123	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

Note

Beginning in FY13, efforts in this area are funded in 0601104A project J14 in order to consolidate and coordinate STEM education activities.

A. Mission Description and Budget Item Justification

This project supports science, technology, engineering, and mathematics (STEM) education activities that encourage elementary thru high school students to develop and interest in STEM and to further go on and pursues higher education and employment in the STEM fields. Activities are consolidated under the Army Educational Outreach Program (AEOP) which links and networks appropriate components to derive the best synergies to "present the Army" a larger pool of technical talent. Programs provide students with Army-unique practical experiences at Army laboratories, centers, and institutes; provide incentives for student competitions and support career development opportunities for students. AEOP increases interest and involvement of students and teachers across the nation in STEM at all proficiency levels and backgrounds to include under-represented and economically disadvantaged groups through exposure to Army sponsored research, education, competitions, internships, and practical experiences. This project enhances the national pool of science and engineering personnel that in turn supports defense industry and Army laboratory and research, development, and engineering center needs. Educating the nation's youth in STEM will help ensure a technologically literate citizenry that is required to promote the security and economic competitiveness of the United States.

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 is performed by the Research, Development, and Engineering Command (RDECOM), Army Research Institute (ARI), the Army Corps of Engineers, Medical Research and Materiel Command (MRMC), and Space and Missile Defense Command (SMDC).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: STEM Competitions	1.711	1.228	-
Articles:	0	0	
Description: This effort will be rolled into 0601104 J14 in FY13 to consolidate and coordinate STEM education activities.			
FY 2011 Accomplishments: Provided student competition incentives in STEM competitions that include scholarships, experiences, and mentorships as well as expose students to DoD career opportunities.			
FY 2012 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605803A: *Technical Information Activities*	PROJECT 729: *YOUTH SCIENCE ACTIV*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Providing competition incentives in STEM competitions that include scholarships, experiences, and mentorships as well as expose students to DoD career opportunities.			
Title: STEM Experiences ***Articles:*** ***Description:*** This effort will be rolled into 0601104 J14 in FY13 to consolidate and coordinate STEM education activities. ***FY 2011 Accomplishments:*** Increased Army Laboratory/Research, Development, and Engineering Center (RDEC) sponsorship of students and STEM education opportunities. ***FY 2012 Plans:*** Increasing Army Laboratory/Research, Development, and Engineering Center (RDEC) sponsorship of students and STEM education opportunities.	1.706 0	1.216 0	-
Title: West Point Cadet Research ***Articles:*** ***Description:*** This effort will be rolled into 0601104 J14 in FY13 to consolidate and coordinate STEM education activities. ***FY 2011 Accomplishments:*** Conducted West Point cadet research internship program to enhance cadet training through field experience within Army research labs and centers. ***FY 2012 Plans:*** Conducting West Point cadet research internship program to enhance cadet training through field experience within Army research labs and centers.	0.314 0	0.317 0	-
Title: Education Outreach and Development ***Articles:*** ***Description:*** This effort will be rolled into 0601104 J14 in FY13 to consolidate and coordinate STEM education activities. ***FY 2011 Accomplishments:*** Supported AEOP outreach to under-represented areas to enhance STEM education through student experiences in Army labs and academic partner institutions. Provided direct mentorship to students to broaden their interest in and their development of STEM education. ***FY 2012 Plans:***	0.821 0	0.362 0	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605803A: *Technical Information Activities*	PROJECT 729: *YOUTH SCIENCE ACTIV*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Support AEOP to enhance AEOP outreach to under-represented areas to enhance STEM education through student experiences in Army labs and academic partner institutions. Provide direct mentorship to students to broaden their interest in and their development of STEM education.			
Accomplishments/Planned Programs Subtotals	4.552	3.123	-

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605803A: *Technical Information Activities*	PROJECT 730: *PERS & TRNG ANALYS ACT*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
730: *PERS & TRNG ANALYS ACT*	1.280	2.193	2.222	-	2.222	2.157	2.185	2.212	2.247	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

This project funds the Army's behavioral and social science research-based studies and analyses to address current and near term Soldier, training, and leader development 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 the effects of changes in training on individual and unit performance, the personnel costs of alternative programs and policies and the effects of program changes on retention of quality Soldiers. Requirements for these critical studies and analyses are solicited on an annual basis from the Chief of Staff of the Army (CSA), U.S. Army Training and Doctrine Command (TRADOC), the Assistant Secretary of the Army for Manpower and Reserve Affairs (ASA(M&RA)), the Army Deputy Chief of Staff(G-1), and the Human Resources Command (HRC).

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 managed by the US Army Research Institute (ARI) for the Behavioral and Social Sciences, Arlington, VA.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: PERS & TRNG ANALYS ACT	1.280	2.193	2.222
Articles:	0	0	
Description: Funding is provided for the following effort.			
FY 2011 Accomplishments: Studies and analyses done based on critical issues identified by TRADOC, ASA(M&RA), the Army Deputy Chief of Staff, G-1, and the HRC.			
FY 2012 Plans: Conduct studies and analyses based on critical issues identified by the CSA, TRADOC, ASA(M&RA), the G-1, and the HRC.			
FY 2013 Plans: Studies and analyses will be conducted based on critical issues identified by the CSA, TRADOC, ASA(M&RA), the G-1, and the HRC.			
Accomplishments/Planned Programs Subtotals	1.280	2.193	2.222

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605803A: *Technical Information Activities*	PROJECT 730: *PERS & TRNG ANALYS ACT*

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605803A: *Technical Information Activities*	PROJECT 731: *ARMY HIGH PERFORMANCE COMPUTING CENTERS (AHPCC)*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
731: *ARMY HIGH PERFORMANCE COMPUTING CENTERS (AHPCC)*	7.479	7.678	7.074	-	7.074	7.012	7.900	7.931	8.226	Continuing	Continuing
Quantity of RDT&E Articles											

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

This project provides funding for research, education, outreach, and sustainment of the Army High Performance Computing Centers at the Army Research Laboratory (ARL), the Tank and Automotive Research, Development, and Engineering Center (TARDEC), and the Army High Performance Computing Research Center (AHPCRC) consortium. 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 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 Army Research Laboratory (ARL), Aberdeen Proving Ground, MD and the Tank and Automotive Research, Development, and Engineering Center (TARDEC), Warren, MI.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Sustain the high performance computing environment and infrastructure in support of the US Army Research Laboratory DoD Supercomputing Resource Center (DSRC).	4.171	4.260	3.929
Articles:	0	0	
Description: Funding is provided for the following effort.			
FY 2011 Accomplishments: Sustained the high performance computing environment and infrastructure in support of the US Army Research Laboratory DoD Supercomputing Resource Center (DSRC).			
FY 2012 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605803A: *Technical Information Activities*	PROJECT 731: *ARMY HIGH PERFORMANCE COMPUTING CENTERS (AHPCC)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Sustain the high performance computing environment and infrastructure in support of the US Army Research Laboratory DoD Supercomputing Resource Center (DSRC). ***FY 2013 Plans:*** Will sustain the high performance computing environment and infrastructure in support of the US Army Research Laboratory and DoD Supercomputing Resource Center (DSRC).			
Title: Sustain the high performance computing environment and infrastructure in support of the US Army Tank and Automotive Research Development and Engineering Center (TARDEC). ***Articles:*** ***Description:*** Funding is provided for the following effort. ***FY 2011 Accomplishments:*** Sustained the high performance computing environment and infrastructure in support of the US Army Tank and Automotive Research Development and Engineering Center (TARDEC). ***FY 2012 Plans:*** Sustain the high performance computing environment and infrastructure in support of the US Army Tank and Automotive Research Development and Engineering Center (TARDEC). ***FY 2013 Plans:*** Will sustain the high performance computing environment and infrastructure in support of the US Army Tank and Automotive Research Development and Engineering Center (TARDEC).	2.102 0	2.169 0	1.985
Title: Sustain the high performance computing environment and infrastructure in support of the Army High Performance Computing Research Center's (AHPCRC) research, education, and outreach activities. ***Articles:*** ***Description:*** Funding is provided for the following effort. ***FY 2011 Accomplishments:*** Sustained the high performance computing environment and infrastructure in support of the Army High Performance Computing Research Center's (AHPCRC) research, education, and outreach activities. ***FY 2012 Plans:***	1.206 0	1.249 0	1.160

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605803A: *Technical Information Activities*	PROJECT 731: *ARMY HIGH PERFORMANCE COMPUTING CENTERS (AHPCC)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Sustain the high performance computing environment and infrastructure in support of the Army High Performance Computing Research Center's (AHPCRC) research, education, and outreach activities. ***FY 2013 Plans:*** Will support the Army High Performance Computing Research Center's (AHPCRC) research, computational sciences environment, education, and outreach activities.			
Accomplishments/Planned Programs Subtotals	7.479	7.678	7.074

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605803A: *Technical Information Activities*	PROJECT 733: *ACQUISITION TECH ACT*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
733: *ACQUISITION TECH ACT*	15.365	15.335	14.050	-	14.050	14.292	14.781	15.275	15.521	Continuing	Continuing
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, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Army Materiel Systems Analysis Activity (AMSAA) analytical support for the Program Executive Officers. ***Articles:*** ***Description:*** Army Materiel Systems Analysis Activity (AMSAA) analytical support for the Program Executive Officers. The AMSAA support activities include system performance analysis, technology and risk assessment, modeling and simulation new methodolgy development/validation/accreditation, business case analyses, integrated logistics support/supportability analyses, operation and support cost reduction, and reliability improvement. ***FY 2011 Accomplishments:*** Supported activities include system performance analysis, technology and risk assessment, modeling and simulation new methodolgy development/validation/accreditation, business case analyses, integrated logistics support/supportability analyses, operation and support cost reduction, and reliability improvement.	3.862 0	-	-
Title: ACQUISITION TECH ACT ***Articles:*** ***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	6.757 0	9.335 0	7.850

