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**Department of Defense
Fiscal Year (FY) 2012 Budget Estimates**

February 2011



Army

Justification Book Volume 6

Research, Development, Test & Evaluation, Army

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Army • President's Budget FY 2012 • RDT&E Program

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**FY 2012 RDT&E, ARMY
PROGRAM ELEMENT DESCRIPTIVE SUMMARIES**

Introduction and Explanation of Contents

1. **General.** The purpose of this document is to provide summary information concerning the Research, Development, Test and Evaluation, Army program. The descriptive summaries are comprised of R-2 (Army RDT&E Budget Item Justification – program element level), R-2A (Army RDT&E Budget Item Justification – project level), R-3 (Army RDT&E Cost Analysis), R-4 (Schedule Profile Detail) and R-5 (Termination Liability Funding for MDAPs) Exhibits, which provide narrative information on all RDT&E program elements and projects through FY 2012.

2. **Relationship of the FY 2012 Budget Submitted to Congress to the FY 2011 Budget Submitted to Congress.** This paragraph provides a list of program elements/projects that are major new starts, restructures, developmental transitions, newly established, terminated or for which funding existed in the FY 11 budget but no longer exists in the FY 12 budget. Explanations for these changes can be found in the narrative sections of the Program Element R-2A Exhibits.

A. New Start Programs:

<u>PE/PROJECT</u>	<u>PE TITLE</u>	<u>PROJECT TITLE</u>
0604115/DS3	Technology Maturation Initiatives	Technology Maturation Initiatives
0203735/DS5	Combat Vehicle Improvement Program	Armored Multi Purpose Vehicle (AMPV)
0604808/434	Close Combat Capabilities Eng Dev	Anti-Personnel Landmine Alternatives
0603820/D20	UAS Modifications/Product Imp Prg	VTOL MODS/PIP
0603807/VS7	Medical Systems Advanced Dev	MEDEVAC Mission Equipment Package
0603817/S52	Soldier Systems – Adv Dev	Soldier Support Equipment – AD
0604270/VS6	EW Development	Integrated Electronic Warfare Sys
0604818/JN1	Army Tac Comm & Cont Hardware And Software	*Joint Network Node (JNN) Testing
0604820/E10	Radar Development	Sentinel
0203726/33C	Advanced Field Artillery Tactical Data System	Improved Position Azimuth Determining System (IPADs)
0303141/VU2	Global Combat Support System	Installation Fixed Base (IFB)
	*Program Re-start	

B. Program Element/Project Restructures:

Old		New
<u>PE/Project</u>	<u>New Project Title</u>	<u>PE/Project</u>
0601104/J22	Network Science and Technology Research Center	0601104/H50
0602787/878	Warfighter Health Prot and Perf Stds	0602787/869
0602787/879	Warfighter Health Prot and Perf Stds	0602787/869
0603005/C66	Tractor Nail	0603130/DS8
0603006/DF7	Tractor Eggs	0603131/DS9
0603308/978	Tractor Jute	0604131/DT1
0604270/L20	Common Missile Warning System (CMWS)	0604270/VU7
	Common Infrared Counter Measure (CIRCM)	0604270/VU8
0604805/589	Army Sys Engineering & Warfighting	0604805/593
0305204/114	RQ-7 Shadow UAV	0305233/RQ7
0305204/D10	RQ-11 Raven (MIP)	0305232/RA7
0604710/L76	Dismounted Fire Support Laser Targeting System	0604710/L79
0604817/482	Ground Combat ID	0604284/VU4
0605605/E97	DOD HELSTF	0605601/F30
0605857/061	Material Sustainment Support AD	0603804/K42
0203759/122	Joint Battle Command – Platform	0604805/593
0203801/DF8	Tractor Barn	0203808/DS1
0203801/DF9	Tractor PUMA	0203808/DS2

C. Developmental Transitions:

Old		New
<u>PE/Project</u>	<u>New Project Title</u>	<u>PE/PROJECT</u>
0603804/L04	Joint Light Tactical Vehicles (JLTV) – SD	0604804/L50
0603827/S49	Ground Soldier Ensemble	0604827/S75

D. Establishment of new FY 2012 Program Elements/Projects. (Does not include any major new starts)

<u>TITLE</u>	<u>PE/PROJECT</u>
Surface Science Research	0601102/VR9
Center for Advanced Research	0601104/VS2
Expeditionary Mobile Base Camp Technology	0602786/VT4
Expeditionary Mobile Base Camp Demonstration	0603001/VT5
Tractor Nails	0603130/DS8

Tractor Eggs	0603131/DS9
*High Performance Computing Modernization Program	0603461/DS7
Tractor Jute	0604131/DT1
Soldier Protective Equipment	0603827/VS4
Combat Service Support Systems – AD	0603804/VR8
Joint Effects Targeting Systems (JETs)	0604710/L79
Combat Service Support Systems	0604804/VR7
TWV Protection Kits	0604622/VR5
*transferred from RDT&E,DW PE 0603755D8Z	

E. Program Terminations.

<u>TITLE</u>	<u>PE/PROJECT</u>
Electric Gun Technology	0602618/H75
Aircraft Weapons	0603003/435
BCT Non-Line-of-Sight Launch System	0604646/F72
BCT Reconnaissance (UAV) Platforms	0604662/FC3
Close Combat Capabilities Eng Dev	0604808/016

F. Programs for which funding existed in the FY 11 budget but no longer exists in the FY 12 budget.

<u>PE/PROJECT</u>	<u>TITLE</u>	<u>Brief Explanation</u>
0601104/J22	Network Science & Tech Res	Restructure to 0601104/H50
0602618/H75	Electric Gun Tech	Termination
0602787/878	Hlth Haz Mil Material	Restructure to 0602787/869
0602787/879	Med Fact Enh Sold Eff	Restructure to 0602787/869
0603003/435	Aircraft Weapons	Termination
0603005/C66	DC66	Restructure to 0603130/DS8
0603006/DF7	DF7	Restructure to 0603131/DS9
0603308/978	Space Control	Restructure to 0604131/DT1
0603804/K42	Material Sustainment Support	Transition to Army Supply System
0603804/L04	Jt Light Tact Vehicle (JLTV)-AD	Transition to 0604804/L50
0603827/S49	Ground Soldier System (GSS)	Transition to 0604827/S75
0604270/L20	ATIRCM/CMWS	Restructured to 0604270/VU7 & VU8
0604609/198	Target Defeating System	Completed R&D
0604609/200	Smoke/Obscurant System	Completed R&D
0604622/659	Family of Hvy Tac Veh	Transition to production

0604642/E40	LTV Prototype	Completed R&D
0604646/F72	BCT NLOS Launch Sys	Termination
0604710/L76	Dismounted Fire Support Laser Targeting System	Restructured to 0604710/L79
0604804/L47	Improved Environmental Control Unit	Transition to production
0604805/589	Army Sys Engr & Warfighting	Restructured to 0604805/593
0604808/016	Close Combat Capabilities ED	Termination
0604817/482	Ground Combat ID	Restructured to
0605013/087	Distributed Learning System	Transition to production
0604662/FC3	BCT Reconnaissance (UAV) Platforms	Termination
0605605/E97	DOD HELSTF	Restructured to 0605601/F30
0203759/122	Jt Battle Command Platform	Restructured to 0604805/593
0203801/DF8	DF8	Restructured to 0203808/DS1
0203801/DF9	DF9	Restructured to 0203808/DS2
0305204/114	Tactical Unmanned Aerial Vehicles (MIP)	Restructured to 0305233/RQ7
0305204/D10	SUAV (MIP)	Restructured to 0305233/RA7
0305208/D15	MUSE & TES TADSS (MIP)	Completed R&D

3. **Classification:** This document contains no classified data. Appropriately cleared individuals can obtain further information on Classified/Special Access Programs by contacting the Department of the Army (ASA(ALT)) Special Programs Office.
4. **Performance Metrics.** Performance metrics may be found in the Department's Performance Budget Justification Book, dated February 2012.

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Exhibit R-1

Summary

10-Feb-2011

Summary Recap of Budget Activities		Thousands of Dollars				
		FY2010	FY2011	FY2012	FY2012 OCO	FY2012 Total
Basic research		420,190	406,873	436,920	0	436,920
Applied Research		1,321,605	841,364	869,332	0	869,332
Advanced technology development		1,366,194	696,592	976,812	0	976,812
Advanced Component Development and Prototypes		982,111	804,148	753,084	0	753,084
System Development and Demonstration		4,285,025	5,035,046	4,190,788	0	4,190,788
Management support		1,487,815	1,142,383	1,048,671	8,513	1,057,184
Operational system development		1,843,989	1,553,445	1,403,837	0	1,403,837
Total	RDT&E, Army	11,706,929	10,479,851	9,679,444	8,513	9,687,957

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Exhibit R-1

Appropriation: 2040 A RDT&E, Army

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Line No	Program Element Number	Act	Item	Thousands of Dollars				
				FY2010	FY2011	FY2012	FY2012 OCO	FY2012 Total
Basic research								
1	0601101A	01	IN-HOUSE LABORATORY INDEPENDENT RESEARCH	19,278	21,780	21,064		21,064
2	0601102A	01	DEFENSE RESEARCH SCIENCES	196,921	195,845	213,942		213,942
3	0601103A	01	UNIVERSITY RESEARCH INITIATIVES	96,409	91,161	80,977		80,977
4	0601104A	01	UNIVERSITY AND INDUSTRY RESEARCH CENTERS	107,582	98,087	120,937		120,937
Total: Basic research				420,190	406,873	436,920	0	436,920
Applied Research								
5	0602105A	02	MATERIALS TECHNOLOGY	88,022	29,882	30,258		30,258
6	0602120A	02	SENSORS AND ELECTRONIC SURVIVABILITY	82,449	48,929	43,521		43,521
7	0602122A	02	TRACTOR HIP	13,807	14,624	14,230		14,230
8	0602211A	02	AVIATION TECHNOLOGY	44,810	43,476	44,610		44,610
9	0602270A	02	ELECTRONIC WARFARE TECHNOLOGY	23,581	17,330	15,790		15,790
10	0602303A	02	MISSILE TECHNOLOGY	69,871	49,525	50,685		50,685
11	0602307A	02	ADVANCED WEAPONS TECHNOLOGY	19,906	18,190	20,034		20,034
12	0602308A	02	ADVANCED CONCEPTS AND SIMULATION	22,070	20,582	20,933		20,933
13	0602601A	02	COMBAT VEHICLE AND AUTOMOTIVE TECHNOLOGY	79,649	64,740	64,306		64,306
14	0602618A	02	BALLISTICS TECHNOLOGY	73,456	60,342	59,214		59,214
15	0602622A	02	CHEMICAL, SMOKE AND EQUIPMENT DEFEATING TECHNOLOGY	8,706	5,324	4,877		4,877
16	0602623A	02	JOINT SERVICE SMALL ARMS PROGRAM	9,001	7,893	8,244		8,244
17	0602624A	02	WEAPONS AND MUNITIONS TECHNOLOGY	140,727	42,645	39,813		39,813
18	0602705A	02	ELECTRONICS AND ELECTRONIC DEVICES	134,946	60,859	62,962		62,962
19	0602709A	02	NIGHT VISION TECHNOLOGY	48,250	40,228	57,203		57,203
20	0602712A	02	COUNTERMINE SYSTEMS	27,892	19,118	20,280		20,280
21	0602716A	02	HUMAN FACTORS ENGINEERING TECHNOLOGY	30,395	21,042	21,801		21,801
22	0602720A	02	ENVIRONMENTAL QUALITY TECHNOLOGY	17,545	18,364	20,837		20,837
23	0602782A	02	COMMAND, CONTROL, COMMUNICATIONS TECHNOLOGY	31,691	25,573	26,116		26,116
24	0602783A	02	COMPUTER AND SOFTWARE TECHNOLOGY	9,896	6,768	8,591		8,591
25	0602784A	02	MILITARY ENGINEERING TECHNOLOGY	60,536	79,189	80,317		80,317

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Line No	Program Element Number	Act	Item	Thousands of Dollars				
				FY2010	FY2011	FY2012	FY2012 OCO	FY2012 Total
26	0602785A	02	MANPOWER/PERSONNEL/TRAINING TECHNOLOGY	16,358	22,198	18,946		18,946
27	0602786A	02	WARFIGHTER TECHNOLOGY	37,040	27,746	29,835		29,835
28	0602787A	02	MEDICAL TECHNOLOGY	231,001	96,797	105,929		105,929
Total: Applied Research				1,321,605	841,364	869,332	0	869,332
Advanced technology development								
29	0603001A	03	WARFIGHTER ADVANCED TECHNOLOGY	51,596	37,364	52,979		52,979
30	0603002A	03	MEDICAL ADVANCED TECHNOLOGY	336,741	71,510	68,171		68,171
31	0603003A	03	AVIATION ADVANCED TECHNOLOGY	104,229	57,454	62,193		62,193
32	0603004A	03	WEAPONS AND MUNITIONS ADVANCED TECHNOLOGY	92,638	64,438	77,077		77,077
33	0603005A	03	COMBAT VEHICLE AND AUTOMOTIVE ADVANCED TECHNOLOGY	261,689	89,499	106,145		106,145
34	0603006A	03	COMMAND, CONTROL, COMMUNICATIONS ADVANCED TECHNOLOGY	12,074	8,102	5,312		5,312
35	0603007A	03	MANPOWER, PERSONNEL AND TRAINING ADVANCED TECHNOLOGY	7,220	7,921	10,298		10,298
36	0603008A	03	ELECTRONIC WARFARE ADVANCED TECHNOLOGY	55,903	50,359	57,963		57,963
37	0603009A	03	TRACTOR HIKE	10,945	8,015	8,155		8,155
38	0603015A	03	NEXT GENERATION TRAINING & SIMULATION SYSTEMS	25,895	15,334	17,936		17,936
39	0603020A	03	TRACTOR ROSE	13,997	12,309	12,597		12,597
40	0603105A	03	MILITARY HIV RESEARCH	29,277	6,688	6,796		6,796
41	0603125A	03	COMBATING TERRORISM - TECHNOLOGY DEVELOPMENT	11,366	10,550	12,191		12,191
42	0603130A	03	TRACTOR NAIL			4,278		4,278
43	0603131A	03	TRACTOR EGGS			2,261		2,261
44	0603270A	03	ELECTRONIC WARFARE TECHNOLOGY	23,766	18,350	23,677		23,677
45	0603313A	03	MISSILE AND ROCKET ADVANCED TECHNOLOGY	83,649	84,553	90,602		90,602
46	0603322A	03	TRACTOR CAGE	11,741	9,986	10,315		10,315
47	0603461A	03	HIGH PERFORMANCE COMPUTING MODERNIZATION PROGRAM			183,150		183,150
48	0603606A	03	LANDMINE WARFARE AND BARRIER ADVANCED TECHNOLOGY	35,765	26,953	31,541		31,541
49	0603607A	03	JOINT SERVICE SMALL ARMS PROGRAM	8,683	9,151	7,686		7,686
50	0603710A	03	NIGHT VISION ADVANCED TECHNOLOGY	81,157	39,912	42,414		42,414
51	0603728A	03	ENVIRONMENTAL QUALITY TECHNOLOGY DEMONSTRATIONS	16,584	15,878	15,959		15,959
52	0603734A	03	MILITARY ENGINEERING ADVANCED TECHNOLOGY	40,423	27,393	36,516		36,516

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				FY2010	FY2011	FY2012	FY2012 OCO	FY2012 Total
53	0603772A	03	ADVANCED TACTICAL COMPUTER SCIENCE AND SENSOR TECHNOLOGY	50,856	24,873	30,600		30,600
Total: Advanced technology development				1,366,194	696,592	976,812	0	976,812
Advanced Component Development and Prototypes								
54	0603024A	04	UNIQUE ITEM IDENTIFICATION (UID)	1,990				
55	0603305A	04	ARMY MISSILE DEFENSE SYSTEMS INTEGRATION	80,079	11,455	36,009		36,009
56	0603308A	04	ARMY SPACE SYSTEMS INTEGRATION	126,189	27,551	9,612		9,612
57	0603327A	04	AIR AND MISSILE DEFENSE SYSTEMS ENGINEERING	165,515				
58	0603619A	04	LANDMINE WARFARE AND BARRIER - ADV DEV	29,399	15,596	35,383		35,383
59	0603627A	04	SMOKE, OBSCURANT AND TARGET DEFEATING SYS-ADV DEV	5,607	2,425	9,501		9,501
60	0603639A	04	TANK AND MEDIUM CALIBER AMMUNITION	33,202	42,183	39,693		39,693
61	0603653A	04	ADVANCED TANK ARMAMENT SYSTEM (ATAS)	96,269	136,302	101,408		101,408
62	0603747A	04	SOLDIER SUPPORT AND SURVIVABILITY	40,392	76,456	9,747		9,747
63	0603766A	04	TACTICAL ELECTRONIC SURVEILLANCE SYSTEM - ADV DEV	17,023	17,962	5,766		5,766
64	0603774A	04	NIGHT VISION SYSTEMS ADVANCED DEVELOPMENT	8,000				
65	0603779A	04	ENVIRONMENTAL QUALITY TECHNOLOGY - DEM/VAL	20,203	4,695	4,946		4,946
66	0603782A	04	WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL	164,014	190,903	297,955		297,955
67	0603790A	04	NATO RESEARCH AND DEVELOPMENT	4,848	5,060	4,765		4,765
68	0603801A	04	AVIATION - ADV DEV	13,177	8,355	7,107		7,107
69	0603804A	04	LOGISTICS AND ENGINEER EQUIPMENT - ADV DEV	56,153	80,490	19,509		19,509
70	0603805A	04	COMBAT SERVICE SUPPORT CONTROL SYSTEM EVALUATION AND ANALYSIS	9,898	14,290	5,258		5,258
71	0603807A	04	MEDICAL SYSTEMS - ADV DEV	32,851	28,132	34,997		34,997
72	0603827A	04	SOLDIER SYSTEMS - ADVANCED DEVELOPMENT	75,833	48,323	19,598		19,598
73	0603850A	04	INTEGRATED BROADCAST SERVICE	1,469	970	1,496		1,496
74	0604115A	04	TECHNOLOGY MATURATION INITIATIVES			10,181		10,181
75	0604131A	04	TRACTOR JUTE			15,609		15,609
76	0604284A	04	JOINT COOPERATIVE TARGET IDENTIFICATION - GROUND (JCTI-G) / TECHNOLOG			41,652		41,652
77	0305205A	04	ENDURANCE UAVS		93,000	42,892		42,892
Total: Advanced Component Development and Prototypes				982,111	804,148	753,084	0	753,084