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605803A: *Technical Information Activities*	PROJECT 733: *ACQUISITION TECH ACT*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
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 2011 Accomplishments:*** Distributed and beta tested 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. Analyzed acquisition program financial programming and budgeting requirements. Continued development of Weapon Systems Handbook, long-range planning and policy analysis, resource allocation analysis, cost tracking, and analysis. ***FY 2012 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; 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 2013 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.			
Title: Geospatial Acquisition Support Office (GASO). ***Articles:*** ***Description:*** These dollars will support the 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. Moreover, they are tasked to provide a geospatial baseline system of systems in theater, which is a near-term requirement that cannot be deferred. ***FY 2011 Accomplishments:*** Supported the 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 provide a geospatial baseline system of systems in theater, which is a near-term requirement that cannot be deferred. ***FY 2012 Plans:***	4.746 0	6.000 0	6.200

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605803A: *Technical Information Activities*	PROJECT 733: *ACQUISITION TECH ACT*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Support the 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 provide a geospatial baseline system of systems in theater, which is a near-term requirement that cannot be deferred. ***FY 2013 Plans:*** Will support the 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 will provide a geospatial baseline system of systems in theater, which is a near-term requirement that cannot be deferred.			
Accomplishments/Planned Programs Subtotals	15.365	15.335	14.050

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605803A: *Technical Information Activities*	PROJECT C16: *FAST*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
C16: *FAST*	2.153	2.764	2.365	-	2.365	2.277	2.304	2.330	2.541	Continuing	Continuing
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, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Respond to combatant commanders worldwide with technological solutions.	2.153	2.764	2.365
Articles:	0	0	
Description: Funding is provided for the following effort.			
FY 2011 Accomplishments: Responded 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 2012 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605803A: *Technical Information Activities*	PROJECT C16: *FAST*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
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 2013 Plans:*** Will 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.			
Accomplishments/Planned Programs Subtotals	2.153	2.764	2.365

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605803A: *Technical Information Activities*	PROJECT C18: *BAST*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
C18: *BAST*	1.029	0.730	1.307	-	1.307	1.236	1.287	1.301	1.314	Continuing	Continuing
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 Secreatary 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 Army Research Laboratory, Army Research Office (ARO), Research Triangle Park, NC.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Provide studies and conducts periodic meetings to help identify, assess, and recommend emerging opportunities in science and technology fields applicable to the US Army.	1.029	0.730	1.307
Articles:	0	0	
Description: Funding is provided for the following effort.			
FY 2011 Accomplishments: Studied emerging topics based on Army S&T strategy and senior leader initiatives.			
FY 2012 Plans: Study emerging topics based on Army S&T strategy and senior leader initiatives.			
FY 2013 Plans: These topics will again be selected according to Army S&T strategy and senior leader initiatives.			
Accomplishments/Planned Programs Subtotals	1.029	0.730	1.307

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605803A: *Technical Information Activities*	PROJECT C18: *BAST*

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*				R-1 ITEM NOMENCLATURE PE 0605805A: *Munitions Standardization, Effectiveness and Safety*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	42.474	57.054	46.763	-	46.763	64.477	57.436	50.596	53.373	Continuing	Continuing
296: *Close Combat Technology*	7.069	2.820	2.248	-	2.248	3.355	2.829	2.490	2.533	Continuing	Continuing
297: *Mun Survivability & Log*	7.985	12.783	9.572	-	9.572	15.511	14.979	10.489	10.665	Continuing	Continuing
857: *DOD EXPLOSIVES SAFETY STANDARDS*	1.675	2.171	2.268	-	2.268	2.248	2.280	2.311	2.350	Continuing	Continuing
858: *ARMY EXPLOSIVES SAFETY MANAGEMENT PROGRAM*	0.597	0.701	0.596	-	0.596	0.688	0.679	0.688	0.700	Continuing	Continuing
859: *LIFE CYCLE PILOT PROCESS*	4.385	5.018	3.562	-	3.562	5.770	5.528	4.996	5.080	Continuing	Continuing
862: *Indirect Fire and Fuze Technology*	2.944	4.614	2.554	-	2.554	4.435	4.271	4.369	4.443	Continuing	Continuing
F21: *Direct Fire Technology and NATO Ammo Evaluation*	3.365	12.965	9.782	-	9.782	18.256	12.647	9.306	9.462	Continuing	Continuing
F24: *CONVENTIONAL MUNITIONS DEMIL*	14.454	15.982	16.181	-	16.181	14.214	14.223	15.947	18.140	Continuing	Continuing

Note

FY 2011: $9.296 million Congressional decrement.

FY 2013: Funds realigned to other higher priority requirements.

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

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	**R-1 ITEM NOMENCLATURE** PE 0605805A: *Munitions Standardization, Effectiveness and Safety*

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 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 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	53.338	57.142	55.166	-	55.166
Current President's Budget	42.474	57.054	46.763	-	46.763
Total Adjustments	-10.864	-0.088	-8.403	-	-8.403
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.311	-			
• Adjustments to Budget Years	-	-	-8.403	-	-8.403
• Other Adjustments 1	-9.553	-0.088	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605805A: *Munitions Standardization, Effectiveness and Safety*	PROJECT 296: *Close Combat Technology*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
296: *Close Combat Technology*	7.069	2.820	2.248	-	2.248	3.355	2.829	2.490	2.533	Continuing	Continuing
Quantity of RDT&E Articles											

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, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Heavy Metal Mitigation in Illuminants	0.143	0.300	-
Articles:	0	0	
Description: Heavy metals (barium and/or perchlorate) have toxic effects on soldiers as well as workers in the manufacturing process. This project is to replace toxic oxidizers in green signals and reduce potential health hazards			
FY 2011 Accomplishments: Conduct component and system tests			
FY 2012 Plans: Complete tests and type classify			
Title: Nanoparticles for Pyro Items (LA14)	0.500	-	-
Articles:	0		
Description: .			
FY 2011 Accomplishments: Develop the technology to produce pyrophoric nanopawders of Iron and demonstrate production of pyrophoric foils using current technologies. This effort is to develop government owned technology for the M211 Infrared Countermeasure Flare.			
Title: Aircraft Countermeasure Improvements (LA14, LA15, MG62)	-	-	0.565
Description: This program covers the upgrade of Army aircraft countermeasures to maintain effectiveness against the ever evolving threat. It covers the M296, M211/M212 series of flares, the M839 chaff cartridge, and the M796/BBU-35 impulse cartridge. Goals are to increase overall decoy effectiveness, decrease observability, and optimize performance for the various rotory and fixed wing Army aircraft.			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605805A: *Munitions Standardization, Effectiveness and Safety*	PROJECT 296: *Close Combat Technology*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
FY 2013 Plans: Develop chaff that will: 1) After dispense, lose its? RF component (RF ?half-life?); 2) disperse and bloom rapidly with minimal clumping and birdnesting even when used at low speeds from a hovering helicopter. 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.			
Title: Demolition Initiator Packaging - Skin Pack (MDI DODICS) ***Articles:*** ***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 2011 Accomplishments:*** Design and develop new packaging. ***FY 2012 Plans:*** Test and type classify new packaging.	1.187 0	0.650 0	-
Title: M10 Universal Destructor Capability Enhancement (M241) ***Articles:*** ***Description:*** . ***FY 2011 Accomplishments:*** Develop an infinitely variable adapter for the M10. Change explosive fill to an Insensitive Munitions type composition (PAX-46 or similar). Examine alternative initiator adapter designs. Develop lower cost packaging (replace custom fiber tube). Qualify any changes made through testing.	0.900 0	-	-
Title: Chaff Performance Improvements ***Articles:*** ***Description:*** Increase effectiveness against advanced missile threats. ***FY 2011 Accomplishments:*** Performance versus new threats. ***FY 2012 Plans:***	0.639 0	1.196 0	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605805A: *Munitions Standardization, Effectiveness and Safety*	PROJECT 296: *Close Combat Technology*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Develop chaff cuts to improve effectiveness against current and new threats.			
Title: Low Observable Ignition for Counter Measure Flares (LA15) ***Articles:*** ***Description:*** Enhance aircraft survivability. ***FY 2011 Accomplishments:*** Safety enhanced aircraft survivability. ***FY 2012 Plans:*** Use low visibility ignition composition for M212 Countermeasure Flare.	0.710 0	0.424 0	-
Title: Environmentally Benign Smoke Hand Held Signals (L306, L307, L311, L312, L314) ***Description:*** This program will address the health concerns in the smoke HHS by leveraging smoke technology developed through Environmental Quality Testing and M18 smoke grenade. Current configuration has hazardous components in the smoke composition and cannot be procured. ***FY 2013 Plans:*** This program will address the health concerns in the smoke HHS by leveraging smoke technology developed through Environmental Quality Testing and M18 smoke grenade. Current configuration has hazardous components in the smoke composition and cannot be procured.	-	-	0.395
Title: M69 Practice Grenade Improvements ***Articles:*** ***Description:*** Increase time for training enable user to find expended M69 faster at end of each session. ***FY 2011 Accomplishments:*** Increase time for training enable user to find expended M69 faster at end of each session.	0.975 0	-	-
Title: Environmentally Benign Colored Smoke Formulations - M18 Red/Violet Smoke Grenades (G950/G955) ***Description:*** The project addresses AERTA requirement AERTA PP-3-02-4 and Environmentally Sustainable Energetics Workshop List of Concerns PGP-09-02 for the removal of sulfur and hazardous dyes from current formulations. New formulations will replace the sulfur based red and violet M18 formulations for all future production. Justification: AERTA requirement Impact: Without change to the formulation, User will continue to be exposed to potention inhalation hazard.	-	-	0.296

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605805A: *Munitions Standardization, Effectiveness and Safety*	PROJECT 296: *Close Combat Technology*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
FY 2013 Plans: The project addresses AERTA requirement AERTA PP-3-02-4 and Environmentally Sustainable Energetics Workshop List of Concerns PGP-09-02 for the removal of sulfur and hazardous dyes from current formulations. New formulations will replace the sulfur based red and violet M18 formulations for all future production. Justification: AERTA requirement Impact: Without change to the formulation, User will continue to be exposed to potention inhalation hazard.			
Title: M84EI,M240EI,M102EI Qualification and TC of Army Owned Stun Grenade Design (GG09, GG18, GG19) ***Articles:*** ***Description:*** Qualify already developed Government owned design which will reduce hardware unit cost and will provide additional benefits with an environmentally friendly and enhanced safety design for the Tactical and Reloadable Practice Stun Hand Grenade. Impact: Future competitive contracting strategy using a performance specification will be pursued incurring a high risk of delayed award and considerable expense to qualify a different contractor owned design. Potential exsists for environmental hazards to continue to affect manufacturing training sites and theater. ***FY 2011 Accomplishments:*** Qualify already developed Government owned design which will reduce hardware unit cost and will provide additional benefits with an environmentally friendly and enhanced safety design for the Tactical and Reloadable Practice Stun Hand Grenade. Impact: Future competitive contracting strategy using a performance specification will be pursued incurring a high risk of delayed award and considerable expense to qualify a different contractor owned design. Potential exsists for environmental hazards to continue to affect manufacturing training sites and theater. ***FY 2012 Plans:*** Qualify already developed Government owned design which will reduce hardware unit cost and will provide additional benefits with an environmentally friendly and enhanced safety design for the Tactical and Reloadable Practice Stun Hand Grenade. Impact: Future competitive contracting strategy using a performance specification will be pursued incurring a high risk of delayed award and considerable expense to qualify a different contractor owned design. Potential exsists for environmental hazards to continue to affect manufacturing training sites and theater.	0.915 0	0.250 0	-
Title: Dual Payload M206 M206 Aircraft Countermeasure Flare/ Pyro (L410) ***Description:*** M206 countermeasure flare effectiveness will be improved by adding extended source (IR cloud) material. Benefit include increased effectiveness and doubling the countermeasure engagements that can respond to missile threat. ***FY 2013 Plans:***	-	-	0.676

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Add a extended source (IR Cloud) material to the M206 Flare. Justification: Test data has shown single flare effectiveness can be increased with the addition of an extended IR source. Impact: contunued reduced number of counetermeasure solutions.			
Title: MK3A2 Redesign Completion (Asbestos removal from Design/modernize design) (G911) ***Articles:*** ***Description:*** Allow the use of an alternate lethal greade to be used by Soliders when the use of an M67 may not be the best choice, enhancing their combat capabilites to perform assault roles. ***FY 2011 Accomplishments:*** Allow the use of an alternate lethal greade to be used by Soliders when the use of an M67 may not be the best choice, enhancing their combat capabilites to perform assault roles. ***FY 2013 Plans:*** Finalize the redesign of the MK3A2 grenade;perform residual tests to justify the ECPs required to update the TDPL; update associated documents (SDZ,FHC etc..); Justification: There is current 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.	1.100 0	-	0.316
Accomplishments/Planned Programs Subtotals	7.069	2.820	2.248

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
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COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
297: *Mun Survivability & Log*	7.985	12.783	9.572	-	9.572	15.511	14.979	10.489	10.665	Continuing	Continuing
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 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, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Munitions Predictive Life	1.075	1.156	0.726
Articles:	0	0	

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. This 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 2011 Accomplishments:

Completed deployment of environmental monitoring systems that will record temperatures experienced by ammunition assets at the pallet, container, and item level while stored in open storage, in a 20 foot International Standards Organization (ISO) container, and in an earth covered magazine in order to develop models that will provide more accurate reliability forecasts. Integrated power sources and storage and sensor and memory storage components of a sensor device powered by vibration induced energy that will provide a history of unusual vibrations, impacts, and shocks that munitions have experienced in order to better determine reliability.

FY 2012 Plans:

Complete and validate models that will determine the correlation between simulated and actual temperatures experienced by ammunition at the pallet, container, and item level in open storage, ISO containers, and earth covered magazines. Demonstrate the shock/vibration sensor reliability device powered by vibration induced energy. Complete analysis of ammunition reliability

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
documentation in databases and identify reliability and risk threshold levels. Complete testing of a thin, low cost, passive, credit card sized device that can record and display the temperature exposure history of an ammunition item at the packaging, or pallet level. ***FY 2013 Plans:*** Complete algorithmic model validation developed to relate temperature conditions seen at the container and item level to those seen at the pallet level for improved reliability forecasting and more cost effective sensor placement. Based on reliability and risk threshold levels developed from ammunition database analysis, develop an algorithmic procedure that can be applied periodically to evaluate ammunition reliability and risk and determine functionality inspection requirements.			
Title: Munitions Containerization Program ***Articles:*** ***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 2011 Accomplishments:*** Completed preliminary design of container integrated locking mechanism that will permit the interlocking of individual containers to each other and a pallet base, analyze interface between ammunition container closure mechanisms and automated handling end effectors. Completed review of current ammunition packaging configurations and proposed distribution optimized configurations with Training and Doctrine Command Centers of Excellence. ***FY 2012 Plans:*** Complete analysis of life cycle logistics system impact of Ammoblocks, complete design of container integrated locking mechanism and incorporate into existing ammunition containers to assess feasibility. ***FY 2013 Plans:*** Complete testing of existing ammunition containers with integrated locking mechanisms, complete modeling and simulation of prototype rectangular and cylindrical Ammoblock containers for candidate ammunition items.	0.984 0	1.201 0	0.785
Title: Improved Munitions Packaging ***Articles:***	1.058 0	1.144 0	0.929

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
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 2011 Accomplishments:*** Completed test and evaluation of inkjet materials and methods and make recommendations for implementing inkjet printing for ammunition packaging. Fabricated and tested ammunition containers with prototype empty container identification mechanisms. Completed preliminary design and lab testing of low cost, lightweight High Density Polyethylene (HDPE) cylindrical ammunition containers. Completed design and preliminary testing of an improved security seal for rectangular ammunition containers. Completed a draft standard specification for pressure sensitive adhesive labels used on ammunition packaging. Conducted update of the military specification for wood ammunition pallets to further define acceptance criteria in order to improve quality and durability. ***FY 2012 Plans:*** Complete prototype fabrication, testing, and user evaluation of HDPE cylindrical containers as replacements for current 120mm tank and 120mm/81mm mortar packaging. Complete prototype fabrication and verification testing of an improved security seal for rectangular ammunition containers and transition. Conduct test and evaluation of pressure sensitive adhesive label samples and finalize standard specification and Technical Data Package for use on ammunition packaging. Complete design of low-cost ammunition bandoleers utilizing inexpensive synthetic non-woven materials. ***FY 2013 Plans:*** Conduct verification test and field demonstration of HDPE cylindrical containers as replacements for current 120mm tank and 120mm/81mm mortar packaging and transition. Fabricate prototypes, complete engineering tests, and conduct an operational demonstration of low cost ammunition bandoleers.			
Title: Insensitive Munitions (IM) Integration Program	3.049	7.527	5.371
Articles:	0	0	
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 2011 Accomplishments:***			

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
A final down-selected formulation of an IM moldable explosive, to replace C-4 explosive in demolition charges, was successfully tested and transitioned for further development. Explosive detonation train designs for the initiation of IM explosives were completed and transitioned to PM Combat Ammunition Systems. Completed IM testing of IMX-104 IM explosive and pressed PAX-46 booster explosive and transitioned to the M2A4 and M1A3 mortar ammunition programs to replace the more sensitive Comp B explosive. Cartridge Case venting technologies for 25mm Ammunition were transitioned to the LW 30mm M789/M788 program. Warhead Venting technologies were finalized for the 40mm M430A1 HEDP Cartridge and will be transitioned to the 40mm M430A1 Multiple IM Technology integration program. ***FY 2012 Plans:*** Complete full scale IM testing for a Flexible Explosives (Flex-X) formulation for demolition ammunition which meets the performance specifications of Pentaerythritol tetranitrate, while also providing improved IM response. A melt-phase main fill explosive will be developed to replace Composition H6 explosive in the 40 lb Cratering Charge. Complete initiation testing of a less expensive pressed IMX-104 explosive to replace PBXW-14 auxiliary charge that is currently being used in the 81mm, 120mm, and 60mm mortars loaded with IMX-104. The 40mm Multiple IM Technology Integration program will integrate IM technologies in the area of explosives, warhead, packaging, and cartridge case and finalize IM testing for 40mm M430 High Explosive Dual Purpose Cartridge in order to provide a system level IM solution. Propulsion and warhead venting technology will be validated and transitioned for the 120mm M934 HE Mortar in order to pass the SCO and FCO IM tests. Multiple prototypes of the selected designs will be manufactured, assembled and tested. The final concepts, of the propulsion and warhead venting technology, will be selected and full IM tests performed. Complete IM testing of the Sealed Seam (SS) container venting technology for the Modular Artillery Charge System PA161 and PA103A2 containers. ***FY 2013 Plans:*** Multiple IM explosives will be developed and demonstrated to IM enhance current detonation trains. Spray drying technology will be used to created high energy IM explosives and specific energetics will be demonstrated to replace Comp B explosive in the M67 Grenade and N-5 explosive in LW 30mm ammunition. In addition, Packaging, warhead venting (WV), barrier, and propulsion technology will be developed for the 105mm Artillery, M67 Grenade, LW 30mm ammunition, and 120mm Illumination mortar.			
Title: Ammo Provider	1.819	1.755	1.761
Articles:	0	0	
Description: This program demonstrates technologies that will assure a survivable munitions logistics system by increasing distribution velocity and protecting ammo storage areas. Technologies 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)			