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Line No	Program Element Number	Act	Item	Thousands of Dollars				
				FY2010	FY2011	FY2012	FY2012 OCO	FY2012 Total
System Development and Demonstration								
78	0604201A	05	AIRCRAFT AVIONICS	76,491	89,210	144,687		144,687
79	0604220A	05	ARMED, DEPLOYABLE HELOS	61,643	72,550	166,132		166,132
80	0604270A	05	ELECTRONIC WARFARE DEVELOPMENT	168,496	177,669	101,265		101,265
81	0604280A	05	JOINT TACTICAL RADIO		784			
82	0604321A	05	ALL SOURCE ANALYSIS SYSTEM	12,562	30,674	17,412		17,412
83	0604328A	05	TRACTOR CAGE	20,564	23,194	26,577		26,577
84	0604601A	05	INFANTRY SUPPORT WEAPONS	64,930	80,337	73,728		73,728
85	0604604A	05	MEDIUM TACTICAL VEHICLES	5,460	3,710	3,961		3,961
86	0604609A	05	SMOKE, OBSCURANT AND TARGET DEFEATING SYS - ENG DEV	939	5,335			
87	0604611A	05	JAVELIN		9,999	17,340		17,340
88	0604622A	05	FAMILY OF HEAVY TACTICAL VEHICLES	8,072	3,519	5,478		5,478
89	0604633A	05	AIR TRAFFIC CONTROL	8,453	9,892	22,922		22,922
90	0604642A	05	LIGHT TACTICAL WHEELED VEHICLES	1,140	1,990			
91	0604646A	05	NON-LINE OF SIGHT LAUNCH SYSTEM	88,205	81,247			
92	0604660A	05	FCS MANNED GRD VEHICLES & COMMON GRD VEHICLE	231,103				
93	0604661A	05	FCS SYSTEMS OF SYSTEMS ENGR & PROGRAM MGMT	847,011	568,711	383,872		383,872
94	0604662A	05	FCS RECONNAISSANCE (UAV) PLATFORMS	92,444	50,304			
95	0604663A	05	FCS UNMANNED GROUND VEHICLES	122,418	249,948	143,840		143,840
96	0604664A	05	FCS UNATTENDED GROUND SENSORS	39,664	7,515	499		499
97	0604665A	05	FCS SUSTAINMENT & TRAINING R&D	685,524	610,389			
98	0604710A	05	NIGHT VISION SYSTEMS - ENG DEV	56,992	52,549	59,265		59,265
99	0604713A	05	COMBAT FEEDING, CLOTHING, AND EQUIPMENT	2,010	2,118	2,075		2,075
100	0604715A	05	NON-SYSTEM TRAINING DEVICES - ENG DEV	29,187	27,756	30,021		30,021
101	0604716A	05	TERRAIN INFORMATION - ENG DEV			1,596		1,596
102	0604741A	05	AIR DEFENSE COMMAND, CONTROL AND INTELLIGENCE - ENG DEV	32,450	34,209	83,010		83,010
103	0604742A	05	CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT	32,126	30,291	28,305		28,305
104	0604746A	05	AUTOMATIC TEST EQUIPMENT DEVELOPMENT	11,737	14,041	14,375		14,375
105	0604760A	05	DISTRIBUTIVE INTERACTIVE SIMULATIONS (DIS) - ENG DEV	15,184	15,547	15,803		15,803
106	0604778A	05	POSITIONING SYSTEMS DEVELOPMENT (SPACE)	7,275				

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				FY2010	FY2011	FY2012	FY2012 OCO	FY2012 Total
107	0604780A	05	COMBINED ARMS TACTICAL TRAINER (CATT) CORE	25,241	27,670	22,226		22,226
108	0604802A	05	WEAPONS AND MUNITIONS - ENG DEV	99,626	24,345	13,828		13,828
109	0604804A	05	LOGISTICS AND ENGINEER EQUIPMENT - ENG DEV	35,046	41,039	251,104		251,104
110	0604805A	05	COMMAND, CONTROL, COMMUNICATIONS SYSTEMS - ENG DEV	57,040	90,736	137,811		137,811
111	0604807A	05	MEDICAL MATERIEL/MEDICAL BIOLOGICAL DEFENSE EQUIPMENT - ENG DEV	37,572	34,474	27,160		27,160
112	0604808A	05	LANDMINE WARFARE/BARRIER - ENG DEV	89,064	95,577	87,426		87,426
113	0604814A	05	ARTILLERY MUNITIONS - EMD	40,856	26,371	42,627		42,627
114	0604817A	05	COMBAT IDENTIFICATION	7,740	29,884			
115	0604818A	05	ARMY TACTICAL COMMAND & CONTROL HARDWARE & SOFTWARE	72,820	60,970	123,935		123,935
116	0604820A	05	RADAR DEVELOPMENT			2,890		2,890
117	0604822A	05	GENERAL FUND ENTERPRISE BUSINESS SYSTEM (GFEBS)	23,712	13,576	794		794
118	0604823A	05	FIREFINDER	19,534	24,736	10,358		10,358
119	0604827A	05	SOLDIER SYSTEMS - WARRIOR DEM/VAL	20,602	20,886	48,309		48,309
120	0604854A	05	ARTILLERY SYSTEMS - EMD	152,935	53,624	120,146		120,146
121	0604869A	05	PATRIOT/MEADS COMBINED AGGREGATE PROGRAM (CAP)	570,831	467,139	406,605		406,605
122	0604870A	05	NUCLEAR ARMS CONTROL MONITORING SENSOR NETWORK	6,860	7,276	7,398		7,398
123	0605013A	05	INFORMATION TECHNOLOGY DEVELOPMENT	108,146	23,957	37,098		37,098
124	0605018A	05	ARMY INTEGRATED MILITARY HUMAN RESOURCES SYSTEM (A-IMHRS)		100,500	68,693		68,693
125	0605450A	05	JOINT AIR-TO-GROUND MISSILE (JAGM)	118,459	130,340	127,095		127,095
126	0605455A	05	SLAMRAAM		23,700	19,931		19,931
127	0605456A	05	PAC-3/MSE MISSILE		62,500	88,993		88,993
128	0605457A	05	ARMY INTEGRATED AIR AND MISSILE DEFENSE (AIAMD)		251,124	270,607		270,607
129	0605625A	05	MANNED GROUND VEHICLE	76,861	934,366	884,387		884,387
130	0605626A	05	AERIAL COMMON SENSOR		211,500	31,465		31,465
131	0303032A	05	TROJAN - RH12		3,697	3,920		3,920
132	0304270A	05	ELECTRONIC WARFARE DEVELOPMENT		21,571	13,819		13,819
Total: System Development and Demonstration				4,285,025	5,035,046	4,190,788	0	4,190,788
Management support								
133	0604256A	06	THREAT SIMULATOR DEVELOPMENT	23,120	26,158	16,992		16,992

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 Department of the Army
 FY 2012 RDT&E Program
 President's Budget 2012/13

Exhibit R-1

Appropriation: 2040 A RDT&E, Army

10-Feb-2011

Line No	Program Element Number	Act	Item	Thousands of Dollars				
				FY2010	FY2011	FY2012	FY2012 OCO	FY2012 Total
134	0604258A	06	TARGET SYSTEMS DEVELOPMENT	13,183	8,614	11,247		11,247
135	0604759A	06	MAJOR T&E INVESTMENT	49,942	42,102	49,437		49,437
136	0605103A	06	RAND ARROYO CENTER	17,257	20,492	20,384		20,384
137	0605301A	06	ARMY KWAJALEIN ATOLL	157,391	163,788	145,606		145,606
138	0605326A	06	CONCEPTS EXPERIMENTATION PROGRAM	26,168	17,704	28,800		28,800
139	0605502A	06	SMALL BUSINESS INNOVATIVE RESEARCH	273,678				
140	0605601A	06	ARMY TEST RANGES AND FACILITIES	346,015	393,937	262,456	8,513	270,969
141	0605602A	06	ARMY TECHNICAL TEST INSTRUMENTATION AND TARGETS	82,054	59,040	70,227		70,227
142	0605604A	06	SURVIVABILITY/LETHALITY ANALYSIS	44,728	41,812	43,483		43,483
143	0605605A	06	DOD HIGH ENERGY LASER TEST FACILITY	7,307	4,710	18		18
144	0605606A	06	AIRCRAFT CERTIFICATION	3,745	5,055	5,630		5,630
145	0605702A	06	METEOROLOGICAL SUPPORT TO RDT&E ACTIVITIES	8,173	7,185	7,182		7,182
146	0605706A	06	MATERIEL SYSTEMS ANALYSIS	20,970	18,078	19,669		19,669
147	0605709A	06	EXPLOITATION OF FOREIGN ITEMS	5,403	5,460	5,445		5,445
148	0605712A	06	SUPPORT OF OPERATIONAL TESTING	78,360	68,191	68,786		68,786
149	0605716A	06	ARMY EVALUATION CENTER	63,961	61,450	63,302		63,302
150	0605718A	06	ARMY MODELING & SIM X-CMD COLLABORATION & INTEG	5,885	3,926	3,420		3,420
151	0605801A	06	PROGRAMWIDE ACTIVITIES	76,503	73,685	83,054		83,054
152	0605803A	06	TECHNICAL INFORMATION ACTIVITIES	77,926	48,309	63,872		63,872
153	0605805A	06	MUNITIONS STANDARDIZATION, EFFECTIVENESS AND SAFETY	84,951	53,338	57,142		57,142
154	0605857A	06	ENVIRONMENTAL QUALITY TECHNOLOGY MGMT SUPPORT	4,991	3,195	4,961		4,961
155	0605898A	06	MANAGEMENT HQ - R&D	15,772	16,154	17,558		17,558
156	0909980A	06	JUDGMENT FUND REIMBURSEMENT	226				
157	0909999A	06	FINANCING FOR CANCELLED ACCOUNT ADJUSTMENTS	106				
Total: Management support				1,487,815	1,142,383	1,048,671	8,513	1,057,184
Operational system development								
158	0603778A	07	MLRS PRODUCT IMPROVEMENT PROGRAM	26,624	51,619	66,641		66,641
159	0603820A	07	WEAPONS CAPABILITY MODIFICATIONS UAV			24,142		24,142
160	0102419A	07	AEROSTAT JOINT PROJECT OFFICE	317,132	372,493	344,655		344,655

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Exhibit R-1

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Line No	Program Element Number	Act	Item	Thousands of Dollars				
				FY2010	FY2011	FY2012	FY2012 OCO	FY2012 Total
161	0203347A	07	INTELLIGENCE SUPPORT TO CYBER (ISC) MIP		2,360			
162	0203726A	07	ADV FIELD ARTILLERY TACTICAL DATA SYSTEM	29,127	24,622	29,546		29,546
163	0203735A	07	COMBAT VEHICLE IMPROVEMENT PROGRAMS	169,400	204,481	53,307		53,307
164	0203740A	07	MANEUVER CONTROL SYSTEM	36,131	25,540	65,002		65,002
165	0203744A	07	AIRCRAFT MODIFICATIONS/PRODUCT IMPROVEMENT PROGRAMS	240,321	134,999	163,205		163,205
166	0203752A	07	AIRCRAFT ENGINE COMPONENT IMPROVEMENT PROGRAM	767	710	823		823
167	0203758A	07	DIGITIZATION	8,218	6,329	8,029		8,029
168	0203759A	07	FORCE XXI BATTLE COMMAND, BRIGADE AND BELOW (FBCB2)		3,935			
169	0203801A	07	MISSILE/AIR DEFENSE PRODUCT IMPROVEMENT PROGRAM	37,731	24,280	44,560		44,560
170	0203802A	07	OTHER MISSILE PRODUCT IMPROVEMENT PROGRAMS	3,979				
171	0203808A	07	TRACTOR CARD	19,249	14,870	42,554		42,554
172	0208053A	07	JOINT TACTICAL GROUND SYSTEM	13,189	12,403	27,630		27,630
173	0208058A	07	JOINT HIGH SPEED VESSEL (JHSV)	2,961	3,153	3,044		3,044
174	0301359A	07	SPECIAL ARMY PROGRAM					
175	0303028A	07	SECURITY AND INTELLIGENCE ACTIVITIES	17,348		2,854		2,854
176	0303140A	07	INFORMATION SYSTEMS SECURITY PROGRAM	61,313	118,090	61,220		61,220
177	0303141A	07	GLOBAL COMBAT SUPPORT SYSTEM	138,764	125,569	100,505		100,505
178	0303142A	07	SATCOM GROUND ENVIRONMENT (SPACE)	32,453	33,694	12,104		12,104
179	0303150A	07	WWWCCS/GLOBAL COMMAND AND CONTROL SYSTEM	13,683	13,024	23,937		23,937
180	0305204A	07	TACTICAL UNMANNED AERIAL VEHICLES	262,655	54,300	40,650		40,650
181	0305208A	07	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS	191,253	119,202	44,198		44,198
182	0305219A	07	MQ-1 SKY WARRIOR A UAV		123,156	137,038		137,038
183	0305232A	07	RQ-11 UAV		1,599	1,938		1,938
184	0305233A	07	RQ-7 UAV		7,805	31,940		31,940
185	0307207A	07	AERIAL COMMON SENSOR (ACS)	115,432				
186	0307665A	07	BIOMETRICS ENABLED INTELLIGENCE		14,114	15,018		15,018
187	0708045A	07	END ITEM INDUSTRIAL PREPAREDNESS ACTIVITIES	106,259	61,098	59,297		59,297
Total: Operational system development				1,843,989	1,553,445	1,403,837	0	1,403,837

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Exhibit R-1

Appropriation: 2040 A RDT&E, Army

10-Feb-2011

Line No	Program Element Number	Act	Item	Thousands of Dollars				
				FY2010	FY2011	FY2012	FY2012 OCO	FY2012 Total
Total: RDT&E, Army				11,706,929	10,479,851	9,679,444	8,513	9,687,957

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

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

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134	06	0604258A	TARGET SYSTEMS DEVELOPMENT.....	Volume 6 - 9
135	06	0604759A	Major T&E Investment.....	Volume 6 - 21
136	06	0605103A	Rand Arroyo Center.....	Volume 6 - 39
137	06	0605301A	ARMY KWAJALEIN ATOLL.....	Volume 6 - 44
138	06	0605326A	Concepts Experimentation Program.....	Volume 6 - 51
140	06	0605601A	ARMY TEST RANGES AND FACILITIES.....	Volume 6 - 65
141	06	0605602A	Army Technical Test Instrumentation and Targets.....	Volume 6 - 73
142	06	0605604A	Survivability/Lethality Analysis.....	Volume 6 - 83
143	06	0605605A	DOD High Energy Laser Test Facility.....	Volume 6 - 90
144	06	0605606A	AIRCRAFT CERTIFICATION.....	Volume 6 - 94
145	06	0605702A	Meteorological Support to RDT&E Activities.....	Volume 6 - 101
146	06	0605706A	MATERIEL SYSTEMS ANALYSIS.....	Volume 6 - 106
147	06	0605709A	EXPLOITATION OF FOREIGN ITEMS.....	Volume 6 - 111
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***Budget Activity 06: RDT&E Management Support
Appropriation 2040: Research, Development, Test & Evaluation, Army***

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150	06	0605718A	Army Modeling & Sim X-Cmd Collaboration & Integ.....	Volume 6 - 126
151	06	0605801A	Programwide Activities.....	Volume 6 - 138
152	06	0605803A	Technical Information Activities.....	Volume 6 - 157
153	06	0605805A	Munitions Standardization, Effectiveness and Safety.....	Volume 6 - 183
154	06	0605898A	Management HQ - R&D.....	Volume 6 - 217
155	06	0605857A	Environmental Quality Technology Mgmt Support.....	Volume 6 - 219

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ARMY TEST RANGES AND FACILITIES	0605601A	140	06.....	Volume 6 - 65
Army Evaluation Center	0605716A	149	06.....	Volume 6 - 120
Army Modeling & Sim X-Cmd Collaboration & Integ	0605718A	150	06.....	Volume 6 - 126
Army Technical Test Instrumentation and Targets	0605602A	141	06.....	Volume 6 - 73
Concepts Experimentation Program	0605326A	138	06.....	Volume 6 - 51
DOD High Energy Laser Test Facility	0605605A	143	06.....	Volume 6 - 90
EXPLOITATION OF FOREIGN ITEMS	0605709A	147	06.....	Volume 6 - 111
Environmental Quality Technology Mgmt Support	0605857A	155	06.....	Volume 6 - 219
MATERIEL SYSTEMS ANALYSIS	0605706A	146	06.....	Volume 6 - 106
Major T&E Investment	0604759A	135	06.....	Volume 6 - 21
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(Listing by Budget Activity, then Program Element Number)

BA# 06: RDT&E Management Support

Cost (\$ in Millions)