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
FY 2011 Accomplishments: Refined design of a JMIC with a forklift actuated interlocking mechanism. Incorporate optimal storage configuration, stock re-warehousing, and stock rotation planning functions into ammo igloo storage optimization software tool. Designed and fabricated an interface plate that will be attached to Container Roll-on roll-Off Platforms (CROP) and ISO Flat racks to allow the locking and restraint of JMICs without the use of tie down strapping. Completed design, modeling, and fabrication of a CROP with locking restraint mechanisms incorporated into its deck to secure JMICs without tie down strapping. ***FY 2012 Plans:*** Complete integration of transportation asset load planning capability with the ammunition igloo storage optimization software tool. Complete testing of the JMIC interface plate for CROP and the CROP with integrated JMIC restraint system. Complete design and fabrication of a low-cost one-time use disposable air delivery pallet that will alleviate the problem of the loss of many Air Force 463L pallets during tactical logistics operations. Design, fabricate, and test a robust delivery speedbag that will permit the quick and efficient delivery of small, un-damaged, easily portable bundles of supplies down a rope from a hovering helicopter. Complete testing and evaluation of a dunnage on demand system that will provide inner pack cushioning materials for the repack and retrograde of ammunition on the battlefield. Down-select an ammunition compatible robotic manipulator, integrate with a robotic arm and demonstrate capability to robotically open and close containers in a tactical environment as part of a human augmentation system for field ammunition operations. ***FY 2013 Plans:*** Complete testing and air delivery certification of a low-cost one-time use disposable air delivery pallet that will alleviate the problem of the loss of many Air Force 463L pallets during tactical logistics operations. Add rewarehousing plan generation capability to the ammunition igloo storage optimization software tool and integrate the system with the Logistics Management Program for data feed of inventory assets.			
Accomplishments/Planned Programs Subtotals	7.985	12.783	9.572

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

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COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
857: *DOD EXPLOSIVES SAFETY STANDARDS*	1.675	2.171	2.268	-	2.268	2.248	2.280	2.311	2.350	Continuing	Continuing
Quantity of RDT&E Articles											

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, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: TM-51300	0.340	0.375	0.380
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2011 Accomplishments: Developed improved tri-service design procedures and improved computer codes for explosion-resistant structures. Initiated preparation of revised tri-service manual TM-51300.			
FY 2012 Plans: Develop improved tri-service design procedures and improved computer codes for explosion-resistant structures. Initiate preparation of revised tri-service manual TM-51300.			
FY 2013 Plans: Will develop improved tri-service design procedures and improved computer codes for explosion-resistant structures. Will initiate preparation of revised tri-service manual TM-51300.			
Title: Collect and analyze	0.266	0.275	0.279
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2011 Accomplishments:			

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Collected and analyzed airblast/fragment/thermal data for revising DoD, NATO hazard classification. ***FY 2012 Plans:*** Collect and analyze airblast/fragment/thermal data for revising DoD, NATO hazard classification. ***FY 2013 Plans:*** Will collect and analyze airblast/fragment/thermal data for revising DoD, NATO hazard classification.			
Title: Explosive and Munitions Tests	0.344	0.485	0.491
Articles:	0	0	
Description: Funding is provided for the following effort ***FY 2011 Accomplishments:*** Developed improved explosives and munitions tests and characterization data. Specifically, developed improved gap tests for rocket motors. ***FY 2012 Plans:*** Develop improved explosives and munitions tests and characterization data. Specifically, develop improved gap tests for rocket motors. ***FY 2013 Plans:*** Will develop improved explosives and munitions tests and characterization data. Specifically, will develop improved gap tests for rocket motors.			
Title: Safety Guidelines	0.230	0.275	0.279
Articles:	0	0	
Description: Funding is provided for the following effort ***FY 2011 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 2012 Plans:*** Develop 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 2013 Plans:***			

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Will develop improved DoD and NATO explosives safety guidelines for munitions storage, explosives and field operation facilities. Prepared revised Dod 6055.9-STD and 4145.26M.			
Title: Explosive Safety Database	0.270	0.425	0.430
Articles:	0	0	
Description: Funding is provided for the following effort ***FY 2011 Accomplishments:*** Conducted other hazards analyses and expand/automate explosives safety databases. Developed improved Explosives Safety Mishap Analysis Module with links to accident reports. ***FY 2012 Plans:*** Conduct other hazards analyses and expand/automate explosives safety databases. Develop improved Explosives Safety Mishap Analysis Module with links to accident reports. ***FY 2013 Plans:*** Will conduct other hazards analyses and expand/automate explosives safety databases. Will develop improved Explosives Safety Mishap Analysis Module with links to accident reports.			
Title: Analysis Tools	0.225	0.336	0.409
Articles:	0	0	
Description: Funding is provided for the following effort ***FY 2011 Accomplishments:*** Developed and improve risk based analysis tools for explosives safety. Developed sequence of operations prototype. ***FY 2012 Plans:*** Develop and improve risk based analysis tools for explosives safety. Develop sequence of operations prototype. ***FY 2013 Plans:*** Will develop and improve risk based analysis tools for explosives safety. Will develop sequence of operations prototype.			
Accomplishments/Planned Programs Subtotals	1.675	2.171	2.268

C. Other Program Funding Summary ($ in Millions)

N/A

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D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
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COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
858: *ARMY EXPLOSIVES SAFETY MANAGEMENT PROGRAM*	0.597	0.701	0.596	-	0.596	0.688	0.679	0.688	0.700	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

This projects purpose is to establish, validate or modify explosives safety requirements. This project promotes 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. It is an Army requirement as defined in AR 385-64.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Risk based explosive safety criteria	0.143	0.164	0.142
Articles:	0	0	
Description: Development of risk based explosives safety criteria that will aid commanders and safety personnel in the transition from regulation to risk management.			
FY 2011 Accomplishments: Continued support of hazard research and exposure consequences.			
FY 2012 Plans: Continue support of hazard research and exposure consequences.			
FY 2013 Plans: Continue support of hazard research and exposure consequences.			
Title: Development of enhanced protective structure designs	0.223	0.264	0.212
Articles:	0	0	
Description: Develop enhanced protective structure designs that improve the survivability of Army personnel, facilities, and equipment.			
FY 2011 Accomplishments: Continued support of barricade development.			
FY 2012 Plans:			

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Continue support of barricade development. ***FY 2013 Plans:*** Continue support of barricade development.			
Title: Development of explosive safety tools	0.231	0.273	0.242
Articles:	0	0	
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 rather than regulations. ***FY 2011 Accomplishments:*** Continued development of new methods for risk assessment. ***FY 2012 Plans:*** Continue development of new methods for risk assessment. ***FY 2013 Plans:*** Continue development of new methods for risk assessment.			
Accomplishments/Planned Programs Subtotals	0.597	0.701	0.596

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
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COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
859: *LIFE CYCLE PILOT PROCESS*	4.385	5.018	3.562	-	3.562	5.770	5.528	4.996	5.080	Continuing	Continuing
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, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Product Cost Thrust Area	0.675	0.810	1.050
Articles:	0	0	
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 2011 Accomplishments:*** Planned programs include the following: initiate testing on prototype configuration of smoke mix with m-terphenyl. Complete chemical predictive model for propellant performance. Implement an automated in-process weigh station cutter for demolition munitions. Development of a pilot scale ultrasound melt cast inspection process for mortar munitions. ***FY 2012 Plans:*** Programs include the following: complete ultrasound melt cast inspection process for mortars and reducing residual solvents in propellants. Initiate application of Advanced Cluster Energetics (ACE) Fluid Energy Mill (FEM) on High Melt Explosives (HMX) based CXM formulations and Environmentally Benign Colored Smoke. ***FY 2013 Plans:*** Evaluate new technology for legacy processes to reduce overall production costs for the Army.			
Title: Single Point Failures	3.035	3.380	1.469
Articles:	0	0	