Line#	BA#	PE#	PE Title	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
133	06	0604256A	THREAT SIMULATOR DEVELOPMENT	23.120	26.158	16.992	-	16.992
134	06	0604258A	TARGET SYSTEMS DEVELOPMENT	13.183	8.614	11.247	-	11.247
135	06	0604759A	Major T&E Investment	49.942	42.102	49.437	-	49.437
136	06	0605103A	Rand Arroyo Center	17.257	20.492	20.384	-	20.384
137	06	0605301A	ARMY KWAJALEIN ATOLL	157.391	163.788	145.606	-	145.606
138	06	0605326A	Concepts Experimentation Program	26.168	17.704	28.800	-	28.800
140	06	0605601A	ARMY TEST RANGES AND FACILITIES	346.015	393.937	262.456	8.513	270.969
141	06	0605602A	Army Technical Test Instrumentation and Targets	82.054	59.040	70.227	-	70.227
142	06	0605604A	Survivability/Lethality Analysis	44.728	41.812	43.483	-	43.483
143	06	0605605A	DOD High Energy Laser Test Facility	7.307	4.710	0.018	-	0.018
144	06	0605606A	AIRCRAFT CERTIFICATION	3.745	5.055	5.630	-	5.630
145	06	0605702A	Meteorological Support to RDT&E Activities	8.173	7.185	7.182	-	7.182
146	06	0605706A	MATERIEL SYSTEMS ANALYSIS	20.970	18.078	19.669	-	19.669
147	06	0605709A	EXPLOITATION OF FOREIGN ITEMS	5.403	5.460	5.445	-	5.445
148	06	0605712A	Support of Operational Testing	78.360	68.191	68.786	-	68.786
149	06	0605716A	Army Evaluation Center	63.961	61.450	63.302	-	63.302
150	06	0605718A	Army Modeling & Sim X-Cmd Collaboration & Integ	5.885	3.926	3.420	-	3.420
151	06	0605801A	Programwide Activities	76.503	73.685	83.054	-	83.054

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(Listing by Budget Activity, then Program Element Number)

BA# 06: RDT&E Management Support

Cost (\$ in Millions)

Line#	BA#	PE#	PE Title	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
152	06	0605803A	Technical Information Activities	77.926	48.309	63.872	-	63.872
153	06	0605805A	Munitions Standardization, Effectiveness and Safety	84.951	53.338	57.142	-	57.142
154	06	0605898A	Management HQ - R&D	15.772	16.154	17.558	-	17.558
155	06	0605857A	Environmental Quality Technology Mgmt Support	4.991	3.195	4.961	-	4.961
Total: RDT&E Management Support				1,213.805	1,142.383	1,048.671	8.513	1,057.184

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0604256A: <i>THREAT SIMULATOR DEVELOPMENT</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	23.120	26.158	16.992	-	16.992	17.442	17.213	17.014	17.229	Continuing	Continuing
976: <i>ARMY THREAT SIM (ATS)</i>	23.120	26.158	16.992	-	16.992	17.442	17.213	17.014	17.229	Continuing	Continuing

Note

None Required.

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.

B. Program Change Summary (\$ in Millions)

	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>
Previous President's Budget	25.091	26.158	17.300	-	17.300
Current President's Budget	23.120	26.158	16.992	-	16.992
Total Adjustments	-1.971	-	-0.308	-	-0.308
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-1.500	-			
• SBIR/STTR Transfer	-0.471	-			
• Adjustments to Budget Years	-	-	-0.308	-	-0.308

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0604256A: <i>THREAT SIMULATOR DEVELOPMENT</i>	PROJECT 976: <i>ARMY THREAT SIM (ATS)</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
976: <i>ARMY THREAT SIM (ATS)</i>	23.120	26.158	16.992	-	16.992	17.442	17.213	17.014	17.229	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 2010	FY 2011	FY 2012
<p>Title: Continues Engineering Manufacturing and Development (EMD) for the Network Exploitation Test Tool (NETT).</p> <p style="text-align: right;">Articles:</p> <p>Description: Continues EMD for the NETT as a comprehensive Computer Network Operations (CNO) tool.</p> <p>FY 2010 Accomplishments: Continues 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 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 and has steadily incorporated leading Threat tools, tactics, techniques, and procedures.</p> <p>FY 2011 Plans:</p>	<p>3.558</p> <p>0</p>	<p>3.253</p> <p>0</p>	<p>3.332</p>

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>		R-1 ITEM NOMENCLATURE PE 0604256A: <i>THREAT SIMULATOR DEVELOPMENT</i>		PROJECT 976: <i>ARMY THREAT SIM (ATS)</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)				
				FY 2010
				FY 2011
				FY 2012
<p>Continues 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 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 and has steadily incorporated leading Threat tools, tactics, techniques, and procedures.</p> <p>FY 2012 Plans: 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.</p>				
<p>Title: Government Program Management for the Threat Systems Management Office Operations (TSMO).</p> <p align="right">Articles:</p> <p>Description: Government Program Management for TSMO.</p> <p>FY 2010 Accomplishments: The Government Program Management for the Threat Systems Management Office Operations funds the operation, maintenance management, and sustainment capability for Threat systems within the Army's Threat inventory. Satisfies the requirement to provide operations and maintenance, spares, training, special tools, recurring DIACAP, etc, for fielded Threat systems and infrastructure. Funding supports manpower, storage, and integration facilities associated with the sustainment and operational readiness of the Army's Threat force.</p> <p>FY 2011 Plans: The Government Program Management for the Threat Systems Management Office Operations funds the operation, maintenance management, and sustainment capability for Threat systems within the Army's Threat inventory. Satisfies the requirement to provide operations and maintenance, spares, training, special tools, recurring DIACAP, etc, for fielded Threat systems and infrastructure. Funding supports manpower, storage, and integration facilities associated with the sustainment and operational readiness of the Army's Threat force.</p> <p>FY 2012 Plans:</p>				<p>1.968</p> <p>0</p>
				1.851
				2.895

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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0604256A: <i>THREAT SIMULATOR DEVELOPMENT</i>	PROJECT 976: <i>ARMY THREAT SIM (ATS)</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
Government Program Management for the TSMO Operations funds the operation, 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 Department of Defense Information Assurance and Certification Process (DIACAP), etc, for fielded Threat systems and infrastructure.				
<p>Title: Continues Engineering and Manufacturing Development (EMD) for the Threat Intelligence and Electronic Warfare (IEW).</p> <p align="right">Articles:</p> <p>Description: Continues EMD for the Threat Intelligence and Electronic Warfare (IEW) Environment to simulate Electronic Warfare capabilities.</p> <p>FY 2010 Accomplishments: Continues EMD for the Threat Intelligence and Electronic Warfare (IEW) Environment that provides the constructive Threat representation environment for Army T&E and provides the primary capability to interact between live, virtual, and constructive Threat Information Operations (IO) environments.</p> <p>FY 2011 Plans: Continues EMD for the Threat Intelligence and Electronic Warfare (IEW) Environment that provides the constructive Threat representation environment for Army T&E and provides the primary capability to interact between live, virtual, and constructive Threat Information Operations (IO) environments.</p> <p>FY 2012 Plans: Continues EMD for the Threat Intelligence Electronic Warfare Environment. Threat Intelligence Electronic Warfare Environment 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 Threat IEW Environment 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.</p>		3.035 0	3.874 0	4.039
<p>Title: Completes the Engineering and Manufacturing Development (EMD) for the Electronic Combat and Counter Terrorism Training Range.</p> <p align="right">Articles:</p> <p>Description: Completes the EMD for the FY10 Electronic Combat and Counter Terrorism Training Range Congressional Add.</p> <p>FY 2010 Accomplishments:</p>		2.928 0	-	-

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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>		R-1 ITEM NOMENCLATURE PE 0604256A: <i>THREAT SIMULATOR DEVELOPMENT</i>		PROJECT 976: <i>ARMY THREAT SIM (ATS)</i>			
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)							
				FY 2010			
				FY 2011			
				FY 2012			
<p>Completes EMD for the FY10 Electronic Combat and Counter Terrorism Training Range Congressional Add. This was a follow-on to FY08-09 Congressional Adds for Townsend Electronic Training Range.</p> <p>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.</p> <p align="right">Articles:</p> <p>Description: Continues the EMD for the ITF to support new threat systems/equipment.</p> <p>FY 2010 Accomplishments: Continues the EMD for the ITF that will provide an integrated, scalable Threat command and control for all Army Threat representations as well as provide the Test & Evaluation (T&E) solution to satisfy the SoS requirement of a Free Thinking Threat force.</p> <p>FY 2011 Plans: Continues the EMD for the ITF that will provide an integrated, scalable Threat command and control for all Army Threat representations as well as provide the Test & Evaluation (T&E) solution to satisfy the SoS requirement of a Free Thinking Threat force.</p> <p>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 System of Systems requirement of a Free Thinking Threat force.</p>					3.292 0	3.858 0	3.908
<p>Title: Continues the Engineering and Manufacturing Development (EMD) for the Threat Signal Injection Jammer (TSIJ).</p> <p align="right">Articles:</p> <p>Description: Continues the EMD for the TSIJ to provide the Army an alternative to open-air Electronic Attack (EA) in a test environment.</p> <p>FY 2010 Accomplishments: Continues 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.</p> <p>FY 2011 Plans: Continues 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.</p> <p>FY 2012 Plans:</p>					2.833 0	1.128 0	0.417

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)				
				FY 2010
				FY 2011
				FY 2012
Continues 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: Continues the Engineering and Manufacturing Development (EMD) for the Control of Signal Transmission-Open Air Capability (CST-OAC) and Signal Intelligence/Direct Finding (SIGINT/DF).				2.052 0
Articles:				0.667 0
Description: Continues the EMD for the CST-OAC and SIGINT/DF sensors onto a larger aerial platform for Threat Devices capability.				-
FY 2010 Accomplishments: Continues the EMD for the CST-OAC and SIGINT/DF sensors onto a larger aerial platform for Threat Devices capability.				
FY 2011 Plans: Completes EMD for the CST-OAC and SIGINT/DF sensors onto a larger aerial platform for Threat Devices capability.				
Title: Completes the Engineering and Manufacturing Development (EMD) for the Networked Electronic Support Threat Sensors (NESTS).				1.644 0
Articles:				-
Description: Completes the EMD for the NESTS systems.				-
FY 2010 Accomplishments: Completes the EMD for the NESTS systems. Developed NESTS systems up to 3GHz for integration within the Force.				
Title: Continues Government Program Management for the Threat Computer Network Operations Teams (TCNOT) to support threat events.				1.810 0
Articles:				2.327 0
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.				2.401
FY 2010 Accomplishments: Continues 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 Threat CNO Team mission is to accurately replicate the hacker intent of state and non-				

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011			
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2010	FY 2011	FY 2012
<p>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.</p> <p>FY 2011 Plans: Continues 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 is 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.</p> <p>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 b exploited by Threat forces, replicating loss of service or exploiting network enabled systems to gain critical information or create a desired effect. Funding supports unique training, credentials, and authorizations involving organizations such as the Army 1st Information Operations Command, National Security Agency, Army Office of the Deputy Chief of Staff - Intelligence (Army G-2), and industry. Army G-2 specifically granted exception to policy for TSMO to conduct open-network Threat CNO testing in support of Army T&E.</p>					
<p>Title: Army Technical Test Instrumentation and Targets Project 62C Modeling and Simulation Instrumentation</p> <p>Description: Project 976 includes \$9,200K FY11 RDTE incorrectly placed in this funding line.</p> <p>FY 2011 Plans: Project 976 includes \$9,200K 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.</p>			-	9.200 0	-
Accomplishments/Planned Programs Subtotals			23.120	26.158	16.992

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

N/A

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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0604258A: <i>TARGET SYSTEMS DEVELOPMENT</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	13.183	8.614	11.247	-	11.247	13.462	13.415	12.028	11.899	Continuing	Continuing
238: <i>AERIAL TARGETS</i>	4.146	4.525	7.635	-	7.635	9.958	9.949	8.620	8.443	Continuing	Continuing
459: <i>GROUND TARGETS</i>	9.037	4.089	3.612	-	3.612	3.504	3.466	3.408	3.456	Continuing	Continuing

Note

FY12 includes increases for Project 238 - Aerial Targets.

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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	13.544	8.614	8.625	-	8.625
Current President's Budget	13.183	8.614	11.247	-	11.247
Total Adjustments	-0.361	-	2.622	-	2.622
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.361	-			
• Adjustments to Budget Years	-	-	2.622	-	2.622

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
238: <i>AERIAL TARGETS</i>	4.146	4.525	7.635	-	7.635	9.958	9.949	8.620	8.443	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Aerial Targets support Army Transformation and the Overseas Contingency Operations 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 2010	FY 2011	FY 2012
Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Rotary Wing Targets.	0.488	0.494	0.498
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 2010 Accomplishments: Continues EMD for the Rotary Wing Targets, including updates for obsolescence, maintenance, and safety to support T&E programs such as Surface Launched Advanced Medium Range Air to Air Missile (SLAMRAAM), Navy Standard Missile (SM-6), Navy LHA air defense upgrades, and others.			
FY 2011 Plans: Continues EMD for the Rotary Wing Targets, including updates for obsolescence, maintenance, and safety to support T&E programs such as Surface Launched Advanced Medium Range Air to Air Missile (SLAMRAAM), Navy Standard Missile (SM-6), Navy LHA air defense upgrades, and others.			
FY 2012 Plans:			

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
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 Surface Launched Advanced Medium Range Air to Air Missile (SLAMRAAM), Navy Standard Missile (SM-6), Navy LHA air defense upgrades, and Army and Navy Aircraft Survivability development projects.				
<p>Title: Engineering and Manufacturing Development (EMD) phase contract activity for the High Speed Aerial Target.</p> <p align="right">Articles:</p> <p>Description: Continue EMD phase contract activities for the High Speed Aerial Target (HSAT, MQM-107) equipment.</p> <p>FY 2010 Accomplishments: Continues 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, SLAMRAAM, and classified programs for Army and Tri-Service customers.</p> <p>FY 2011 Plans: Continues 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, SLAMRAAM, and classified programs for Army and Tri-Service customers.</p> <p>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 research, development, test, and evaluation of weapons systems and to aid in training operational units employing production 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, Joint Land Attack Cruise Missile Defense Elevated Netted Sensors (JLENS), MEADS, SLAMRAAM, and classified programs for Army and Tri-Service customers.</p>		1.275 0	1.280 0	1.299
<p>Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Target Tracking Control Systems (TTCS) and aerial target control components.</p> <p align="right">Articles:</p> <p>Description: Continue EMD phase contract activities for the TTCS and aerial target control components.</p> <p>FY 2010 Accomplishments:</p>		0.523 0	0.552 0	0.614

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
<p>Funded EMD for the TTCS and aerial target control components. Updates documentation of the system and operations and maintenance manuals. Supports operational repair and maintenance with engineering analysis of target control system performance. 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. This will provide support to programs such as Patriot, SLAMRAAM, MEADS, and others.</p> <p>FY 2011 Plans: Continues EMD for the TTCS and aerial target control components. Updates documentation of the system and operations and maintenance manuals. Supports operational repair and maintenance with engineering analysis of target control system performance. 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. This will provide support to programs such as Patriot, SLAMRAAM, MEADS, and others.</p> <p>FY 2012 Plans: Will fund 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, SLAMRAAM, MEADS, and others.</p>				
<p>Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Towed Targets/Ancillary devices.</p> <p align="right">Articles:</p> <p>Description: Continue EMD phase contract activities for the Towed Targets/Ancillary devices.</p> <p>FY 2010 Accomplishments: 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.</p> <p>FY 2011 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.</p> <p>FY 2012 Plans:</p>		0.669 0	0.641 0	0.743

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
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, SLAMRAAM 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.				
<p>Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Integrated Avionics Package (IAP).</p> <p align="right">Articles:</p> <p>Description: Continue EMD phase contract activities for the IAP.</p> <p>FY 2010 Accomplishments: Continues EMD for the IAP. Designs component changes to correct for obsolescence. Update software to correct problems 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, SLAMRAAM, and MEADS.</p> <p>FY 2011 Plans: Continues EMD for the IAP. Designs component changes to correct for obsolescence. Update software to correct problems 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, SLAMRAAM, and MEADS.</p> <p>FY 2012 Plans: Continues EMD for the IAP. IAP provides the avionics for aerial targets to support multiple mission requirements for programs such as Patriot, SLAMRAAM, and MEADS. 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.</p>		0.065 0	0.241 0	0.326
<p>Title: Engineering and Manufacturing Development (EMD) phase contract activity for Aerial Virtual Targets.</p> <p align="right">Articles:</p> <p>Description: Continue EMD phase contract activities for Aerial Virtual Targets.</p> <p>FY 2010 Accomplishments: 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</p>		0.549 0	0.843 0	0.937

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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0604258A: <i>TARGET SYSTEMS DEVELOPMENT</i>	PROJECT 238: <i>AERIAL TARGETS</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011
<p>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.</p> <p>FY 2011 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.</p> <p>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 Longbow Hellfire.</p>			
<p>Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Army Target Common Control System.</p> <p>Description: EMD phase contract activities for the Army Target Common Control System which will support a modern current technology target control system for control of both aerial and ground targets.</p> <p>FY 2012 Plans: Will fund EMD for the ATCCS 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 DIACAP compliant control system. Provides control system</p>		-	-
			2.640