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605805A: *Munitions Standardization, Effectiveness and Safety*	PROJECT 859: *LIFE CYCLE PILOT PROCESS*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Description: Project thrust area efforts will employ manufacturing technologies to address Single Point Failures (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 knowledgement to satisfy manufacturing requirements. ***FY 2011 Accomplishments:*** Planned programs include the following: evaluate manufacturing capabilities for potential SPF solutions. Initiate qualification test plans for mitigation of the adhesive SPF group. Evaluate potential environmentally-friendly replacement materials and processes for several energetic SPFs. Develop pilot scale manufacturing processes for SPFs. Test and characterize samples received from sources of densified magnesium carbonate. Continue RDTE efforts on transition of RD1333 lead azide process to private industry. Initiate lab scale process for development of spheroidal propellant. ***FY 2012 Plans:*** Programs include continued work on pilot scale production of energetic SPFs, transition of RD1333 lead azide process to industry and lab scale process for spherodial propellant. Initiate analysis of the plastic, rubber and non-energetic powders SPF group. Investigate boron powder and Akardite SPFs and develop risk mitigation plans. ***FY 2013 Plans:*** 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	0.675	0.828	1.043
Articles:	0	0	
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 2011 Accomplishments:*** Planned programs include the following: develop mathematical model for nitration process of nitrocellulose to reduce variation of the process parameters. Initiate transition of ultrasonic probe technology to industry. Initiate assessment of manufacturing technology for high precision components. Develop pilot scale manufacturing capability for armor piericing penetrators for small and medium caliber munitions. ***FY 2012 Plans:*** Programs include completion of manufacturing technology for high precision components. Initiate projects on application of metal casting technology to improve explosive casting quality, use of ultrasound analyzer for process control in explosives			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605805A: *Munitions Standardization, Effectiveness and Safety*	PROJECT 859: *LIFE CYCLE PILOT PROCESS*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
manufacturing, Surface-Enhanced Raman Spectroscopy technology for sensing explosives in waste streams and bi-metal reactor for treating insensitive munitions waste streams. ***FY 2013 Plans:*** Investigate potential technologies to transform key manufacturing processes in the NTIB. Continue investigations, develop and document manufacturing technology for transition to the NTIB.			
Accomplishments/Planned Programs Subtotals	4.385	5.018	3.562

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605805A: *Munitions Standardization, Effectiveness and Safety*	PROJECT 862: *Indirect Fire and Fuze Technology*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
862: *Indirect Fire and Fuze Technology*	2.944	4.614	2.554	-	2.554	4.435	4.271	4.369	4.443	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

This program investigates maturing technologies and seeks potential candidates for integration on current fuzing and safe and arm devices. This program will implement these technologies into fuzing systems to preclude obsolescence and enhance performance of existing munitions. The program addresses two major areas: (1) risk mitigation and (2) block upgrades. Risk mitigation efforts will evaluate and demonstrate 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 evaluate and perform studies on improvements to fuzes; increase commonality of fuze components and requirements across all hand grenade programs; determine feasibility of common training fuze for 60, 81, and 120mm mortar rounds; determine feasibility of common mortar safe and arm device components for M734A1, M783 Fuzes; improve M759 fuze sensitivity of 30mm munition. Block upgrades will enable the introduction of the latest technologies into fuzing, keep the fuzing design current to avoid obsolescence issues, and add capabilities.

Replacement of DPA Stabilizer in Ball Powder Propellants significantly reduces stabilizer depletion rate and increases propellant shelf-life with replacement of Diphenylamine (DPA) which is incompatible with Nitroglycerin (NG). Proposed replacement Akardite-2 is compatible with NG and is the least toxic of all stabilizers. IMX104 as Comp B explosive fill replacement for 81mm HE reduces risk of accidental/fratricidal incidents to the Warfighter in theater through incorporation of insensitive munitions. It also improves transport and stockpile survivability. 155mm Extended Range Base Bleed System Maturation & Risk Reduction addresses maturation of base bleed grain formulation and igniter reliability to achieve extended range on base bleed projectiles using the current weapon platform and existing propulsion systems. Efforts include test and validation of improved dual igniter and boat-tail cavity that will house a modern, cost effective and producible base bleed grain.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Indirect Fire & Fuze ARDEC Support.	1.935	1.159	0.955
Articles:	0	0	
Description: Risk Mitigation: Evaluating second source for Digital Signal Processor for the M734A1 fuze, evaluating new battery and electronics sources for current inventory fuzes. Evaluate Micro Electro-mechanical Systems (MEMS) component alternatives to increase sources of supply and lower cost; affects 40mm HEPD grenade munitions. Block Upgrades: Successfully demonstrated Zig-Zag safety design for Common Mortar training fuze for 60, 81, and 120mm mortars, and forwarded the design to Office of the Program Manager for Combat Ammunition Systems (PM CAS) to qualify the design. Determined that Proximity Sensor can fit analytically in existing 30mm HEDP M789 round and continuing to fabricate fuze components. Successfully			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605805A: *Munitions Standardization, Effectiveness and Safety*	PROJECT 862: *Indirect Fire and Fuze Technology*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
demonstrated increased sensitivity of 30mm M759 fuze, and performing engineering test. Investigate drop in proximity upgrades for current airburst fuzing for mortar, artillery and other munitions. Evaluate proximity sensor upgrades for M734A1. Prototyping a mortar common Safe and Arm device for M734A1 and M783 rounds. Performing a study on commonality of fuze components and requirements across all hand grenades (M67, M84, and M18). ***FY 2011 Accomplishments:*** Indirect Fire & Fuze ARDEC Support. ***FY 2012 Plans:*** Indirect Fire & Fuze ARDEC Support. ***FY 2013 Plans:*** Indirect Fire & Fuze ARDEC Support.			
Title: Indirect fire & Fuze PM CAS Support ***Articles:*** ***Description:*** Indirect Fire: Completion of demonstration of IMX104 as Comp B explosive fill replacement for 81mm & 60mm HE. Activities include ballistic testing including firing tables, safety, reliability and performance. Completion of Replacement of Diphenylamine (DPA) Stabilizer by Akardite-2 in Ball Powder® Propellants. Activities include completion of long term stability study and transition to production qualification testing. ***FY 2011 Accomplishments:*** Indirect fire & Fuze PM CAS Support ***FY 2012 Plans:*** Indirect fire & Fuze PM CAS Support	1.009 0	1.006 0	-
Title: 155mm Extended Range Base Bleed Sys Maturation/Risk Reduction ***Articles:*** ***Description:*** Indirect Fire: Maturation & Risk Reduction of 155mm Extended Range Base Bleed System with a maximum range of 30km when fired from a 39 caliber 155mm cannon. The ignition of the base bleed system is critical to the performance of the system and maturation of the ignition system will improve the existing stockpile of extended range artillery projectiles. Activities will include developing an engineering baseline of the currently fielded base bleed system, improvements to the base bleed grain formulation and boat tail shape, optimization of the igniter system with the improved grain formulation and the test and validation of completely modern, cost effective and producible base bleed system to validate improvements in reliability, accuracy and overall performance and corresponding integration planning to transition these improvements into 155mm programs of record.	-	2.449 0	1.599

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
FY 2012 Plans: 155mm Extended Range Base Bleed System Maturation & Risk Reduction ***FY 2013 Plans:*** 155mm Extended Range Base Bleed System Maturation & Risk Reduction			
Accomplishments/Planned Programs Subtotals	2.944	4.614	2.554

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605805A: *Munitions Standardization, Effectiveness and Safety*	PROJECT F21: *Direct Fire Technology and NATO Ammo Evaluation*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
F21: *Direct Fire Technology and NATO Ammo Evaluation*	3.365	12.965	9.782	-	9.782	18.256	12.647	9.306	9.462	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

This program assures complete interchangeability of small caliber and automated cannon-caliber ammunition and weapons among all NATO countries with all of the associated logistic, strategic and tactical advantages. Project involves development and testing compliance of NATO standardization agreements (STANAGS) and staffing of the NATO North American Regional Test Center (NARTC). The program also includes warhead improvements and capability insertions to enhance lethality and effectiveness of existing cartridges.

FY 2013 funds will continue to maintain the NARTC and support NATO standardization of small and medium caliber ammunition for battlefield interchangeability. Additionally, this funding will be used to support small caliber ammunition, 40mm grenade and medium caliber cannon ammunition effectiveness, survivability, accuracy and general improvements. Improvements in target practice technology such as spotter technology will be incorporated into training ammunition.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Lead Free Ammo - Propellant Optimization	-	1.000	1.500
Articles:		0	
Description: Develop optimized Ball Powder (c) for reduced muzzle signature, fouling and chamber pressure. Optimized propellant will have equivalent or superior performance at higher degree of reliability. Cartridges containing alternate flash suppressants and deterrents will be manufactured and tested to determine optimum propellant composition.			
FY 2012 Plans: Prepare for and execute task order award with propellant manufacturer to investigate improvements in flash suppression technology, fouling, short barrel applications, temperature stability, and potential Diphenylamine replacements.			
FY 2013 Plans: Complete contractor and government analysis & optimized propellant testing of improved flash suppression technology, 5.56 mm optimization study and testing of temperature stability technology.			
Title: Low Observable Traced Projectiles	0.300	2.392	-
Articles:	0	0	

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605805A: *Munitions Standardization, Effectiveness and Safety*	PROJECT F21: *Direct Fire Technology and NATO Ammo Evaluation*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
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 eliminates, mitigates short falls of current tracers and improves safety and soldier survivability. ***FY 2011 Accomplishments:*** Baseline material testing and intial producability analysis. ***FY 2012 Plans:*** Initial engineering prototype, manufacturing, development and testing.			
Title: Lightweight Ammunition ***Articles:*** ***Description:*** Investigate alternate cartridge case materials for cost and weight savings over conventional brass cartridge cases. ***FY 2011 Accomplishments:*** Developing multiple lightweight cartridge cases with cost effective manufacturing processes that support high volume production. ***FY 2012 Plans:*** Improve producibility to manufacturing equipment and continue to test alternate designs and processes for lightweight cartridge cases and refine implementation cost. ***FY 2013 Plans:*** Down select alternative lightweight cartridge case technology.	0.489 0	3.880 0	1.000
Title: New Ammo Design Qualification & NATO Mission Support ***Articles:*** ***Description:*** This program assures complete interchangeability of small caliber and automated cannon-caliber ammunition and weapons among all NATO countries with all of the associated logistic, strategic and tactical advantages. ***FY 2011 Accomplishments:*** Support NARTC Test operations. ***FY 2012 Plans:*** Support NARTC Test operations. ***FY 2013 Plans:***	0.500 0	0.500 0	0.400

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Support NARTC Test operations			
Title: M433 Warhead Improvement	0.750	2.500	2.691
Articles:	0	0	
Description: 40mm: Improve lethality (fragmentation) of the M433 grenade. ***FY 2011 Accomplishments:*** Fabricating warhead tooling, manufacturing warhead bodies and conduct static lethality testing of new warhead design. ***FY 2012 Plans:*** Complete optimization and testing of integrated M433 with new warhead design. Increase manufacturing readiness. ***FY 2013 Plans:*** Qualification of improved M433 cartridge.			
Title: Target Practice Spotter Technology Insertion	0.500	1.500	1.991
Articles:	0	0	
Description: Training Cartridge with impact initiated spotting charge. Goal is visible signature upon impact under all conditions. ***FY 2011 Accomplishments:*** Extended range testing and producibility assessments. Optimization of design and extended range testing of optimized design. ***FY 2012 Plans:*** Integration of optimized design and conduct design evaluation test. ***FY 2013 Plans:*** Qualification testing and approval for use.			
Title: Improved M789 Lethality, Warhead fragmentation improvement	0.826	0.250	1.000
Articles:	0	0	
Description: Improve M789 warhead fragmentation for lethality by utilizing fragmentation sleeves, scoring or other technologies within the warhead to promote more efficient fragmentation. ***FY 2011 Accomplishments:*** Design and evaluate alternative designs. ***FY 2012 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Improve M789 warhead for increased fragmentation lethality by utilizing fragmentation sleeves within the warhead to promote designed fragmentation. ***FY 2013 Plans:*** Integration of improved shear liner, increase in manufacturing readiness, and conduct integrated ballistic test.			
Title: DBX-1 Lead free replacement for Lead Azide ***Articles:*** ***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 2012 Plans:*** Evaluate DBX-1 performance through explosive train testing, explosive sensitivity testing and energetic output testing which leads to the go forward decision. ***FY 2013 Plans:*** Integrate environmentally friendly lead free primary explosives into M789.	-	0.443 0	0.600
Title: Metastable Intermolecular Composite (MIC) Primer, Lead free primer ***Articles:*** ***Description:*** Integrate environmentally friendly lead free primary explosives within the primer of the M789, remove lead Styphnate. ***FY 2012 Plans:*** Explosive material qualification and primer functionality testing to ensure cartridge and propulsion functionality are ready for integration.	-	0.500 0	-
Title: .50 Caliber Improvement ***Description:*** Determine if one single .50 caliber armor piercing cartridge can replace the five currently fielded .50 caliber cartridges. ***FY 2013 Plans:*** Study optimal combination of current .50 caliber armor piercing cartridges.	-	-	0.100
Title: Improved Sniper Ammunition	-	-	0.500

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605805A: *Munitions Standardization, Effectiveness and Safety*	PROJECT F21: *Direct Fire Technology and NATO Ammo Evaluation*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Description: Integrate newly developed cartridge technologies into sniper ammunition offering a cartridge optimized for sniper operations. ***FY 2013 Plans:*** Optimize cartridge component technologies for inclusion in sniper ammunition.			
Accomplishments/Planned Programs Subtotals	3.365	12.965	9.782

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605805A: *Munitions Standardization, Effectiveness and Safety*	PROJECT F24: *CONVENTIONAL MUNITIONS DEMIL*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
F24: *CONVENTIONAL MUNITIONS DEMIL*	14.454	15.982	16.181	-	16.181	14.214	14.223	15.947	18.140	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Under the leadership and oversight of the Product Manager (PM) for Demilitarization (Demil), this project supports a continuing technology evaluation of demil methods for all types of conventional ammunition in development, production, and storage. Project F24 will complete the development, demonstration, and integration of new, safe, and environmentally acceptable alternatives to open burning/open detonation (OB/OD), including resource, recovery and recycling (R3) equipment, and processes to reduce the extremely large demil stockpile. This effort employs the highly matured technology base in the Department of Defense Service Laboratories and Technical Centers, the Department of Energy (DOE) national laboratories, industry, and academia. The program is integrated through the leadership of the PM for Demil and the Joint Ordnance Commanders Group Munitions Demil/Disposal Subgroup leveraging support from the Environmental Security Technology Certification Program, the Strategic Environmental Research and Development Program and the Joint DOD/DOE Munitions Technology Program. The program supports an annual global demil symposium for technical review and data evaluation from ongoing projects and advanced demonstrations. The PM Demil R&D Integrated Process Team utilizes a systematic approach for project prioritization.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Advanced Destruction	6.738	6.629	8.422
Articles:	0	0	
Description: This effort focuses on destruction of munitions.			
FY 2011 Accomplishments: Continued support of the Ammonium Perchlorate Rocket Motor Destruction at Letterkenny Munitions Center. Initiated assessment of Bull Pup Liquid Fuel Motors. Designed and installed Munitions Cryofracture Demil Facility improvements prior to Low Rate Initial Production (LRIP). Began facility prove-out for Cryo Plasma Arc Demil System. Initiated Mobile Plasma Treatment System (MPTS) prove-out process. Initiated Other Service Missile Demil Process Modernization. Initiated the concept design of Cryofracture adaptation to Demil of Rockeye Munitions. Conducted firing tests for open burn of engine Starter Cartridges.			
FY 2012 Plans: Complete Munitions Cryofracture Demil Facility support for LRIP. Continue support of the Ammonium Perchlorate Rocket Motor Destruction at Letterkenny Munitions Center with Rocket Motor Segmenting Design. Initiate Design for Static Detonation Chamber. Complete Plasma Ordnance Disposal System layaway. Install Mobile Plasma Treatment System upgrade			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
components. Conduct Mobile Plasma Treatment System demonstration/ validation and LRIP. Initiate Study on Universal Closed Disposal for Shaped Charges Study. Test and proveout the design of Cryofracture adaptation to Demil of Rockeye Munitions. ***FY 2013 Plans:*** Continue Static Detonation Chamber project, conduct prototype design and fabrication. Conduct Phase I Technology assessment for Ammonium Perchlorate Rocket Motor Destruction and complete rocket motor segmenting.			
Title: Resource Recovery and Recycling (R3) ***Articles:*** ***Description:*** This effort focuses on enhancing existing methods of munitions R3. ***FY 2011 Accomplishments:*** Conducted integration testing of M42/M46/M77 Cluster Munitions (ICM) R3 and initiated facilitization. Initiated study into Autoclave improvements in removing Insensitive Munition Explosives. Conducted Nitro-Guanidine (NQ) installation and integration. Initiated Magnesium Recovery demonstration and validation. ***FY 2012 Plans:*** Complete facilitization of Improved Conventional Munitions (ICM) R3 and conduct demonstration/validation. Complete Magnesium recovery Low Rate Initial Production. Design and fabricate improvements for Autoclave Insensitive Munition Explosives. Complete Demil by Induction Heating Meltout System (DIHMES) demonstration and validation. Begin LRIP. Initiate a design for removal of Welded Rotating Bands. Initiate Design of Grenade Download Workcell for ICM transfer to R3 line. ***FY 2013 Plans:*** Conduct LRIP of M42/M46/M77 ICM R3. Evaluate prototype for removal of Welded Rotating Bands. Complete fabrication of Grenade Download Workcell for ICM R3 line.	3.793 0	2.712 0	2.920
Title: Advanced Removal ***Articles:*** ***Description:*** This effort develops technology to remove propellant and energetics. ***FY 2011 Accomplishments:*** Conducted downselect and detail design of High Pressure Water Washout at Hawthorne Army Depot. Initiated design and down select technologies for removal of Insensitive Munitions (IM). Completed Safety Assesment of Bullpup motor de-tanking process. ***FY 2012 Plans:***	0.978 0	0.230 0	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Initiate pilot phase of Removal of Cast-Cured IM Explosives. Initiate design of an IM Large Bomb Demil Process.			
Title: Advanced Waste Stream Treatment	0.981	3.013	2.325
Articles:	0	0	
Description: This effort focuses on handling waste streams from munitions items. ***FY 2011 Accomplishments:*** Initiated Red Phosphorous Disposal study. Completed Acid Digestion Bench Scale Phase. ***FY 2012 Plans:*** Initiate study for Rotary Kiln Productivity Improvement. ***FY 2013 Plans:*** Install upgraded Pollution Abatement System for Rotary Kilns from Improvement program.			
Title: Advanced Munitions Disassembly	1.964	3.398	2.514
Articles:	0	0	
Description: Funding is provided for the following efforts: ***FY 2011 Accomplishments:*** Initiated process study on Family of Scatterable Mines (FASCAM) demil. Fabricated components for Acid Digestion. Initiated the design of Bomb Loaded Unit (BLU) Cryofracture. ***FY 2012 Plans:*** Develop process for FASCAM Demil. Complete prototype detail design of BLU-97 disassembly process at Hawthorne Army Depot. Complete DIHMES LRIP. Continue with the design, fabrication, and testing of BLU Cryofracture. Complete study for solvent based recovery of Hexachloroethane from munitions. Develop a kit for Flexible Munitions Residue Inspection System to add 120mm Mortar Cartridges. ***FY 2013 Plans:*** Continue support of FASCAM demil. Complete fabrication and installation of BLU-97 disassembly process. Initiate assessment of solvent based recovery of Hexachloroethane from munitions.			
Accomplishments/Planned Programs Subtotals	14.454	15.982	16.181