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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0604258A: <i>TARGET SYSTEMS DEVELOPMENT</i>	PROJECT 238: <i>AERIAL TARGETS</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
components within the aerial and ground targets to be controlled by the ATCCS. This will provide support to programs such as Patriot, SLAMRAAM, MEADS, E-IBCT, Apache, and others.				
<p>Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Unmanned Aerial System - Target (UAS-T).</p> <p>Articles:</p> <p>Description: Continue EMD phase contract activities for the UAS-T to provide threat representative support for test and experimentation missions.</p> <p>FY 2010 Accomplishments: Continues EMD for the UAS-T to provide threat representative support for test and experimentation missions including the Surface Launched Medium Range Air-to-Air Missile (SLAMRAAM), Counter Rockets, Artillery and Mortars (C-RAM), and Littoral Combat Ship. Provide management for the initial delivery of production air vehicles, initial ground support equipment, initial spares, and operational test support missions. 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 minor enhancements to the basic target system identified during operations including the integration of a commercial off-the-shelf satellite data link system to extend the operational range of the target significantly. Provide for the updating of the system drawing package to incorporate Item Unique Identification (IUID) markings, satellite data link kit integration.</p> <p>FY 2011 Plans: Continues EMD for the UAS-T to provide threat representative support for test and experimentation missions including the Surface Launched Medium Range Air-to-Air Missile (SLAMRAAM), Counter Rockets, Artillery and Mortars (C-RAM), and Littoral Combat Ship. Provide management for the initial delivery of production air vehicles, initial ground support equipment, initial spares, and operational test support missions. 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 minor enhancements to the basic target system identified during operations including the integration of a commercial off-the-shelf satellite data link system to extend the operational range of the target significantly. Provide for the updating of the system drawing package to incorporate Item Unique Identification (IUID) markings, satellite data link kit integration.</p> <p>FY 2012 Plans: Continues EMD for the UAS-T to procure, 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</p>		0.577 0	0.474 0	0.578

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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0604258A: <i>TARGET SYSTEMS DEVELOPMENT</i>	PROJECT 238: <i>AERIAL TARGETS</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
missions including the Surface Launched Medium Range Air-to-Air Missile (SLAMRAAM), Counter Rockets, Artillery and Mortars (C-RAM), and Littoral Combat Ship. Provide management for the initial delivery of production air vehicles, initial ground support equipment, initial spares, and operational test support missions. 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 minor enhancements to the basic target system identified during operations including the integration of a commercial off-the-shelf satellite data link system to extend the operational range of the target significantly. Provide for the updating of the system drawing package to incorporate Item Unique Identification (IUID) markings, satellite data link kit integration.			
Accomplishments/Planned Programs Subtotals	4.146	4.525	7.635

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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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0604258A: <i>TARGET SYSTEMS DEVELOPMENT</i>	PROJECT 459: <i>GROUND TARGETS</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
459: <i>GROUND TARGETS</i>	9.037	4.089	3.612	-	3.612	3.504	3.466	3.408	3.456	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 2010	FY 2011	FY 2012
Title: Government System Test and Evaluation for the Mobile Ground Target Operations.	2.461	2.605	2.594
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 Army Brigade Combat Team Modernization (ABCTM), Apache Block III, Guided Multiple Launch Rocket System (GMLRS), and others.			
FY 2010 Accomplishments: 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 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. Efforts support 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 190 inactive			

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0604258A: <i>TARGET SYSTEMS DEVELOPMENT</i>	PROJECT 459: <i>GROUND TARGETS</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
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.				
<p>Title: Government System Test and Evaluation for Mobile Ground Target Hardware.</p> <p align="right">Articles:</p> <p>Description: Government System Test and Evaluation for Mobile Ground Targets threat fleet with up to date threat representative targets.</p> <p>FY 2010 Accomplishments: Completes the Government System Test and Evaluation for the 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, Scorpion, GMLRS, Javelin, Apache Block III and others.</p>		2.584 0	-	-
<p>Title: Government System Test and Evaluation for Ground Virtual Targets.</p> <p align="right">Articles:</p> <p>Description: Government System Test and Evaluation to support the research and development of Ground Virtual Targets.</p> <p>FY 2010 Accomplishments: 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. Involves 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. 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. These models are used by multiple DoD agencies and weapon systems such as Close Combat Weapon System (CCWS) and Longbow Hellfire.</p> <p>FY 2011 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. Involves 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. 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.</p>		1.041 0	0.776 0	0.751

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0604258A: <i>TARGET SYSTEMS DEVELOPMENT</i>	PROJECT 459: <i>GROUND TARGETS</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
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<p>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 too costly or difficult to be conducted under actual field conditions. These models are used by multiple DoD agencies and weapon systems such as Close Combat Weapon System (CCWS) and Longbow Hellfire.</p> <p>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 too costly or difficult to be conducted under actual field conditions. These models are used by multiple DoD agencies and weapon systems such as Close Combat Weapon System (CCWS) and Longbow Hellfire.</p>			
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<p>Title: Government System Test and Evaluation for Operational Threat Vehicle Company.</p> <p align="right">Articles:</p> <p>Description: Government System Test and Evaluation 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).</p> <p>FY 2010 Accomplishments: Government System Test and Evaluation 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) to meet emerging requirements for threat representative missions.</p> <p>FY 2011 Plans: Government System Test and Evaluation 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) to meet emerging requirements for threat representative missions.</p> <p>FY 2012 Plans: Government System Test and Evaluation 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) to meet emerging requirements for threat</p>	2.951 0	0.708 0	0.267
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0604258A: <i>TARGET SYSTEMS DEVELOPMENT</i>	PROJECT 459: <i>GROUND TARGETS</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
representative missions. This program will provide realistic threat capable targets for use in force-on-force exercises to allow Blue Forces to think and adapt to the changing battle dynamic as it unfolds.			
Accomplishments/Planned Programs Subtotals	9.037	4.089	3.612

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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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0604759A: <i>Major T&E Investment</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	49.942	42.102	49.437	-	49.437	53.933	53.013	47.385	47.005	Continuing	Continuing
983: <i>Reagan Test Site (RTS) T&E Investments</i>	8.372	8.805	8.771	-	8.771	8.728	7.675	7.437	7.175	Continuing	Continuing
984: <i>Major Developmental Testing Instrumentation</i>	34.357	25.935	31.601	-	31.601	32.759	31.008	25.723	25.412	Continuing	Continuing
986: <i>Major Operational Test Instrumentation</i>	7.213	7.362	9.065	-	9.065	12.446	14.330	14.225	14.418	Continuing	Continuing

Note
Change Summary Explanation: FY12 includes increases of \$8.771 million for Project 983 - Reagan Test Site (RTS) T&E Investments and \$5.265 million for Project 984 - Major Developmental Testing Instrumentation and a decrease of 0.022 million for Project 986 - Major Operational Test Instrumentation.

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) Developmental Test Command (DTC) test activities: White Sands Test Center (WSTC), NM; Yuma Test Center, (YTC), AZ; Aberdeen Test Center (ATC), MD; Electronic Proving Ground (EPG), AZ; Redstone Technical Test Center (RTTC), AL; Aviation Technical Test Center (ATTC), AL; and for the Reagan Test Site (RTS) at the US 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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0604759A: <i>Major T&E Investment</i>
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B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	51.576	42.102	35.423	-	35.423
Current President's Budget	49.942	42.102	49.437	-	49.437
Total Adjustments	-1.634	-	14.014	-	14.014
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.634	-			
• Adjustments to Budget Years	-	-	14.014	-	14.014

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0604759A: <i>Major T&E Investment</i>	PROJECT 983: <i>Reagan Test Site (RTS) T&E Investments</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
983: <i>Reagan Test Site (RTS) T&E Investments</i>	8.372	8.805	8.771	-	8.771	8.728	7.675	7.437	7.175	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 2010	FY 2011	FY 2012
<p>Title: RTS Distributed Operations (RDO)</p> <p align="right">Articles:</p> <p>Description: RTS Distributed Operations</p> <p>FY 2010 Accomplishments: Provide for distributed operation of the Range instrumentation from Continental U.S. Command and Control (C2) sites.</p> <p>FY 2011 Plans: Will Continue to provide for distributed operation of the Range instrumentation from Continental U.S. Command and Control (C2) sites.</p>	2.075 0	2.000 0	-
<p>Title: RTS Optics Modernization Program (ROMP)</p> <p align="right">Articles:</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2010 Accomplishments: Provided funding to Modernize RTS optics sensor suite, fixing deficiencies and enabling remote operations of the equipment.</p> <p>FY 2011 Plans:</p>	3.010 0	1.600 0	1.572

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0604759A: <i>Major T&E Investment</i>	PROJECT 983: <i>Reagan Test Site (RTS) T&E Investments</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
Will continue to Modernize RTS optics sensor suite, fixing deficiencies and enabling remote operations of the equipment. FY 2012 Plans: Modernize RTS optics sensor suite, fixing deficiencies and enabling remote operations of the equipment.				
Title: Millimeter Wave (MMW) Ka-Band Tubes Description: MMW Ka-Band Tubes FY 2010 Accomplishments: Millimeter Wave (MMW) Ka-Band Tubes.		Articles: 0.350 0	-	-
Title: Radar Reliability Improvement Program (RRI). Description: Funding is provided for the following effort FY 2010 Accomplishments: Address technology refresh, obsolescence and sustainment issues for critical radar system operation. FY 2011 Plans: Will address technology refresh, obsolescence and sustainment issues for critical radar system operation. FY 2012 Plans: Will continue to address technology refresh, obsolescence and sustainment issues for critical radar system operation.		Articles: 0.646 0	0.550 0	0.570
Title: Radar Computer and Software Refresh Description: Funding is provided for the following effort FY 2010 Accomplishments: Funded the replacement of obsolete main radar computer for all RTS radars and refresh software to run on new hardware. FY 2011 Plans: Continues to replace obsolete main radar computer for all RTS radars and refresh software to run on new hardware. FY 2012 Plans:		Articles: 0.650 0	1.705 0	1.964

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Will Replace obsolete main radar computer for all RTS radars and refresh software to run on new hardware. Title: Radar Open System Architecture (ROSA) Refresh. Description: ROSA Refresh FY 2010 Accomplishments: Funds technology refresh in the RTS radars, replacing obsolete components. FY 2011 Plans: Will continue to Implement technology refresh in the RTS radars, replacing obsolete components.	0.500 0	0.350 0	-
Title: MMW Limited Bandwidth (BW) Expansion Program. Description: Funding is provided for the following effort FY 2010 Accomplishments: Funded the Upgrade of MMW bandwidth to 4 Gigahertz (GHz). FY 2011 Plans: Will fund the Upgrade of MMW bandwidth to 4 Gigahertz (GHz). FY 2012 Plans: Continues the Upgrade of MMW bandwidth to 4 Gigahertz (GHz).	0.360 0	0.400 0	0.196
Title: Telemetry (TM) Modernization Study. Description: Funding is provided for the following effort FY 2010 Accomplishments: Replaced outdated TM equipment with modern digital systems and enable remote operation. FY 2011 Plans: Will Replace outdated TM equipment with modern digital systems and enable remote operation. FY 2012 Plans:	0.457 0	1.200 0	1.964

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0604759A: <i>Major T&E Investment</i>	PROJECT 983: <i>Reagan Test Site (RTS) T&E Investments</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
Continues to Replace outdated TM equipment with modern digital systems and enable remote operation. Title: Multiple Simultaneous Engagement (MSE) Flight Safety. Description: Funding is provided for the following effort FY 2010 Accomplishments: Funded the modernization and upgrade to flight safety systems to accommodate customer requirements. FY 2011 Plans: Will Modernize and upgrade flight safety systems to accommodate customer requirements. FY 2012 Plans: Continues to Modernize and upgrade flight safety systems to accommodate customer requirements.		0.324 0	0.500 0	0.982
Articles:				
Title: Legacy Servo Upgrade Program. Description: Funding is provided for the following effort FY 2011 Plans: Replace and upgrade obsolete antenna servos and interlock systems at the RTS radars. FY 2012 Plans: Will continue to Replace and upgrade obsolete antenna servos and interlock systems at the RTS radars.		-	0.500 0	0.786
Articles:				
Title: Mission Data Network (MDN) Modernization. Description: MDN Modernization. FY 2012 Plans: Replace outdated network equipment and improve on-atoll bandwidth to support increasing mission critical customer requirements.		-	-	0.491
Articles:				
Title: RTS Automation and Decision Support. Description: Funding is provided for the following effort FY 2012 Plans:		-	-	0.246
Articles:				

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0604759A: <i>Major T&E Investment</i>	PROJECT 983: <i>Reagan Test Site (RTS) T&E Investments</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Addition of automation measures and more sophisticated algorithms to improve operator efficiency.			
Accomplishments/Planned Programs Subtotals	8.372	8.805	8.771

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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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>				R-1 ITEM NOMENCLATURE PE 0604759A: <i>Major T&E Investment</i>				PROJECT 984: <i>Major Developmental Testing Instrumentation</i>			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
984: <i>Major Developmental Testing Instrumentation</i>	34.357	25.935	31.601	-	31.601	32.759	31.008	25.723	25.412	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) Developmental Test Command (DTC) 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 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. Digital Network Migration (DNM) is the development of mobile assets for support of remote testing areas and linking instrumentation assets to Test Support Network and Cox Range Control Center (CRCC). Quantitative Visualization (QV) for Test and Evaluation is the development of QV integration models to enable rapid conversion of test data into visual representations. Mobile Multi-sensor Time-Space Position Information (TSPI) System (MMTS) is the development of a tracking system for weapons with low/flat trajectories and low radar cross sections. Common Range Integrated Instrumentation System (CRIIS) Rapid Prototype Initiative (RPI) will meet critical requirements to provide global positioning system (GPS) based Time, Space, Position, Information (TSPI) instrumentation to support the testing of a variety of platforms including advanced aircraft, ships, helicopters, Unmanned Aerial Vehicles (UAVs), Ground Vehicles and dismounted soldiers. Advanced Ballistic Data Acquisition develops capabilities that will permit Yuma Test Center (YTC) and Aberdeen Test Center (ATC) to test and generate safety releases for new systems being introduced by the on-going Army Transformation as part of the Precision Effort and testing of Interim and Legacy weapons. Common Range Integrated Instrumentation System (CRIIS) Objective Program provides precision location instrumentation which will significantly increase the T&E ranges' capability to meet the test instrumentation needs of the tri-service range users. Electromagnetic Environmental Effects (E3) Electromagnetic Radiation Effects (EMRE) Systems Modernization - This project will upgrade equipment at the WSMR Electromagnetic Radiation Effects (EMRE) site where Electromagnetic Environmental Effects (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.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0604759A: <i>Major T&E Investment</i>	PROJECT 984: <i>Major Developmental Testing Instrumentation</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
<p>Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Digital Network Migration (DNM). Articles:</p> <p>Description: Completes EMD phase contract activities for the Digital Network Migration (DNM).</p> <p>FY 2010 Accomplishments: Completed EMD for support of testing in remote areas and linking of instrumentation assets to the Test Support Network and Cox Range Control Center (CRCC).</p>		3.075 0	-	-
<p>Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Quantitative Visualization (QV) models. Articles:</p> <p>Description: Completes EMD phase contract activities for the Quantitative Visualization (QV) models.</p> <p>FY 2010 Accomplishments: Completed EMD for the Quantitative Visualization (QV) models to enable rapid conversion of test data into visual representations.</p>		0.482 0	-	-
<p>Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Fiber Optic Network II (FON II) - Aberdeen Test Center (ATC) Articles:</p> <p>Description: Continue EMD phase contract activities for the Fiber Optic Network II (FON II) - Aberdeen Test Center (ATC).</p> <p>FY 2010 Accomplishments: Continued EMD for the Fiber Optic Network II (FON II) - Aberdeen Test Center (ATC). Continues 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.</p> <p>FY 2011 Plans: Continues EMD for the Fiber Optic Network II (FON II) - Aberdeen Test Center (ATC). Continues 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.</p> <p>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.</p>		6.661 0	5.590 0	2.370
		4.425	4.000	3.966

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0604759A: <i>Major T&E Investment</i>	PROJECT 984: <i>Major Developmental Testing Instrumentation</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
<p>Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Systems Test and Integration Laboratory (STIL).</p> <p>Articles:</p> <p>Description: Continue EMD phase contract activities for the Systems Test and Integration Laboratory (STIL).</p> <p>FY 2010 Accomplishments: 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.</p> <p>FY 2011 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.</p> <p>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.</p>		0	0	
<p>Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Mobile Multi-sensor Time Space Position Information (TSPI) System.</p> <p>Articles:</p> <p>Description: Completes EMD phase contract activities for the Mobile Multi-sensor Time Space Position Information (TSPI) System (MMTS)(formerly Hypervelocity Advanced TSPI System).</p> <p>FY 2010 Accomplishments: Completed EMD for the Mobile Multi-sensor Time Space Position Information (TSPI) System (MMTS)(formerly Hypervelocity Advanced TSPI System). Completes development of a tracking system for weapons with low/flat trajectories and low radar cross sections.</p>		5.143 0	-	-
<p>Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Common Range Integrated Instrumentation System (CRIIS) Rapid Prototype Initiative RPI.</p> <p>Articles:</p>		1.012 0	2.172 0	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0604759A: <i>Major T&E Investment</i>	PROJECT 984: <i>Major Developmental Testing Instrumentation</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
<p>Description: EMD phase contract activities for the Common Range Integrated Instrumentation System (CRIIS) Rapid Prototype Initiative (RPI).</p> <p>FY 2010 Accomplishments: Continued EMD for the Common Range Integrated Instrumentation System (CRIIS) Rapid Prototype Initiative (RPI). Continues the development of precision Time Space Position Information (TSPI) capabilities for dismounted personnel and low dynamic vehicles (LDV) (i.e. such as ground or aircraft that are subjected to accelerations of 4g or less) engaged in Test and Evaluation (T&E) events.</p> <p>FY 2011 Plans: Completes EMD for the Common Range Integrated Instrumentation System (CRIIS) Rapid Prototype Initiative (RPI). Completes the development of precision Time Space Position Information (TSPI) capabilities for dismounted personnel and low dynamic vehicles (LDV) (i.e. such as ground or aircraft that are subjected to accelerations of 4g or less) engaged in Test and Evaluation (T&E) events.</p>				
<p>Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Advanced Distributed Modular Acquisition System (ADMAS).</p> <p>Description: EMD phase contract activities for the Advanced Distributed Modular Acquisition System (ADMAS) Product Improvement Program (PIP).</p> <p>FY 2010 Accomplishments: Continued EMD for the Advanced Distributed Modular Acquisition System (ADMAS) Product Improvement Program (PIP). Continues the development of very small and low power pocket sized ADMAS systems. ADMAS PIP continues 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).</p> <p>FY 2011 Plans: Continues EMD for the Advanced Distributed Modular Acquisition System (ADMAS) Product Improvement Program (PIP). Continues the development of very small and low power pocket sized ADMAS systems. ADMAS PIP continues 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).</p> <p>FY 2012 Plans:</p>		3.589 0	3.733 0	1.715

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0604759A: <i>Major T&E Investment</i>	PROJECT 984: <i>Major Developmental Testing Instrumentation</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
<p>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).</p> <p>Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Range Radar Replacement Program.</p> <p>Articles:</p> <p>Description: EMD phase contract activities for the Range Radar Replacement Program.</p> <p>FY 2010 Accomplishments: Continued EMD for the Range Radar Replacement Program. Continue the upgrade or replace obsolete tracking and surveillance radars at Electronic Proving Ground (EPG), White Sands Missile Range (WSMR) and Yuma Proving Ground (YPG) with modern digital equipment.</p> <p>FY 2011 Plans: Continues EMD for the Range Radar Replacement Program. Continue the upgrade or replace obsolete tracking and surveillance radars at EPG, WSMR and YPG with modern digital equipment.</p> <p>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).</p>		9.970 0	4.438 0	18.005
<p>Title: Engineering and Manufacturing Development (EMD) phase contract activity of the Common Range Integrated Instrumentation System (CRIIS) Objective Program.</p> <p>Description: Starts EMD phase contract activities of the Common Range Integrated Instrumentation System (CRIIS) Objective Program.</p> <p>FY 2012 Plans: 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.</p>		-	-	0.280
		-	-	5.265

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0604759A: <i>Major T&E Investment</i>	PROJECT 984: <i>Major Developmental Testing Instrumentation</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
<p>Title: Engineering and Manufacturing Development (EMD) phase contract activity for the E3 Systems Modernization (EMRE) project.</p> <p>Description: EMD phase contract activities for the E3 Systems Modernization (EMRE) project.</p> <p>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.</p>				
<p>Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Joint Warfighter Test and Training Capability (JWTTTC).</p> <p>Description: Continue EMD phase contract activities for the Joint Warfighter Test and Training Capability (JWTTTC).</p> <p>FY 2011 Plans: Continue EMD phase contract activities for the Joint Warfighter Test and Training Capability (JWTTTC).</p>		-	3.137 0	-
<p>Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Advanced Ballistic Data Acquisition (ABDA).</p> <p>Description: EMD phase contract activities for the Advanced Ballistic Data Acquisition (ABDA).</p> <p>FY 2011 Plans: EMD phase contract activities for the Advanced Ballistic Data Acquisition (ABDA).</p>		-	1.481 0	-
<p>Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Kineto Tracking Mounts (KTM) Recapitalization.</p> <p>Description: EMD phase contract activities for the Kineto Tracking Mounts (KTM) Recapitalization.</p> <p>FY 2011 Plans: EMD phase contract activities for the Kineto Tracking Mounts (KTM) Recapitalization.</p>		-	1.384 0	-
Accomplishments/Planned Programs Subtotals		34.357	25.935	31.601

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0604759A: <i>Major T&E Investment</i>	PROJECT 984: <i>Major Developmental Testing Instrumentation</i>

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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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>				R-1 ITEM NOMENCLATURE PE 0604759A: <i>Major T&E Investment</i>				PROJECT 986: <i>Major Operational Test Instrumentation</i>			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
986: <i>Major Operational Test Instrumentation</i>	7.213	7.362	9.065	-	9.065	12.446	14.330	14.225	14.418	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

This project supports the development of major field instrumentation for Operational Testing (OT), Force Development Testing and Experimentation (FDTE), Army Warfighting Experiments (AWE) for the U.S. Army Test and Evaluation Command (ATEC), and Army Transformation. Each initiative set forth in this program element is directly tied to tactical systems that support the following Army Modernization Plan operational capability areas: Dominate Maneuver, Full Dimensional Protection, Precision Engagement, and Focused Logistics. The cornerstone of this effort is the Operational Test-Tactical Engagement System (OT-TES) vice Objective Real-Time Casualty Assessment and Instrumentation Suite (Objective RTCA) that provides users a high fidelity, realistic, real-time capability to measure the performance of hardware and personnel under tactical conditions for small and large-scale operations. Operational Test-Tactical Engagement System (OT-TES) allows the U.S. Army to test all Current-to-Future, Future Force, and Brigade Combat Team (BCT) Modernization activities capabilities in a force-on-force operational environment.

Major Instrumentation and 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 WSMR, additional common data collection devices, and updated, ATEC-wide, distributed data storage, analyses software, and tools. In addition, develop and field a Real-Time, Hardware-in-the-Loop, Modeling and Simulation (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 which will be integrated with other Federation models and simulations to create a comprehensive operational testing Live, Virtual, Constructive (LVC) environment. This includes planning, coordination for test control, tactical systems and partnerships. Operational testing requirements continue to rapidly evolve based on advanced technologies to support the Warfighter. As a result, it has become a necessity to upgrade the supporting operational testing LVC, test management, and test control, environment to ensure appropriate testing can be performed to properly characterize Brigade Combat Team-Modernization (BCTM), Joint Tactical Radio Systems (JTRS), Distributed Common Ground Systems-Army (DCGS-A), Aerial Common Sensor (ACS), and Future Force Warfighter capabilities.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0604759A: <i>Major T&E Investment</i>	PROJECT 986: <i>Major Operational Test Instrumentation</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
<p>Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Operational Test-Tactical Engagement System (OT-TES).</p> <p>Articles:</p> <p>Description: Continue EMD phase contract activities for OT-TES.</p> <p>FY 2010 Accomplishments: Continued 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. Develops 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, Completed Development, Integration, and Testing of the Communications Upgrade - New Player Units, New Communications Sub-System, New Encryption and RTCA Capabilities for Electronic Warfare and Countermeasures.</p> <p>FY 2011 Plans: Continues 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. Develops 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.</p>		6.383 0	6.400 0	-
<p>Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Operational Test Command (OTC) Analytic Simulation and Instrumentation Suite (OASIS) Enterprise Integration Solution.</p> <p>Articles:</p> <p>Description: EMD phase contract activities for the Operational Test Command (OTC) Analytic Simulation and Instrumentation Suite (OASIS) Enterprise Integration Solution (EIS).</p> <p>FY 2010 Accomplishments: Continues EMD for the Operational Test Command (OTC) Analytic Simulation and Instrumentation Suite (OASIS) Enterprise Integration Solution (EIS).</p> <p>FY 2011 Plans:</p>		0.830 0	0.962 0	0.761

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0604759A: <i>Major T&E Investment</i>	PROJECT 986: <i>Major Operational Test Instrumentation</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
Continues EMD for the Operational Test Command (OTC) Analytic Simulation and Instrumentation Suite (OASIS) Enterprise Integration Solution (EIS). FY 2012 Plans: Continues EMD by developing Operational Test Command (OTC) Analytic Simulation and Instrumentation Suite (OASIS) Enterprise Integration Solution (EIS). Funding supports integration of Federation members by developing OASIS EIS into a LVC environment which will support OTC's operational testing requirements for Brigade Combat Team-Modernization (BCTM) (formally FCS), battle command (e.g. Joint Tactical Radio Systems (JTRS), intelligence, surveillance, and reconnaissance (ISR) (e.g. Distributed Common Ground Systems-Army (DCGS-A), Aerial Common Sensor (ACS), etc.				
Title: Major Instrumentation and Modeling and Simulation (M&S) in Support of Network Integration Test Description: Develop 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), additional NetADMAS Production, 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) 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).		-	-	5.000
Title: Test and Training Common Technology Initiative; Network, Real Time Casualty Assessment (RTCA), Data Collection and After Action Review (AAR) Description: 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 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. FY 2012 Plans: This initiative will 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.		-	-	3.304
Accomplishments/Planned Programs Subtotals		7.213	7.362	9.065

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0604759A: <i>Major T&E Investment</i>	PROJECT 986: <i>Major Operational Test Instrumentation</i>

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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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY			R-1 ITEM NOMENCLATURE								
2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>			PE 0605103A: <i>Rand Arroyo Center</i>								
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	17.257	20.492	20.384	-	20.384	20.777	21.043	21.253	21.542	Continuing	Continuing
732: <i>ARROYO CENTER SPT</i>	17.257	20.492	20.384	-	20.384	20.777	21.043	21.253	21.542	Continuing	Continuing

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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	17.812	20.492	20.753	-	20.753
Current President's Budget	17.257	20.492	20.384	-	20.384
Total Adjustments	-0.555	-	-0.369	-	-0.369
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.555	-			
• Adjustments to Budget Years	-	-	-0.369	-	-0.369

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605103A: <i>Rand Arroyo Center</i>	PROJECT 732: <i>ARROYO CENTER SPT</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
732: <i>ARROYO CENTER SPT</i>	17.257	20.492	20.384	-	20.384	20.777	21.043	21.253	21.542	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 2010	FY 2011	FY 2012
Title: Research addressing manpower and training	4.721	5.777	5.780
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 2010 Accomplishments: The Arroyo center study program in manpower and training addressed the following Army Campaign Plan Objectives: Man the Army and preserve the all-volunteer force; provide facilities, programs, and services to support the Army and Army Families; train the Army for full spectrum operations; transform the operating force; and transform the generating force.			
FY 2011 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,			

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605103A: <i>Rand Arroyo Center</i>	PROJECT 732: <i>ARROYO CENTER SPT</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
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, simulation training development and application; training support systems; retention (active command/reserve command); officer career fields, selection, assignment sequencing; and medical forces and operations.				
Title: Research addressing force development and technology Description: 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 2010 Accomplishments: The Research in force development and technology addressed the following Army Campaign Plan Objectives: Support current global operations with ready landpower; reset the Army for full spectrum operations; and transform the operating force. FY 2011 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 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.		3.162 0	3.807 0	3.856
Title: Research addressing Army logistics Description: Key issues for the Army, including supply chain management; fleet management and modernization; logistics force development; and infrastructure management. FY 2010 Accomplishments:		3.923 0	4.749 0	4.710

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605103A: <i>Rand Arroyo Center</i>	PROJECT 732: <i>ARROYO CENTER SPT</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
<p>Research in Army logistics addressing the following Army Campaign Plan Objectives: Provide facilities, programs, and services to support the Army and Army families; enhance logistics readiness; and transform the generating force.</p> <p>FY 2011 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.</p> <p>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.</p>				
<p>Title: Research addressing strategies, doctrine, and resources</p> <p align="right">Articles:</p> <p>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.</p> <p>FY 2010 Accomplishments: Research in strategy, doctrine, and resources, addressing the following Army Campaign Plan Objectives: Support current global operations with ready landpower; transform the operating force; and transform the generating force. Additional quick-response support was provided.</p> <p>FY 2011 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.</p> <p>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.</p>		4.435 0	5.203 0	5.070
<p>Title: Research addressing military health</p> <p align="right">Articles:</p>		0.802 0	0.956 0	0.968

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605103A: <i>Rand Arroyo Center</i>	PROJECT 732: <i>ARROYO CENTER SPT</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
<p>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.</p> <p>FY 2010 Accomplishments: Research in strategy, doctrine, and resources, addressing the following Army Campaign Plan Objectives: Support current global operations with ready landpower; transform the operating force; and transform the generating force. Additional quick-response support was provided.</p> <p>FY 2011 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.</p> <p>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.</p>				
<p>Title: Small Business Innovative Research/Small Business Technology Transfer Program</p> <p align="right">Articles:</p> <p>Description: Small Business Innovative Research/Small Business Technology Transfer Program</p> <p>FY 2010 Accomplishments: Small Business Innovative Research directed research</p>		0.214 0	-	-
Accomplishments/Planned Programs Subtotals		17.257	20.492	20.384
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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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605301A: <i>ARMY KWAJALEIN ATOLL</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	157.391	163.788	145.606	-	145.606	149.178	144.424	141.710	141.998	Continuing	Continuing
614: <i>ARMY KWAJALEIN ATOLL</i>	157.391	163.788	145.606	-	145.606	149.178	144.424	141.710	141.998	Continuing	Continuing

Note

Funding realigned (8930) to PE 0604759A - Major T&E Investment

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 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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605301A: <i>ARMY KWAJALEIN ATOLL</i>
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B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	162.662	163.788	157.181	-	157.181
Current President's Budget	157.391	163.788	145.606	-	145.606
Total Adjustments	-5.271	-	-11.575	-	-11.575
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-5.271	-			
• Adjustments to Budget Years	-	-	-11.575	-	-11.575

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605301A: <i>ARMY KWAJALEIN ATOLL</i>	PROJECT 614: <i>ARMY KWAJALEIN ATOLL</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
614: <i>ARMY KWAJALEIN ATOLL</i>	157.391	163.788	145.606	-	145.606	149.178	144.424	141.710	141.998	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 Shuttle and orbital debris experiments. USAKA/RTS is a government-managed/contractor-operated (GMCO) site and is dependent upon its associated support contractors for operations and maintenance (O&M). Program funds contractors to accomplish O&M for both the RTS instrumentation suite and installation/base operations and provides mission essential bandwidth via a fiber optics cable system. Funding is required to maintain O&M support, while accepting moderate risk of continued degradation of USAKA/RTS infrastructure (housing, offices, and facilities), higher future repair costs, and reduced logistical support capability. The instrumentation suite consists of a number of sophisticated, one-of-a-kind, radar, optical, telemetry, command/control/communications, safety, and data reduction systems. These systems include the four unique radars of the Kiernan Reentry Measurement Site (KREMS); Super Recording Automatic Digital Optical Tracker (SRADOT) long range video-metric tracking systems; high density data recorders for high data-rate telemetry collected by nine antennas; an underwater acoustic impact location system; and data analysis/reduction hardware/software. The Advanced Research Project Agency (ARPA) Long-Range Tracking and Instrumentation Radar (ALTAIR), and the Target Resolution Discrimination Experiment (TRADEX) radars located at USAKA/RTS, are two of only three radars world-wide that have deep-space tracking capability. The Millimeter Wave Radar (MMW) is the most powerful imaging radar in the world. Funding enables weapon system assessment of operational effectiveness and suitability for the Army, Air Force, Navy and MDA, which all have programs planned that have significant test and data gathering requirements at USAKA/RTS. This test data cannot be obtained except through the use of technical facilities available on and in the vicinity of USAKA/RTS. Program supports Army's PATRIOT air defense system and the Advanced Hypersonic Weapon technology development program; Air Force's Minuteman III ICBM and the Space and Missile Center's associated programs; MDA's Ballistic Missile Defense System, Flexible Target Family (FTF), and Family of Systems; NASA's Space Transportation System (STS), Small Expendable Deployer System and Orbital Debris Measurement Programs.

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

	FY 2010	FY 2011	FY 2012
Title: Management Support	10.275	10.420	10.438
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2010 Accomplishments:			

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>		R-1 ITEM NOMENCLATURE PE 0605301A: <i>ARMY KWAJALEIN ATOLL</i>		PROJECT 614: <i>ARMY KWAJALEIN ATOLL</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
<p>Provided management support (salaries, training, travel, Space & Missile Defense Command (SMDC) matrix, etc).</p> <p>FY 2011 Plans: Continues to provide management support (salaries, training, travel, Space & Missile Defense Command (SMDC) matrix, etc).</p> <p>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.</p>				
<p>Title: Sustainment and Restoration/Modernization</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2010 Accomplishments: Accomplished facility maintenance and repair projects, including design and demolition.</p> <p>FY 2011 Plans: Will continue to accomplish facility maintenance and repair projects, including design and demolition.</p>		3.000 0	9.500 0	-
<p>Title: Procure petroleum, oils and lubricants (POL).</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2010 Accomplishments: Procured petroleum, oils and lubricants (POL).</p> <p>FY 2011 Plans: Continue to procure petroleum, oils and lubricants (POL).</p> <p>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.</p>		23.157 0	20.213 0	23.572
<p>Title: Procure other mission services.</p> <p>Description: Funding is provided for the following effort</p>		3.159 0	2.153 0	2.115

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605301A: <i>ARMY KWAJALEIN ATOLL</i>	PROJECT 614: <i>ARMY KWAJALEIN ATOLL</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
<p><i>FY 2010 Accomplishments:</i> Procured other mission services.</p> <p><i>FY 2011 Plans:</i> Continues to procure other mission services.</p> <p><i>FY 2012 Plans:</i> Will continue to procure other mission services which includes support from NETCOM, Tripler Army Medical Center, and Hickman AFB.</p>				
<p><i>Title:</i> Transportation</p> <p align="right"><i>Articles:</i></p> <p><i>Description:</i> Funding is provided for the following effort</p> <p><i>FY 2010 Accomplishments:</i> Provided air and sea transportation (cargo to and from continental United States).</p> <p><i>FY 2011 Plans:</i> Continues to provide air and sea transportation (cargo to and from continental United States).</p> <p><i>FY 2012 Plans:</i> Will continue to provide air and sea transportation (cargo to and from continental United States).</p>		7.008 0	4.532 0	7.072
<p><i>Title:</i> Kwajalein Cable System (KCS)</p> <p align="right"><i>Articles:</i></p> <p><i>Description:</i> Funding is provided for the following effort</p> <p><i>FY 2010 Accomplishments:</i> Provided funding for Kwajalein Cable System (KCS) fiber optic cable for annual service contract. Initial Operational Capability begins third quarter fiscal year 2010.</p> <p><i>FY 2011 Plans:</i> Continued to provide funding for Kwajalein Cable System (KCS) fiber optic cable for annual service contract. Initial Operational Capability begins third quarter fiscal year 2010.</p> <p><i>FY 2012 Plans:</i></p>		11.400 0	10.958 0	11.197