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605805A: *Munitions Standardization, Effectiveness and Safety*	PROJECT F24: *CONVENTIONAL MUNITIONS DEMIL*

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*				R-1 ITEM NOMENCLATURE PE 0605857A: *Environmental Quality Technology Mgmt Support*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	3.084	4.953	4.601	-	4.601	4.037	4.142	3.872	3.805	Continuing	Continuing
031: *Environmentally Sustainable Acquisition/Logistics*	2.220	3.704	3.441	-	3.441	2.881	2.933	2.679	2.632	Continuing	Continuing
06H: *UNEXPLODED ORDNANCE CLEARANCE TECHNOLOGY SUPPORT*	0.823	1.249	1.160	-	1.160	1.156	1.209	1.193	1.173	Continuing	Continuing
06I: *POLLUTION PREVENTION TECH SUPPORT*	0.041	-	-	-	-	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program resources environmental quality technology (EQT) related management support functions including support of RDT&E 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 Technology Support project provided management support for the demonstration and validation of reformulated surface coating materials for weapon systems production and maintenance operations. These materials increase operational sustainment and warfighter training capabilities by reducing soldier health risks, environmental impacts and compliance enforcement actions against installations while increasing coatings performance and standardization across the Army.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605857A: *Environmental Quality Technology Mgmt Support*

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	3.195	4.961	5.075	-	5.075
Current President's Budget	3.084	4.953	4.601	-	4.601
Total Adjustments	-0.111	-0.008	-0.474	-	-0.474
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.091	-			
• Adjustments to Budget Years	-	-	-0.474	-	-0.474
• Other Adjustments 1	-0.020	-0.008	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605857A: *Environmental Quality Technology Mgmt Support*	PROJECT 031: *Environmentally Sustainable Acquisition/ Logistics*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
031: *Environmentally Sustainable Acquisition/Logistics*	2.220	3.704	3.441	-	3.441	2.881	2.933	2.679	2.632	Continuing	Continuing
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, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Environmental Quality Support	1.374	1.732	1.632
Articles:	0	0	

Description: Environmental Quality Support to Acquisition Programs

FY 2011 Accomplishments:

Provided support to Program Executive Officers/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, 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 readiness impacts to weapon systems resulting from EQ impacts in capabilities of industrial base and garrisons to support production levels, training and operational tempo and maintenance activities. Provided Army acquisition community representation in select Office of the Secretary of Defense (OSD) and Department of the Army (DA) committees addressing environmental legislation and rulemaking.

FY 2012 Plans:

Provide support to PEOs/PMs to integrate EQ considerations and, to a much lesser extent, some safety and OH considerations into systems engineering activities. This includes fulfillment of National Environmental Policy Act requirements, definition of EQ technology needs to meet operational requirements, participation in development of test plans and protocols, oversight of

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605857A: *Environmental Quality Technology Mgmt Support*	PROJECT 031: *Environmentally Sustainable Acquisition/ Logistics*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
testing efforts, 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. Provide technology management and technical support to logistics initiatives including the EQ aspects of the Army Corrosion Program and the DoD Corrosion Program. Analyze impending legal statutes impacting production, operation and support of weapon systems. Support achievement of the Executive Order 13514 energy and greenhouse gas emission reduction goals, Pollution Prevention goals, and Army industrial base facility goals; Executive Order 13423 and associated Army goals for Toxic and Hazardous Chemical Reduction; and the DFARS clause restricting the use of hexavalent chromium on all defense contracts. Assess readiness impacts to weapon systems resulting from EQ impacts in capabilities of industrial base and garrisons to support production levels, training and operational tempo and maintenance activities. Provide Army acquisition community representation in OSD and DA committees addressing environmental legislation and rulemaking. ***FY 2013 Plans:*** Will provide support to PEOs/PMs to integrate EQ considerations and, to a much lesser extent, some safety and OH considerations into systems engineering activities. This will include fulfillment of National Environmental Policy Act requirements, definition of EQ technology needs to meet operational requirements, participation in development of test plans and protocols, oversight of testing efforts, 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 support achievement of the Executive Order 13514 energy and greenhouse gas emission reduction goals, Pollution Prevention goals, and Army industrial base facility goals; Executive Order 13423 and associated Army goals for Toxic and Hazardous Chemical Reduction; and the DoD policy, DFARS clause and Army policy restricting the use of hexavalent chromium. 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 OSD and DA committees addressing environmental legislation and rulemaking.			
Title: Environmental Quality Technology (EQT) Program Management	0.701	1.338	1.228
Articles:	0	0	
Description: Provide EQT program management support to Army programs ***FY 2011 Accomplishments:*** Provided system acquisition support to the Army's Environmental Technology Technical Committee (ETTC) and coordination of EQ-related systems' needs for expanded Research, Development Test and Evaluation (RDT&E) efforts. Performed program management and oversight of technology integration efforts by Army Life Cycle Management Commands and PEO/PM environmental integrated process teams for new design, new procurement and fielded weapon systems. Provided technology management, technical support, and representation of the Army Materiel Command (AMC) voting member of the Army EQT			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605857A: *Environmental Quality Technology Mgmt Support*	PROJECT 031: *Environmentally Sustainable Acquisition/ Logistics*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
program. This included coordination of RDT&E Budget Activity (BA)-1 and BA-2 requirements among members of the EQT Pollution Prevention Technology Team and coordination of RDT&E BA-3 and BA-4 technology evaluations and operational requirements in support of weapon system platform integration. Managed development and execution of plans for the following pollution prevention technology areas: Sustainable Painting Operations for the Total Army to enable compliance with impending regulations; reformulation of materials used in ammunition, rockets and missiles, and pyrotechnics to remove perchlorate and other hazardous constituents; and Zero Footprint Camp to reduce the fuel and water logistics burden in Overseas Contingency Operations.			
FY 2012 Plans: Provide system acquisition support to the Army's ETTC and coordination of EQ-related systems' needs for expanded RDT&E efforts. Perform program management and oversight of technology integration efforts by Army Life Cycle Management Commands and PEO/PM environmental integrated process teams for new design, new procurement and fielded weapon systems. Provide technology management, technical support, and representation of the AMC voting member of the Army EQT program. This includes coordination of RDT&E BA-1 and BA-2 requirements among members of the EQT Pollution Prevention Technology Team, coordination of RDT&E BA-3 and BA-4 technology evaluations and operational requirements in support of weapon system platform integration, management and oversight for developing test plans, oversight of testing activities, and technical data analysis of test results to support weapon systems engineering decision making. Participate in performance and cost/ risk assessments in support of ASA(IE&E) program objectives. Manage development and execution of plans for the following pollution prevention technology areas: reformulation of materials used in ammunition, rockets and missiles, and pyrotechnics to remove perchlorate and other 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; Alternative Battlefield Fuels; Airborne Lead Reduction in Army Weapon Systems; and other emerging pollution prevention technology areas as necessary.			
FY 2013 Plans: Will provide system acquisition support to the Army's ETTC 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 and PEO/PM environmental integrated process teams for weapon systems in all stages of design, procurement and operations/support. Will coordinate RDT&E BA-1 and BA-2 requirements among members of the EQT Pollution Prevention Technology Team, coordinate RDT&E BA-3 and BA-4 technology evaluations and operational requirements in support of weapon system platform integration, manage and oversee test plan development, oversee testing activities, and analyze test results to support weapon systems engineering decision making. Will participate in performance and cost/risk assessments in support of ASA(IE&E) program objectives. Will manage 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			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605857A: *Environmental Quality Technology Mgmt Support*	PROJECT 031: *Environmentally Sustainable Acquisition/ Logistics*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
and water logistics burden in Overseas Contingency Operations; Reductions in Toxic Metals Used in Surface Finishing on Army Weapon Systems; Alternative Battlefield Fuels; and Airborne Lead Reduction in Army Weapon Systems.			
Title: Ozone Depleting Substance Management	0.145	0.634	0.581
Articles:	0	0	

Description: Oversee Army efforts to manage the use/eliminatin of ozone depleting substances, greenhouse gases and hazardous and toxic materials on Army weapon systems.

FY 2011 Accomplishments:
Oversaw Army efforts to manage the use/elimination of ozone-depleting substances, greenhouse gases, and hazardous and toxic materials on Army weapon systems. Participated in select Federal government and multi-national forums discussing use and replacement of ozone depleting substances and greenhouse gases, justifying mission critical applications, and addressing international importation and use regulations/restrictions.

FY 2012 Plans:
Oversee Army efforts to manage the use/elimination of ozone-depleting substances, greenhouse gases, and hazardous and toxic materials on Army weapon systems. Manage and oversee 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, obtain approval to require use of Halon in new contracts, and assist garrison commanders to assure recovery and deposit of excess Halon and R-22 into the reserve. Participate in Federal government and multi-national forums discussing use and replacement of ozone depleting substances and greenhouse gases, justifying mission critical applications, and addressing international importation and use regulations/restrictions. Significant effort supports Army warfighters in Operation Enduring Freedom and Operation New Dawn assuring adequate supplies of fire/explosion suppression and cooling agents in the theatre of operations.