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605301A: <i>ARMY KWAJALEIN ATOLL</i>	PROJECT 614: <i>ARMY KWAJALEIN ATOLL</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
Will continue to provide funding for Kwajalein Cable System (KCS) fiber optic cable for annual service contract. Initial Operational Capability began third quarter fiscal year 2010.				
Title: Direct Customers				
Articles:		45.120 0	49.017 0	48.142
Description: Funding is provided for the following effort				
FY 2010 Accomplishments: Supported Army, MDA, NASA and Air Force developmental and operational missile testing.				
FY 2011 Plans: Continue 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.				
Title: Logistical Support of the self-contained islands of USAKA				
Articles:		50.246 0	52.070 0	38.233
Description: Funding is provided for the following effort				
FY 2010 Accomplishments: Provided 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 2011 Plans: Continues 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, environmental compliance, etc.) to self contained islands of USAKA.				
Title: RTS Distributed Operations				
Articles:		4.026 0	4.925 0	4.837
Description: Funding is provided for the following effort				
FY 2010 Accomplishments:				

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605301A: <i>ARMY KWAJALEIN ATOLL</i>	PROJECT 614: <i>ARMY KWAJALEIN ATOLL</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Provided for RTS Distributed Operations (distributed operations of the Range sensors from Continental U.S.). <i>FY 2011 Plans:</i> Continues to provide for RTS Distributed Operations (distributed operations of the Range sensors from Continental U.S.). <i>FY 2012 Plans:</i> Will continue to provide for RTS Distributed Operations (distributed operations of the Range sensors from Continental U.S.).			
Accomplishments/Planned Programs Subtotals	157.391	163.788	145.606

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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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605326A: <i>Concepts Experimentation Program</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	26.168	17.704	28.800	-	28.800	27.620	24.224	21.349	19.227	Continuing	Continuing
308: <i>Concepts Experimentation</i>	3.084	-	-	-	-	-	-	-	-	Continuing	Continuing
312: <i>Army/Joint Experimentation</i>	11.297	5.907	9.162	-	9.162	8.241	5.794	2.889	0.516	Continuing	Continuing
317: <i>CURRENT FORCE CAPABILITY GAPS</i>	9.814	9.770	17.770	-	17.770	17.487	16.526	16.546	16.770	Continuing	Continuing
33B: <i>SOLDIER-CENTERED ANALYSES FOR THE FUTURE FORCE</i>	1.973	2.027	1.868	-	1.868	1.892	1.904	1.914	1.941	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 2010-2012, 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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605326A: <i>Concepts Experimentation Program</i>
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B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	26.407	17.704	29.576	-	29.576
Current President's Budget	26.168	17.704	28.800	-	28.800
Total Adjustments	-0.239	-	-0.776	-	-0.776
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.239	-			
• Adjustments to Budget Years	-	-	-0.776	-	-0.776

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605326A: <i>Concepts Experimentation Program</i>	PROJECT 308: <i>Concepts Experimentation</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
308: <i>Concepts Experimentation</i>	3.084	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

Automated Communications Support System: This is new functionality to be developed for an existing information extraction software that is applied to live or taped audio. Specifically the software will be enhanced to automatically identify topics in the audio being spoken. The enormous amount of audio that has been recorded is far greater than the ability of the trained human linguist pool to fully exploit. Topic Extraction (and other information extraction tools) are extremely important triage tools in order to fully exploit the intelligence in these materials. This software suite is the information extraction software of choice for National Security Agency (NSA) and the Central Intelligence Agency (CIA).

Technology for Rapid Foreign Language Acquisition for Specialized Military and Intelligence Purposes: This proof of concept takes a new approach targeted to adults learning a second language. The Military Intelligence (MI) Audience is Military Occupational Speciality (MOS) 35M who are interrogators who no longer institutionally learn a foreign language until their first reenlistment. The MI Corps has learned that rudimentary language skills in specific interviews topics is a must for these newly minted interrogators to function. This project will provide training courseware in seven languages.

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

	FY 2010	FY 2011	FY 2012
<p>Title: Automated Communication Support System for Warfighters, Intelligence Community, Linguist, and Analyst (Congressional Add)</p> <p align="right">Articles:</p> <p>Description: This is a new functionality to be developed for an existing information extraction software that is applied to live or taped audio. Specifically the software will be enhanced to automatically identify correctly among over 100 languages.</p> <p>FY 2010 Accomplishments: The enormous amount of audio that has been recorded is far greater than the ability of the trained human linguist pool to fully exploit. Language identification (and other information extraction tools) are extremely important triage tools in order to fully exploit the intelligence in these materials. This software suite is the information extraction software of choice for National Security Agency (NSA) and the Central Intelligence Agency (CIA). This Language Identification capability requirement was articulated by several entities with the Intelligence Community to include NSA.</p>	1.492 0	-	-
<p>Title: Technology for Rapid Foreign Language Acquisitions for Specialized Military and Intelligence Purposes (Congressional Add)</p>	1.592	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605326A: <i>Concepts Experimentation Program</i>	PROJECT 308: <i>Concepts Experimentation</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
<p align="right">Articles:</p> <p>Description: This proof of concept takes a new approach targeted to adults learning a second language. The proposed language learning tool is designed to get an individual with a Defense Language Proficiency Test (DLPT) score of 0/0 to 1+/1+. This project will provide training capabilities in seven languages.</p> <p>FY 2010 Accomplishments: The MI Audience is MOS 35M who are interrogators who no longer institutionally learn a foreign language until their first reenlistment. The MI Corps has learned that rudimentary language skills in specific interviews topics is a must for these newly minted interrogators to function. The proposed language learning tool is designed to get an individual with a Defense Language Proficiency Test (DLPT) score of 0/0 to 1+/1+. This project will provide training capabilities in seven languages.</p>	0		
Accomplishments/Planned Programs Subtotals	3.084	-	-

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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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605326A: <i>Concepts Experimentation Program</i>	PROJECT 312: <i>Army/Joint Experimentation</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
312: <i>Army/Joint Experimentation</i>	11.297	5.907	9.162	-	9.162	8.241	5.794	2.889	0.516	Continuing	Continuing
Quantity of RDT&E Articles											

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

The Army Experimentation mission directly impacts the Army's current and future force. It 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 inform and validate concepts and inform capability developments for current and future force. This includes supporting the Army's Campaign of Learning by executing assigned experiments for Army Warfighting Challenges (enduring first order capabilities where combat developments has an unacceptable operational risk). In FY 2011 and FY 2012, Research, Development, Test and Evaluation (RDT&E) funding specifically enables the World Class Blue Force (subject matter experts overseeing and coordinating experiment efforts from the Army Capabilities Integration Center (ARCIC) in collaboration with the Schools and Centers), 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.

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

	FY 2010	FY 2011	FY 2012
Title: Experimentation - World Class Blue Force Analysts	3.136	3.524	3.524
Articles:	0	0	
Description: Subject matter experts overseeing and coordinating experiment efforts from the Army Capabilities Integration Center (ARCIC) in collaboration with the Schools and Centers. Provides enhanced credibility to experiments via experienced military commanders.			
FY 2010 Accomplishments: Provides planners and evaluators that are proficient in current Army capstone, operational and functional concepts to provide credible incorporation of concepts into experiments. Supports analysis and coordination for the Army's Campaign of Learning.			
FY 2011 Plans: Provides planners and evaluators that are proficient in current Army capstone, operational and functional concepts to provide credible incorporation of concepts into experiments. Supports analysis and coordination for the Army's Campaign of Learning.			
FY 2012 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605326A: <i>Concepts Experimentation Program</i>	PROJECT 312: <i>Army/Joint Experimentation</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
Provides planners and evaluators that are proficient in current Army capstone, operational and functional concepts to provide credible incorporation of concepts into experiments. Supports analysis and coordination for the Army's Campaign of Learning.				
Title: Experimentation - Maneuver Brigade Experiments		2.403	2.383	5.638
		0	0	
Articles:				
Description: Maneuver Brigade Experiments 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 2010 Accomplishments: 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 DOTMLPF requirements and DOTMLPF solutions; and 4) acceleration and integration of capabilities for current force BCTs.				
FY 2011 Plans: 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 DOTMLPF requirements and DOTMLPF solutions; and 4) acceleration and integration of capabilities for current force BCTs.				
FY 2012 Plans: Conduct experiments to address learning demands supporting assigned Army Warfighting Challenges (AWFC). Results will inform the Integrated Learning Plan for each AWFC; specifically supporting concepts, Capability Based Analysis, and Vice Chief of Staff of the Army (VCSA) portfolio reviews.				
Title: Capstone Integration		5.758	-	-
		0		
Articles:				
Description: Provides ramp up costs in support of the Army Concept Development and experimentation Campaign Plan (ACDEP) Phase I Capstone Experiment to include modeling and simulation enhancements; scenario environment modifications; hardware and software upgrades that require approximately 9-12 months of development.				
FY 2010 Accomplishments:				

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605326A: <i>Concepts Experimentation Program</i>	PROJECT 312: <i>Army/Joint Experimentation</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
Conduct experiments designed to conclude Phase I of the ACDEP with a major experiment demonstrating initial 2017 Future Force capabilities for the Joint Warfighter; these findings will provide the foundation to support transitioning compelling capabilities to the Current Force, including Current Force capability gaps and spinout of Future Combat Systems (FCS) capabilities to 2010 Modular-Brigade Combat Team (M-BCT).				
Accomplishments/Planned Programs Subtotals		11.297	5.907	9.162
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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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605326A: <i>Concepts Experimentation Program</i>	PROJECT 317: <i>CURRENT FORCE CAPABILITY GAPS</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
317: <i>CURRENT FORCE CAPABILITY GAPS</i>	9.814	9.770	17.770	-	17.770	17.487	16.526	16.546	16.770	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 2010	FY 2011	FY 2012
Title: Improvised Explosive Device (IED) Integrated Concept Development Team (ICDT)	3.653	4.935	3.100
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 2010 Accomplishments: Coordinates home-station training programs of IED-Defeat initiatives. Is 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. Supports various TRADOC Centers of Excellence with Counter-IED subject matter experts.			
FY 2011 Plans: Continues to coordinate home-station training programs of IED-Defeat initiatives. Is 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. Supports various TRADOC Centers of Excellence with Counter-IED subject matter experts.			
FY 2012 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>		R-1 ITEM NOMENCLATURE PE 0605326A: <i>Concepts Experimentation Program</i>		PROJECT 317: <i>CURRENT FORCE CAPABILITY GAPS</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)				
				FY 2010
				FY 2011
				FY 2012
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 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).				
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 Plans:				1.377
AEA is a capability to provide organic or direct support airborne electronic attack capabilities to the Brigade Combat Team. This capability will provide 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.				0
FY 2010 Accomplishments:				-
SD-ICDT serves as TRADOC's primary mechanism for executing Chief of Staff, Army guidance to synchronize and integrate sniper defeat capabilities for the Army.				
Title: Sniper Defeat Integrated Concept Development Team (SD-ICDT)				
Articles:				
Description: Funding is needed for the Sniper Defeat Concept Development Team.				1.910
FY 2010 Accomplishments:				-
SD-ICDT serves as TRADOC's primary mechanism for executing Chief of Staff, Army guidance to synchronize and integrate sniper defeat capabilities for the Army.				
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.				1.550
FY 2010 Accomplishments:				1.038
Supports USCENTCOM Operation Needs Statement to provide reconnaissance, surveillance, and target acquisition (RSTA) by integrating eight ground-based intelligence-surveillance-reconnaissance and battle command capabilities through an integrated sensor system of systems approach to blue force operating locations (Joint Security Stations/Command Out Posts) and along				0
				-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605326A: <i>Concepts Experimentation Program</i>	PROJECT 317: <i>CURRENT FORCE CAPABILITY GAPS</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
key transit routes in Operation Enduring Freedom. Persistent surveillance around blue force operating locations is necessary to counter threats, provide early warning, increase force protection and improve security response. FY 2011 Plans: Supports USCENTCOM Operation Needs Statement to provide reconnaissance, surveillance, and target acquisition (RSTA) by integrating eight ground-based-intelligence-surveillance-reconnaissance and battle command capabilities 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 is necessary to counter threats, provide early warning, increase force protection and improve security response.				
Title: Demo/Assess Information Operations Description: Funding is needed for Demo/Assess Information Operations. FY 2010 Accomplishments: TRADOC executes Information Operations/Electronic Warfare/Computer Network Operations 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 Integration and Development System, Science and Technology, Concept Development, Capability Development for Rapid Transition, and Capability Gap Analysis Army.		Articles: 0.744 0	-	-
Title: Demo/Assess Command and Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR)- Joint Integration and Non-Lethal Fires Description: Command, Control, Communications, Computers, Combat Systems, Intelligence, Surveillance, and Reconnaissance (C5ISR) Operation Needs Statement (ONS) (classified) is a compilation 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 2010 Accomplishments:		1.957 0	2.420 0	2.400

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605326A: <i>Concepts Experimentation Program</i>	PROJECT 317: <i>CURRENT FORCE CAPABILITY GAPS</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011
Supported the C4ISR Operational Needs Statement (ONS) consolidated into Networked Integrated Command, Control, Communications, Computers, Combat Systems, Intelligence, Surveillance, and Reconnaissance (C5ISR) ONS; Phase 1 of C5ISR ONS approved. FY 2011 Plans: C5ISR ONS (classified) is a compilation 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 compilation 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 Description: Funding is needed to support the Aerial Sensor Portfolio. FY 2012 Plans: Aerial Sensor Portfolio (excluding Task Force Observe, Detect, Identify, 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.		-	-
Title: Communications and Networks Portfolio 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		-	-
		3.300	2.693

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605326A: <i>Concepts Experimentation Program</i>	PROJECT 317: <i>CURRENT FORCE CAPABILITY GAPS</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
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.				
Title: Demo/Assess Operational Power and Energy 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 Integration and Development System, Science and Technology, Concept Development, Capability Development for Rapid Transition, and Capability Gap Analysis Army.		-	-	2.250
Title: Integrated Protection Initiative (IPI) 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 Common Operational Pictures (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
Accomplishments/Planned Programs Subtotals		9.814	9.770	17.770
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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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605326A: <i>Concepts Experimentation Program</i>	PROJECT 33B: <i>SOLDIER-CENTERED ANALYSES FOR THE FUTURE FORCE</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
33B: <i>SOLDIER-CENTERED ANALYSES FOR THE FUTURE FORCE</i>	1.973	2.027	1.868	-	1.868	1.892	1.904	1.914	1.941	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 2010	FY 2011	FY 2012
<p>Title: Manpower and Personnel Integration (MANPRINT)</p> <p style="text-align: right;">Articles:</p> <p>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 Battle Laboratories, Army Test and Evaluation Command (ATEC) and other service laboratories.</p> <p>FY 2010 Accomplishments: In coordination with the Army Evaluation Command (AEC) developed approaches to more clearly define Human Systems Integration (HSI) metrics and methods linked to test and evaluation (T&E) risks.</p> <p>FY 2011 Plans: Directly link Human System Integration (HSI) analyses to systems engineering, costs, and design trade study analyses.</p> <p>FY 2012 Plans: Will develop method to trace quantified HSI risks from Warfighter and platform performance up to mission execution.</p>	<p>1.183</p> <p>0</p>	<p>1.263</p> <p>0</p>	<p>1.104</p>
<p>Title: MANPRINT Manpower, Personnel and Training (MPT)</p> <p style="text-align: right;">Articles:</p>	<p>0.790</p> <p>0</p>	<p>0.764</p> <p>0</p>	<p>0.764</p>

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
<p>Description: Provide MANPRINT MPT force requirements determination support to TRADOC on selected systems.</p> <p>FY 2010 Accomplishments: Provided MPT analysis support to 21 programs and on five used tools such as the Improved Performance Research Integration Tool (IMPRINT) to quantify risks.</p> <p>FY 2011 Plans: Link MPT analyses and risks to other MANPRINT domains (i.e. human engineering, system safety, health hazards).</p> <p>FY 2012 Plans: Will leverage Army cost analysis tools to link MPT risks to cost.</p>			
Accomplishments/Planned Programs Subtotals	1.973	2.027	1.868

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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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605601A: <i>ARMY TEST RANGES AND FACILITIES</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	346.015	393.937	262.456	8.513	270.969	277.990	283.868	262.727	235.575	Continuing	Continuing
F30: <i>ARMY TEST RANGES & FACILITIES</i>	346.015	393.937	262.456	8.513	270.969	277.990	283.868	262.727	235.575	Continuing	Continuing

Note

Efficiency -- Civilian Hiring Freeze..-\$99.568 million in FY12 and \$345.333 million in the FYDP to implement an Army-wide freeze on the number of Civilian positions pending a review of staffing, organization, and operations as a whole.

\$1869 Adjustment to budget years.

OCO \$8.513 million is for support of DTC's increased infrastructure sustainment requirements.

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 six elements of the DoD Major Range and Test Facility Base (MRTFB): White Sands Missile Range (WSMR), New Mexico; Aberdeen Test Center (ATC), Aberdeen Proving Ground, Maryland; Electronic Proving Ground (EPG), Fort Huachuca, Arizona; and Yuma Proving Ground (YPG), 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 planning and safety verification at Headquarters, U.S. Army Development Test Command (DTC), Aberdeen Proving Ground, Maryland is also supported by this program element.