FY 2013 Plans:
Will oversee Army efforts to manage the use/elimination of ozone-depleting substances, greenhouse gases, and hazardous and toxic materials on Army weapon systems. Will manage and oversee 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, will obtain approval to require use of Halon in new contracts, and will assist garrison commanders to assure recovery and deposit of excess Halon and R-22 into the reserve. Will participate in Federal

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605857A: *Environmental Quality Technology Mgmt Support*	PROJECT 031: *Environmentally Sustainable Acquisition/ Logistics*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
government and multi-national forums discussing use and replacement of ozone depleting substances and greenhouse gases, justifying mission critical applications, and addressing international importation and use regulations/restrictions.			
Accomplishments/Planned Programs Subtotals	2.220	3.704	3.441

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605857A: *Environmental Quality Technology Mgmt Support*	PROJECT 06H: *UNEXPLODED ORDNANCE CLEARANCE TECHNOLOGY SUPPORT*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
06H: *UNEXPLODED ORDNANCE CLEARANCE TECHNOLOGY SUPPORT*	0.823	1.249	1.160	-	1.160	1.156	1.209	1.193	1.173	Continuing	Continuing
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, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Coordinate/collect/analyze UXO RDT&E information via conferences, seminars, and workshops.	0.257	0.497	0.389
Articles:	0	0	
Description: Coordinate/collect/analyze UXO RDT&E information via conferences, seminars, and workshops.			
FY 2011 Accomplishments: Coordinated/collected/analyzed UXO RDT&E information via conferences, seminars, and workshops.			
FY 2012 Plans: Coordinate/collect/analyze UXO RDT&E information via conferences, seminars, and workshops.			
FY 2013 Plans: Will coordinate/collect/analyze UXO RDT&E information via conferences, seminars, and workshops.			
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.	0.156	0.232	0.237
Articles:	0	0	
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.			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605857A: *Environmental Quality Technology Mgmt Support*	PROJECT 06H: *UNEXPLODED ORDNANCE CLEARANCE TECHNOLOGY SUPPORT*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
FY 2011 Accomplishments: Generated 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 2012 Plans:*** 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 2013 Plans:*** Will 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.			
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. ***Articles:*** ***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 2011 Accomplishments:*** Maintained and updated 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 2012 Plans:*** 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 2013 Plans:*** Will 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.	0.280 0	0.322 0	0.329
Title: Provide oversight of UXOCOE's Ft. A. P. Hill test site which is used for standardized scientific experiments to help gather data on and model the performance of potential UXO sensors. Data are needed ***Articles:*** ***Description:*** Provide oversight of UXOCOE's Ft. A. P. Hill test site which is used for standardized scientific experiments to help gather data on and model the performance of potential UXO sensors. Data are needed for the acquisition of UXO sensor performance data versus a full system evaluation. Focus is on the sensor itself, not on full-scale operational system capability.	0.130 0	0.198 0	0.205

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605857A: *Environmental Quality Technology Mgmt Support*	PROJECT 06H: *UNEXPLODED ORDNANCE CLEARANCE TECHNOLOGY SUPPORT*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Full-scale development would occur during engineering and manufacturing development and be aimed at meeting validated requirements prior to full-rate production. ***FY 2011 Accomplishments:*** Provided oversight of UXOCOE's Ft. A. P. Hill test site which was used for standardized scientific experiments to help gather data on and model the performance of potential UXO sensors. Data were needed for the acquisition of UXO sensor performance data versus a full system evaluation. Focus was on the sensor itself, not on full-scale operational system capability. Full-scale development would occur during engineering and manufacturing development and be aimed at meeting validated requirements prior to full-rate production. ***FY 2012 Plans:*** Provide oversight of UXOCOE's Ft. A. P. Hill test site which is used for standardized scientific experiments to help gather data on and model the performance of potential UXO sensors. Data are needed for the acquisition of UXO sensor performance data versus a full system evaluation. Focus is on the sensor itself, not on full-scale operational system capability. Full-scale development would occur during engineering and manufacturing development and be aimed at meeting validated requirements prior to full-rate production. ***FY 2013 Plans:*** Will provide oversight of UXOCOE's Ft. A. P. Hill test site which will be used for standardized scientific experiments to help gather data on and model the performance of potential UXO sensors. Data will be needed for the acquisition of UXO sensor performance data versus a full system evaluation. Focus will be on the sensor itself, not on full-scale operational system capability. Full-scale development will occur during engineering and manufacturing development and be aimed at meeting validated requirements prior to full-rate production.			
Accomplishments/Planned Programs Subtotals	0.823	1.249	1.160

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605857A: *Environmental Quality Technology Mgmt Support*	PROJECT 06I: *POLLUTION PREVENTION TECH SUPPORT*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
06I: *POLLUTION PREVENTION TECH SUPPORT*	0.041	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

This project provided RDTE Management Support for the demonstration and validation of new and reformulated paints, paint removers, cleaners and other surface coating materials and processes for weapon systems production and maintenance operations. The project increases operational sustainment and warfighter training capabilities by reducing soldier health risks, environmental impacts and compliance enforcement actions against installations while increasing coatings performance and standardization across the Army. Materials and processes supported by this project are inherently compliant with all applicable National Emissions Standards for Hazardous Air Pollutants that regulate surface coating activities, thereby eliminating the need for Army installations to incur hundreds of millions of dollars in expenses to purchase, install and operate air pollution control devices. This project provided for management of RDTE activities conducted under project 0603804A, Logistics and Engineer Equipment - Adv Dev (K42). The project supported Sustainable Painting Operations for the Total Army (SPOTA) at facilities that produce and maintain Combat Support/Combat Service Support systems, Ground Combat Vehicles and other Army equipment. The project expedited 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 and other technical data. The project was managed by the Director of the Environmental Acquisition and Logistics Sustainment Program at the Headquarters, U.S. Army Research, Development and Engineering Command.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Sustainable Painting Operations for the Total Army Management Support	0.041	-	-
Articles:	0		
Description: Funding was provided for the following effort			
FY 2011 Accomplishments: Managed and oversaw implementation of reformulated surface coating materials.			
Accomplishments/Planned Programs Subtotals	0.041	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605857A: *Environmental Quality Technology Mgmt Support*	PROJECT 06I: *POLLUTION PREVENTION TECH SUPPORT*

E. Performance Metrics

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

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*					R-1 ITEM NOMENCLATURE PE 0605898A: *Management HQ - R&D*						
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	15.845	17.530	18.524	-	18.524	18.681	18.883	18.764	18.628	Continuing	Continuing
M65: *Army Test and Evaluation Command (ATEC)*	15.845	17.530	18.524	-	18.524	18.681	18.883	18.764	18.628	Continuing	Continuing

A. Mission Description and Budget Item Justification

This project provides for the salaries and related personnel benefits for the management headquarters authorized civilian personnel who support the U.S. Army Test and Evaluation Command (ATEC) mission. Personnel are located at Aberdeen Proving Ground, MD. 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.

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	16.154	17.558	17.978	-	17.978
Current President's Budget	15.845	17.530	18.524	-	18.524
Total Adjustments	-0.309	-0.028	0.546	-	0.546
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	0.546	-	0.546
• Other Adjustments 1	-0.309	-0.028	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605898A: *Management HQ - R&D*	PROJECT M65: *Army Test and Evaluation Command (ATEC)*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
M65: *Army Test and Evaluation Command (ATEC)*	15.845	17.530	18.524	-	18.524	18.681	18.883	18.764	18.628	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

This project provides for the salaries and related personnel benefits for the management headquarters authorized civilian personnel who support the U.S. Army Test and Evaluation Command (ATEC) mission. Personnel are located at Aberdeen Proving Ground, MD. 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.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Civilian labor and other support require to manage and administer the Army test and evaluation mission at ATEC.	15.845	17.530	18.524
Articles:	0	0	
Description: Civilian labor and other support require to manage and administer the Army test and evaluation mission at ATEC. ***FY 2011 Accomplishments:*** Civilian labor and other support required to manage and administer the Army test and evaluation mission at ATEC. ***FY 2012 Plans:*** Civilian labor and other support require to manage and administer the Army test and evaluation mission at ATEC. ***FY 2013 Plans:*** Civilian labor and other support will require to manage and administer the Army test and evaluation mission at ATEC.			
Accomplishments/Planned Programs Subtotals	15.845	17.530	18.524

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*					R-1 ITEM NOMENCLATURE PE 0909999A: *Financing for Cancelled Account Adjustments*						
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	0.063	-	-	-	-	-	-	-	-	Continuing	Continuing
900: *CLOSED ACCT ADJMT-M*	0.063	-	-	-	-	-	-	-	-	Continuing	Continuing

Note

Financing for Cancelled Account Adjustments.

A. Mission Description and Budget Item Justification

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	-	-	-	-	-
Current President's Budget	0.063	-	-	-	-
Total Adjustments	0.063	-	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 1	0.063	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0909999A: *Financing for Cancelled Account Adjustments*	PROJECT 900: *CLOSED ACCT ADJMT-M*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
900: *CLOSED ACCT ADJMT-M*	0.063	-	-	-	-	-	-	-	-	Continuing	Continuing
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, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Closed Account Adjustments	0.063	-	-
Articles:	0		
Description: This program is for closed account adjustments			
FY 2011 Accomplishments: closed account adjustments			
Accomplishments/Planned Programs Subtotals	0.063	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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