This project finances the overhead (institutional) test operating cost not appropriately billed to test customers, 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 Counter Measures for Improvised Explosive Devices (IEDs) 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: 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);

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE
2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	PE 0605601A: <i>ARMY TEST RANGES AND FACILITIES</i>

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 and JCA); aviation protection systems (Common Missile Warning System (CMWS) and Advanced Threat Infrared Countermeasure (ATIRCM); 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/Armed Robotic Vehicle ? Assault Light (ARV-AL), Remote Mine Detection Systems (RMDS), M160, Workhouse, Piano, Modular Advanced Armed Robot System (MAARS), Kiowa Warrior Upgrades, Hostile Fire Indication, Excalibur, Green Ammo, Remote Weapon Station (RWS), Joint Chemical Agent Detector (JCAD) M4EI, Nett Warrior, Mounted Soldier System (MSS), Joint Tactical Radio System (JTRS), and Interim Brigade Combat System (IBCT).

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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	352.845	393.937	363.893	-	363.893
Current President's Budget	346.015	393.937	262.456	8.513	270.969
Total Adjustments	-6.830	-	-101.437	8.513	-92.924
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-6.830	-			
• Adjustments to Budget Years	-	-	-101.437	8.513	-92.924

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605601A: <i>ARMY TEST RANGES AND FACILITIES</i>	PROJECT F30: <i>ARMY TEST RANGES & FACILITIES</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
F30: <i>ARMY TEST RANGES & FACILITIES</i>	346.015	393.937	262.456	8.513	270.969	277.990	283.868	262.727	235.575	Continuing	Continuing
Quantity of RDT&E Articles											

Note

Efficiency -- Civilian Hiring Freeze.....-\$99.568 million in FY12 and \$345.333 million in the FYDP Implement an Army-wide freeze on the number of Civilian positions pending a review of staffing, organization, and operations as a whole.

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 six elements of the DoD Major Range and Test Facility Base (MRTFB): White Sands Missile Range (WSMR), New Mexico; Aberdeen Test Center (ATC), Aberdeen Proving Ground, Maryland; Electronic Proving Ground (EPG), Fort Huachuca, Arizona; and Yuma Proving Ground (YPG), 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 planning and safety verification at Headquarters, U.S. Army Development Test Command (DTC), Aberdeen Proving Ground, Maryland is also supported by this program element.

This project finances the overhead (institutional) test operating cost not appropriately billed to test customers, 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 Counter Measures for Improvised Explosive Devices (IEDs) 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: 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;

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605601A: <i>ARMY TEST RANGES AND FACILITIES</i>	PROJECT F30: <i>ARMY TEST RANGES & FACILITIES</i>
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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 and JCA); aviation protection systems (Common Missile Warning System (CMWS) and Advanced Threat Infrared Countermeasure (ATIRCM); 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/Armed Robotic Vehicle ? Assault Light (ARV-AL), Remote Mine Detection Systems (RMDS), M160, Workhouse, Piano, Modular Advanced Armed Robot System (MAARS), Kiowa Warrior Upgrades, Hostile Fire Indication, Excalibur, Green Ammo, Remote Weapon Station (RWS), Joint Chemical Agent Detector (JCAD) M4EI, Nett Warrior, Mounted Soldier System (MSS), Joint Tactical Radio System (JTRS), and Interim Brigade Combat System (IBCT).

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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p>Title: Mission Support</p> <p align="right">Articles:</p> <p>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.</p> <p>FY 2010 Accomplishments: 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.</p> <p>FY 2011 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</p>	93.591	133.317	72.760	-	72.760
	0	0			

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605601A: <i>ARMY TEST RANGES AND FACILITIES</i>	PROJECT F30: <i>ARMY TEST RANGES & FACILITIES</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
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<p>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.</p> <p>FY 2012 Base 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 Technology and validated by Deputy Assistant Secretary of the Army for Cost and Economics, from the Army PEO/PMs and non-Army DOD customers.</p>					
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<p>Title: T&E Civilian Pay</p> <p align="right">Articles:</p> <p>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.</p> <p>FY 2010 Accomplishments: 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.</p> <p>FY 2011 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</p>	148.426 0	155.000 0	121.539	-	121.539
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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army				DATE: February 2011																			
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>		R-1 ITEM NOMENCLATURE PE 0605601A: <i>ARMY TEST RANGES AND FACILITIES</i>		PROJECT F30: <i>ARMY TEST RANGES & FACILITIES</i>																			
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)																							
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Title: Contractor Support																							
Articles:																							
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 65%;"></th> <th style="width: 10%;">FY 2010</th> <th style="width: 10%;">FY 2011</th> <th style="width: 10%;">FY 2012 Base</th> <th style="width: 10%;">FY 2012 OCO</th> <th style="width: 10%;">FY 2012 Total</th> </tr> </thead> <tbody> <tr> <td></td> <td align="right">103.998</td> <td align="right">80.000</td> <td align="right">59.319</td> <td align="center">-</td> <td align="right">59.319</td> </tr> <tr> <td></td> <td align="right">0</td> <td align="right">0</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total		103.998	80.000	59.319	-	59.319		0	0			
	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total																		
	103.998	80.000	59.319	-	59.319																		
	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.																							
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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army				DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>		R-1 ITEM NOMENCLATURE PE 0605601A: <i>ARMY TEST RANGES AND FACILITIES</i>		PROJECT F30: <i>ARMY TEST RANGES & FACILITIES</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
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.					
<p>Title: Revitalization/Upgrade</p> <p align="right">Articles:</p> <p>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.</p> <p>FY 2011 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.</p> <p>FY 2012 Base 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.</p>	-	24.808 0	5.000	-	5.000
<p>Title: Automotive Technology Facility (ATEF)</p> <p align="right">Articles:</p> <p>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.</p> <p>FY 2011 Plans: Provides funding for sustainment and maintenance for the Automotive Technology Facility (ATEF) requirements.</p> <p>FY 2012 Base Plans: Provides funding for sustainment and maintenance for the Automotive Technology Facility (ATEF) requirements.</p>	-	0.812 0	0.900	-	0.900
Title: Critical Overseas Contingency Operations Requirements	-	-	-	8.513	8.513

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605601A: <i>ARMY TEST RANGES AND FACILITIES</i>	PROJECT F30: <i>ARMY TEST RANGES & FACILITIES</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p>Description: Funding is provided for the following effort</p> <p>FY 2012 Base Plans: This project only has OCO dollars for FY12</p> <p>FY 2012 OCO Plans: The purpose for this request is the requirement for additional funding to support DTC's increased infrastructure sustainment requirements that have resulted from supporting unplanned OCO workload in FY09 and FY10. This unplanned workload reduced funds available to test capability sustainment and facility upgrades and increased wear and tear on instrumentation and equipment used during tests. DTC has been obligating funds to support unanticipated OCO work with a subsequent negative impact upon sustainment requirements.</p>					
<p>Title: High Energy Laser System Test Facility (HELSTF)</p> <p>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.</p> <p>FY 2012 Base 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.</p>	-	-	2.938	-	2.938
Accomplishments/Planned Programs Subtotals	346.015	393.937	262.456	8.513	270.969

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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605602A: <i>Army Technical Test Instrumentation and Targets</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	82.054	59.040	70.227	-	70.227	68.506	63.861	62.092	64.574	Continuing	Continuing
628: <i>Developmental Test Technology & Sustainment</i>	53.105	37.024	47.051	-	47.051	45.075	44.271	42.667	46.226	Continuing	Continuing
62C: <i>MODELING AND SIMULATION INSTRUMENTATION</i>	28.949	22.016	23.176	-	23.176	23.431	19.590	19.425	18.348	Continuing	Continuing

Note

Technical Correction \$5000
 S&T BOS ADJ \$5000
 Hard Body Armor Testing \$1075
 RMD 700A3 TF Initiatives -\$504
 RMD 702 NON Fuel Price/NON Pay Inf -\$149

A. Mission Description and Budget Item Justification

Effective FY09, 62B and 62C were combined into one line - 62C to accurately reflect the interwoven use of both Modeling and Simulation (M&S) and instrumentation in support of operational and developmental testing.

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 Developmental Test Command (DTC) at Aberdeen Proving Ground, Maryland and the Operational Test Command (OTC) at Ft Hood, Texas. DTC consists of seven Test Centers: 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 and FT Rucker, 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 both DTC and OTC 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), Brigade Combat Team Modernization (BCT-M), 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

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605602A: <i>Army Technical Test Instrumentation and Targets</i>
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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 Oversease 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.

B. Program Change Summary (\$ in Millions)	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>
Previous President's Budget	84.389	59.040	60.426	-	60.426
Current President's Budget	82.054	59.040	70.227	-	70.227
Total Adjustments	-2.335	-	9.801	-	9.801
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-2.335	-			
• Adjustments to Budget Years	-	-	9.801	-	9.801

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605602A: <i>Army Technical Test Instrumentation and Targets</i>	PROJECT 628: <i>Developmental Test Technology & Sustainment</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
628: <i>Developmental Test Technology & Sustainment</i>	53.105	37.024	47.051	-	47.051	45.075	44.271	42.667	46.226	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 the United States Army Developmental Test Command (DTC), a subordinate command of the Army Test and Evaluation Command (ATEC), which includes: 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 and Ft Rucker, 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 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 2010	FY 2011	FY 2012
Title: Program Management	5.226	4.957	5.952
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 2010 Accomplishments:			

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605602A: <i>Army Technical Test Instrumentation and Targets</i>	PROJECT 628: <i>Developmental Test Technology & Sustainment</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
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 2011 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 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).				
Title: Developmental Test Technology Investment		36.281	28.815	36.853
		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. Upgrades Kineto Tracking Mounts at YPG.				
FY 2010 Accomplishments:				

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605602A: <i>Army Technical Test Instrumentation and Targets</i>	PROJECT 628: <i>Developmental Test Technology & Sustainment</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
Continue to provide, acquire and upgrade instrumentation for RAM, ballistic, and environmental testing across all test commodity areas and support the test capability of live fire protection systems. FY 2011 Plans: Continue to provide, acquire and upgrade instrumentation for RAM, ballistic, and environmental testing across all test commodity areas and support the test capability of live fire protection systems. FY 2012 Plans: Continue to provide, acquire and upgrade instrumentation for RAM, ballistic, and environmental testing across all test commodity areas and support the test capability of live fire protection systems.				
Title: Automotive Technology Evaluation Facility 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 Plans: Maintain 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.		-	2.600 0	3.000
Title: Army Test and Evaluation Command (ATEC) Common Test Technology for Developmental Testing, Operational Testing, and Evaluation Description: Army Test and Evaluation Command (ATEC) Common Test Technology for Developmental Testing, Operational Testing, and Evaluation. Provides support for development of 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 FY 2010 Accomplishments:		0.638 0	0.652 0	1.246

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605602A: <i>Army Technical Test Instrumentation and Targets</i>	PROJECT 628: <i>Developmental Test Technology & Sustainment</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
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 2011 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 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				
Title: Congressional Add Description: Funding is provided for the following effort FY 2010 Accomplishments: WSMR \$1.6M Define Renewable Energy Sources for Base Energy Independence provides seed funding to lay out plans for energy generation and storage considering Solar, Small Nuclear Power plants, geothermal and DoE power storage concepts. WSMR \$3.76 Phase II, Regional Partnership - Ft Bliss, WSMR, Holloman develops tools to schedule, deconflict and coordinate real-time test and training missions at the White Sands Missile Range, Ft. Bliss and Holloman Air Force Base. These tools will coordinate use of regional assets such as air space, land usage and radio/radar frequencies. DPG \$3.6M Dugway Field Test Improvements will upgrade field testing capabilities to monitor and analyze chemical aerosol simulant releases in the air and their deposition on surfaces. DPG \$2.0M Multiple Source Data Fusion for Dugway PG improves the capability to address the rapidly evolving CB aerosol threats including development of a new standoff referee instrumentation and data fusion methods for combining data from referee instrumentation with simulations and models.		Articles: 10.960 0	-	-
Accomplishments/Planned Programs Subtotals		53.105	37.024	47.051

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605602A: <i>Army Technical Test Instrumentation and Targets</i>	PROJECT 628: <i>Developmental Test Technology & Sustainment</i>

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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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605602A: <i>Army Technical Test Instrumentation and Targets</i>	PROJECT 62C: <i>MODELING AND SIMULATION INSTRUMENTATION</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
62C: <i>MODELING AND SIMULATION INSTRUMENTATION</i>	28.949	22.016	23.176	-	23.176	23.431	19.590	19.425	18.348	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 Warfighting 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 necessary to test in a realistic, operational environment. PEO STRI 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 2010	FY 2011	FY 2012
<p>Title: ATEC Common Technology Tools</p> <p align="right">Articles:</p> <p>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), ABCS 6.3, 6.4, BCTM, JTRS, and WIN-T development and integration at the Central Technical Support Facility (CTSF) Fort Hood, TX and contractor locations as the Army's single DT C3 simulator/stimulator, etc.</p> <p>FY 2010 Accomplishments: Funds the development of the C3 Driver, TEEA, and ATEC Common Technology Tools.</p> <p>FY 2011 Plans: Funds the development of the C3 Driver, TEEA, and ATEC Common Technology Tools.</p> <p>FY 2012 Plans: Funds the development of the C3 Driver, TEEA, and ATEC Common Technology Tools.</p>	3.265 0	2.144 0	0.736
<p>Title: Modeling, Simulation and Instrumentation</p> <p align="right">Articles:</p>	24.724 0	19.872 0	22.440

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605602A: <i>Army Technical Test Instrumentation and Targets</i>	PROJECT 62C: <i>MODELING AND SIMULATION INSTRUMENTATION</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011
<p>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, OASIS, Test Technology Execution Capabilities, Network Control Systems/Battle Command Simulation, and Instrumentation, RTCA, ExCIS FSA, ISR Simulation and Instrumentation - IMASE, Automated Rigging Kit Analysis Tool Sustainment (ARKAT), and Performance Instrumentation Systems, etc.</p> <p>FY 2010 Accomplishments: Funds were utilized for the sustainment, development, and upgrade of OTC's high priority modeling, simulation, and instrumentation systems identified under the POM submission FY10-15. The programs executed that fall under the ATEC domain categories shown above but were not limited to: RTCA sustainment and minor upgrades, TTEC Operations for M&S sustainment, upgrade, and integration of systems of systems, OTC Technology Base Support, ExCIS FSA, IMASE ISSS & ISGT, BCNIS, Geometric Advanced Video Enhanced Location Systems (GAVELS), Mobile Optical Tracking Systems, Automated Rigging Kit Tool, GPS Modernization, High-speed Digital Recording System, and OASIS Integration.</p> <p>FY 2011 Plans: FY11 Planned Programs: Funds will be utilized for the sustainment, development, and upgrade of OTC's high priority modeling, simulation, and instrumentation systems identified under the POM submission FY12-17. The programs executed that fell under the ATEC's domain categories shown above but were not limited to: RTCA sustainment and minor upgrades, TTEC Operations for M&S sustainment, upgrade, and integration of systems of systems, OTC Technology Base Support, ExCIS FSA, IMASE ISSS & ISGT, BCNIS, Geometric Advanced Video Enhanced Location Systems (GAVELS), Mobile Optical Tracking Systems, Automated Rigging Kit Tool, GPS Modernization, High-speed Digital Recording System, and OASIS Integration.</p> <p>FY 2012 Plans: FY12 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: 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 ? OASIS, Test Technology Execution Capabilities, Network Control Systems/Battle Command Simulation, and Instrumentation, RTCA, ExCIS FSA, ISR Simulation and Instrumentation - IMASE, Automated Rigging Kit Analysis Tool Sustainment (ARKAT), and Performance Instrumentation Systems, etc.</p>			
Title: Mobile Optical Tracking System - Congressional Add		0.960	-
Articles:		0	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605602A: <i>Army Technical Test Instrumentation and Targets</i>	PROJECT 62C: <i>MODELING AND SIMULATION INSTRUMENTATION</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
<p>Description: Enhancement of Mobile Optical Tracking System (MOTS) with the inclusion of All Sky Imaging capability. Contract awarded 4th quarter FY 10.</p> <p>FY 2010 Accomplishments: Congressional increase for HQ OPERational Test Command FTD-MTD to develop Mobile Optical Tracking System (MOTS). MOTS is a tracking system that will provide teh Time Space Position Information (TSPI) required to analyxe the end game of engagements by systems such as the Counter Rocket Artillery Mortar Systems.</p>			
Accomplishments/Planned Programs Subtotals	28.949	22.016	23.176

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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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605604A: <i>Survivability/Lethality Analysis</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	44.728	41.812	43.483	-	43.483	44.598	43.550	42.368	42.674	Continuing	Continuing
675: <i>Army Survivability Analysis & Evaluation Support</i>	44.728	41.812	43.483	-	43.483	44.598	43.550	42.368	42.674	Continuing	Continuing

Note

FY12 increase supports technical analyses for estimating the effects to personnel in ground vehicles subjected to an under-body blast event.

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 Mine Resistant Ambush Protected (MRAP), Stryker, Brigade Combat Team Modernization (BCTM) 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; communications and other systems enabling network enabled battle command and computer network operations (CNO); 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 analysis products funded by this project are integrated 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 warfare attacks; and high and low power directed energy weapons. This survivability information permits developers, users, and decision makers to fully understand the technical details of the most important survivability tradeoffs for both systems and Soldiers. 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 G2 MANPRINT program. TRADOC combat developers exploit the survivability products funded by this

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605604A: <i>Survivability/Lethality Analysis</i>
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project to initiate and improve survivability/lethality requirements, and to develop and refine doctrine and tactics. Also, the quantitative analytical results funded by the project are leveraged as core inputs to formal AR 5-5 studies and other studies as directed by Army leaders. While the Army is at war, analytical results funded by this project are also directly leveraged for survivability support to current operations. Finally, for particularly urgent or controversial survivability issues, data and analysis funded by this project are used directly by senior Army decision makers to assure technically sound program/production decisions.

This project also supports highly technical specialized information warfare and information operations survivability analysis of Army communications and electronic equipment and communications architectures essential to network enabled battle command. Supports ATEC and other electronic warfare vulnerability testers by developing and providing highly technical specialized field countermeasure environments that threat forces may employ against Army air defense and oth

B. Program Change Summary (\$ in Millions)	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>
Previous President's Budget	44.782	41.812	42.273	-	42.273
Current President's Budget	44.728	41.812	43.483	-	43.483
Total Adjustments	-0.054	-	1.210	-	1.210
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.054	-			
• Adjustments to Budget Years	-	-	1.210	-	1.210

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>				R-1 ITEM NOMENCLATURE PE 0605604A: <i>Survivability/Lethality Analysis</i>				PROJECT 675: <i>Army Survivability Analysis & Evaluation Support</i>			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
675: <i>Army Survivability Analysis & Evaluation Support</i>	44.728	41.812	43.483	-	43.483	44.598	43.550	42.368	42.674	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 Mine Resistant Ambush Protected (MRAP), Stryker, Brigade Combat Team Modernization (BCTM), 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; communications and other systems enabling network enabled battle command and computer network operations (CNO); 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 analysis products funded by this project are integrated 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 warfare attacks; and high and low power directed energy weapons. This survivability information permits developers, users, and decision makers to fully understand the technical details of the most important survivability tradeoffs for both systems and Soldiers. 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 G2 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

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605604A: <i>Survivability/Lethality Analysis</i>	PROJECT 675: <i>Army Survivability Analysis & Evaluation Support</i>
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project are also directly leveraged for survivability support to current operations. Finally, for particularly urgent or controversial survivability issues, data and analysis funded by this project are used directly by senior Army decision makers to assure technically sound program/production decisions.

This project also supports highly technical specialized information warfare and information operations survivability analysis of Army communications and electronic equipment and communications architectures essential to network enabled battle command. Supports ATEC and other electronic warfare vulnerability testers by developing and providing highly technical specialized field countermeasure environments that threat forces may employ against Army 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 2010	FY 2011	FY 2012
<p>Title: Survivability, Lethality, Vulnerability (SLV) Analyses</p> <p style="text-align: right;">Articles:</p> <p>Description: Conduct integrated survivability, lethality, vulnerability analyses for developmental aviation, ground, soldier and munition systems including Joint Cargo Aircraft (JCA), MRAP, Stryker, Ground Soldier System, Excalibur, and Intelligent Mine System (IMS). Completed ballistic survivability/vulnerability analysis for MRAP T&E, Guided Multiple Launch Rocket system (GMLRS) Unitary IOT&E and Excalibur LFT&E System Engineering Test-P1 test events, which included providing pre-shot predictions, performing damage assessments after each live fire test, completing post-shot analyses, behind armor debris (BAD) test/analyses, and crew survivability analysis and providing technical data required by ATEC for the Systems Evaluation Reports. Additionally, results and recommendations from our crosswalk of MRAP LFT&E assessed casualty/selected Theater casualty incidents were briefed to MRAP PM & vendors, ATEC, HQDA and DOT&E resulting in vehicle design improvements for MRAP platforms.</p> <p>FY 2010 Accomplishments: Conducted engineering and crew casualty analyses for MRAP All Terrain Vehicle (ATV), Joint Light Tactical Vehicle (JLTV) and Paladen Integrated Management (PIM) LFT&E test events.</p> <p>FY 2011 Plans: Conduct Low Bow Apache Block III LFT&E test events and conduct Hardware in the Loop (HWIL) investigations on LB Apache Block III. Conduct EW vulnerability assessments for IMS, Excalibur and Joint Air to Ground Missile (JAGM). Conduct ballistic survivability/lethality analysis for Excalibur, JAGM, GMLRS Alternate Warhead Program (AWP) and Excalibur Increment 1b. Provide ballistic and non-ballistic survivability/vulnerability/lethality analysis support to new Army carbine program and provide technical data required by ATEC for the Systems Evaluation Report. Provide ballistic survivability/vulnerability analysis support to Army studies. Provide ballistic vulnerability analysis for JLTV test events and Kiowa Warrior Cockpit and Sensor Upgrade</p>	21.724 0	20.095 0	20.645

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605604A: <i>Survivability/Lethality Analysis</i>	PROJECT 675: <i>Army Survivability Analysis & Evaluation Support</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
<p>program. Provide the Army's Increment 1 Brigade Combat Team stakeholders with comprehensive survivability, lethality, and vulnerability assessments and vulnerability reduction recommendations that will enhance these attributes of the system-of-systems. Advanced technologies such as Active Protection Systems, hybrid propulsion, and advanced armors are evaluated through precision experimentation and modeling and simulation. Perform methodology enhancements for simulation of new emerging technologies and system-of-systems operational constructs. Survivability based functional analysis and functional decomposition contributed to the development of the system-of-systems specification. Perform planning and execution of congressionally mandated LFT&E programs in conjunction with ATEC and OSD DOT&E including armor coupon testing. Conduct ballistic vulnerability analysis of the Increment 3 Brigade Combat Team in support of planned Critical Design Reviews, LFT&E activities, and initial qualification tests.</p> <p>FY 2012 Plans: Will provide survivability, lethality and vulnerability assessments of competing prototypes to inform downselect decision for upcoming MS ?B?. Findings and recommendations for survivability enhancements will be disseminated to appropriate Army stakeholders. Will produce a set of tools/methodologies for predicting personnel incapacitation from lower leg and lower spine injuries caused by an under-body blast event, as well as generate experimental validation data for limited accreditation of these tools for test and evaluation.</p>				
<p>Title: C4ISR System Survivability Assessments</p> <p>Description: This effort produces assessments of the survivability of C4ISR systems in Electronic (EW) and Information Warfare (IW) threat environments and conducts Information assurance (IA) projects that reveal critical vulnerabilities in C4ISR systems. It also defines, demonstrates, and recommends mitigation options to proponents and evaluators of C4ISR. An IW vulnerability database is maintained for the benefit of the community.</p> <p>FY 2010 Accomplishments: Conducted priority testing and analyses including EW/IA modeling, Joint Tactical Radio System (JTRS) waveforms and hardware, Warfighter Information Network-Tactical (WIN-T) increment 2 and 3, Aerial Common Sensor, Distributed Common Ground System?Army (DGCS-A), Increment 1 Brigade Combat Team, and software blocking. Developed modeling and simulation tools as required. Analyzed the evolving EW threat to GPS as integrated into Army weapons. Developed capabilities to simulate and evaluate mobile ad-hoc networks which are critical to future Army mobile networks to analyze Army networks and enhance their survivability. This included vulnerability analyses of tactical internet components to radio frequency directed energy weapons (RFDEW). Conducted System-of-Systems Common Operating Environment (SoSCOE) assessments.</p> <p>FY 2011 Plans:</p>		<p>14.898 0</p>	<p>14.700 0</p>	<p>15.100</p>

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605604A: <i>Survivability/Lethality Analysis</i>	PROJECT 675: <i>Army Survivability Analysis & Evaluation Support</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
<p>Continue to conduct priority testing and analyses including EW/IA modeling, Joint Tactical Radio System (JTRS) waveforms and hardware, Warfighter Information Network-Tactical (WIN-T) increment 2 and 3, Aerial Common Sensor, Distributed Common Ground System?Army (DGCS-A), Increment 1 Brigade Combat Team , and software blocking. Develop modeling and simulation tools as required. Continue to analyze the evolving EW threat to GPS as integrated into Army weapons. Develop capabilities to simulate and evaluate mobile ad-hoc networks which are critical to future Army mobile networks used to analyze Army networks and enhance their survivability, to include vulnerability analyses of tactical internet components to radio frequency directed energy weapons (RFDEW). Conduct System-of-Systems Common Operating Environment (SoSCOE) assessments.</p> <p>FY 2012 Plans: EW and IA/CNO modeling and analysis results will be provided to AEC for their evaluation report. Will provide verification and validation data in EW modeling and simulation to support AEC accreditation decision.</p>				
<p>Title: Survivability, Lethality, Vulnerability (SLV) Analyses for Developmental Air and Missile Defense Systems</p> <p align="right">Articles:</p> <p>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.</p> <p>FY 2010 Accomplishments: Provided the BMDS Operational Test Agency with Computer Network Operations (CNO) assessments, providing target simulator support to JLENS DT testing and countermeasure support of PATRIOT (PDB-7) DT/OT testing.</p> <p>FY 2011 Plans: Provide the BMDS Operational Test Agency with Computer Network Operations (CNO) assessments, providing target simulator support to JLENS DT testing and countermeasure support of PATRIOT (PDB-7) DT/OT testing.</p> <p>FY 2012 Plans: Will provide survivability input to AEC for THAAD materiel release review board milestone assessment, provide IA/CNO and EW support to Patriot Advanced Capability-3 supporting contractor verification test and developmental test and evaluation (DTE), and provide ongoing EW support to JLENS DTE.</p>		6.106 0	5.517 0	5.938
<p>Title: System-of-systems survivability simulation (S4)</p> <p align="right">Articles:</p> <p>Description: Provide S4 to support SLV analyses</p>		2.000 0	1.500 0	1.800

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605604A: <i>Survivability/Lethality Analysis</i>	PROJECT 675: <i>Army Survivability Analysis & Evaluation Support</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
<p><i>FY 2010 Accomplishments:</i> Demonstrated MUVES3 V/L service to S4; This capability will enable SLV analysis of the networked-enabled future force.</p> <p><i>FY 2011 Plans:</i> Continue to improve capability to simulate IW and EW attacks on network-centric battle commands.</p> <p><i>FY 2012 Plans:</i> Will support major program decisions (PEO Integration, ATEC, PEO System of system engineering (SoSE) with SoS analysis</p>			
Accomplishments/Planned Programs Subtotals	44.728	41.812	43.483

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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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>				R-1 ITEM NOMENCLATURE PE 0605605A: <i>DOD High Energy Laser Test Facility</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	7.307	4.710	0.018	-	0.018	0.019	0.019	0.118	0.121	Continuing	Continuing
E97: <i>DOD HELSTF</i>	7.307	4.710	0.018	-	0.018	0.019	0.019	0.118	0.121	Continuing	Continuing

Note

FY12 - Funding will be reprogrammed to Army Test Ranges and Facilities.

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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605605A: <i>DOD High Energy Laser Test Facility</i>
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B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	7.352	4.710	2.938	-	2.938
Current President's Budget	7.307	4.710	0.018	-	0.018
Total Adjustments	-0.045	-	-2.920	-	-2.920
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.045	-			
• Adjustments to Budget Years	-	-	-2.920	-	-2.920

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605605A: <i>DOD High Energy Laser Test Facility</i>	PROJECT E97: <i>DOD HELSTF</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
E97: <i>DOD HELSTF</i>	7.307	4.710	0.018	-	0.018	0.019	0.019	0.118	0.121	Continuing	Continuing
Quantity of RDT&E Articles											

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 2010	FY 2011	FY 2012
Title: Laser T&E programs	7.307	4.710	0.018
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2010 Accomplishments: Provide 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			

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605605A: <i>DOD High Energy Laser Test Facility</i>	PROJECT E97: <i>DOD HELSTF</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
<p>experiments for the Air Force and numerous low power Counter Rocket and Mortar (CRAM) type laser systems for close in engagements.</p> <p>FY 2011 Plans: Continue to provide 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 experiments for the Air Force and numerous low power Counter Rocket and Mortar (CRAM) type laser systems for close in engagements.</p> <p>FY 2012 Plans: Beginning FY12, the funding will be moved to Army Test Ranges and Facilities project F30.</p>				
Accomplishments/Planned Programs Subtotals		7.307	4.710	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.				

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605606A: <i>AIRCRAFT CERTIFICATION</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	3.745	5.055	5.630	-	5.630	8.403	6.081	6.097	6.179	Continuing	Continuing
092: <i>AIRCRAFT CERTIFICATION</i>	3.745	5.055	5.630	-	5.630	8.403	6.081	6.097	6.179	Continuing	Continuing

Note

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 M-model upgrade; Special Operations MH-47G and MH-60M; Armed Aerial Scout (AAS); Light Utility Helicopter; Extended Range/Multi Purpose (ER/MP) Grey Beard 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), digital data links), Common Sensor (electro-optical multi-spectrum visual sensor), and Blue Force Tracker. The D092 funding profile for the FY11 President's Budget Submission marginally funds the airworthiness certification program and hence the effort will be limited to resourcing civil derivative aircraft technical qualifications 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 Heavy Lift (JHL) aircraft, Joint Multi Role (JMR) helicopter, and other Office of the Secretary of Defense initiatives).

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605606A: <i>AIRCRAFT CERTIFICATION</i>
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B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	3.746	5.055	5.731	-	5.731
Current President's Budget	3.745	5.055	5.630	-	5.630
Total Adjustments	-0.001	-	-0.101	-	-0.101
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.001	-			
• Adjustments to Budget Years	-	-	-0.101	-	-0.101

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605606A: <i>AIRCRAFT CERTIFICATION</i>	PROJECT 092: <i>AIRCRAFT CERTIFICATION</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
092: <i>AIRCRAFT CERTIFICATION</i>	3.745	5.055	5.630	-	5.630	8.403	6.081	6.097	6.179	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 M-model upgrade; Special Operations MH-47G and MH-60M; Armed Aerial Scout (AAS); Light Utility Helicopter; Extended Range/Multi Purpose (ER/MP) Grey Beard 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), digital data links), Common Sensor (electro-optical multi-spectrum visual sensor), and Blue Force Tracker. The D092 funding profile for the FY11 President's Budget Submission marginally funds the airworthiness certification program and hence the effort will be limited to resourcing civil derivative aircraft technical qualifications 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 Heavy Lift (JHL) aircraft, 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 2010	FY 2011	FY 2012
Title: Certification Assessments and Studies Force Modernization Aircraft	0.001	0.001	0.050
Articles:	0	0	
Description: Perform assessments and studies in support of Force Modernization Aircraft Systems			

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>		R-1 ITEM NOMENCLATURE PE 0605606A: <i>AIRCRAFT CERTIFICATION</i>		PROJECT 092: <i>AIRCRAFT CERTIFICATION</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)				
				FY 2010
				FY 2011
				FY 2012
<i>FY 2010 Accomplishments:</i> 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, UH-60M Upgrade, MH-47G, MH-60M, AAS, etc).				
<i>FY 2011 Plans:</i> 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, UH-60M Upgrade, MH-47G, MH-60M, AAS, etc).				
<i>FY 2012 Plans:</i> 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, UH-60M Upgrade, MH-47G, MH-60M, AAS, etc).				
<i>Title:</i> Certification Requirements and Studies for Future Aircraft				0.280
				0
<i>Articles:</i>				0.735
				0
<i>Description:</i> Perform studies to support airworthiness certification requirements for Future Aircraft Systems				0.773
<i>FY 2010 Accomplishments:</i> Conducted studies of Airworthiness Certification requirements for future aircraft systems and other technology transition programs (e.g. Joint Heavy Lift, Joint Multi-Roll Aircraft, Versatile Affordable Advanced Turbine Engine Program)				
<i>FY 2011 Plans:</i> Conduct studies of Airworthiness Certification requirements for future aircraft systems and other technology transition programs (e.g. Joint Heavy Lift, Joint Multi-Roll Aircraft, Versatile Affordable Advanced Turbine Engine Program)				
<i>FY 2012 Plans:</i> Will conduct studies of Airworthiness Certification requirements for future aircraft systems and other technology transition programs (e.g. Joint Heavy Lift, Joint Multi-Roll Aircraft, Versatile Affordable Advanced Turbine Engine Program)				
<i>Title:</i> Design Standards				2.582
				0
<i>Articles:</i>				2.656
				0
<i>Description:</i> Support the development, implementation and maintenance to support Army Aeronautical Design Standards, airworthiness procedures and tools, and overarching Airworthiness qualification documentation				2.931

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605606A: <i>AIRCRAFT CERTIFICATION</i>	PROJECT 092: <i>AIRCRAFT CERTIFICATION</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
<p><i>FY 2010 Accomplishments:</i> Developed, implemented, and maintained Army Aeronautical Design Standards, airworthiness procedures and tools, and overarching Airworthiness qualification documentation.</p> <p><i>FY 2011 Plans:</i> Develop, implement, and maintain Army Aeronautical Design Standards, airworthiness procedures and tools, and overarching airworthiness qualification documentation.</p> <p><i>FY 2012 Plans:</i> Will develop, implement, and maintain Army Aeronautical Design Standards, airworthiness procedures and tools, and overarching airworthiness qualification documentation.</p>				
<p><i>Title:</i> Certification Assessments of Technology Upgrades</p> <p align="right"><i>Articles:</i></p> <p><i>Description:</i> Perform certification assessments of technology upgrades.</p> <p><i>FY 2010 Accomplishments:</i> 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)</p> <p><i>FY 2011 Plans:</i> 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)</p> <p><i>FY 2012 Plans:</i> 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)</p>		0.001 0	0.001 0	0.050
<p><i>Title:</i> Commercial Derivative Aircraft</p> <p align="right"><i>Articles:</i></p> <p><i>Description:</i> Technical and airworthiness qualification for Commercial Derivative Aircraft</p> <p><i>FY 2010 Accomplishments:</i></p>		0.505 0	0.548 0	0.548

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605606A: <i>AIRCRAFT CERTIFICATION</i>	PROJECT 092: <i>AIRCRAFT CERTIFICATION</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
<p>Provided technical and airworthiness qualification for Commercial Derivative Aircraft through the Federal Aviation Administration</p> <p>FY 2011 Plans: Provide technical and airworthiness qualification for Commercial Derivative Aircraft through the Federal Aviation Administration</p> <p>FY 2012 Plans: Will provide technical and airworthiness qualification for Commercial Derivative Aircraft through the Federal Aviation Administration</p>				
<p>Title: Technology Advancement</p> <p>Description: Support efforts to establish and maintain aircraft safety for a fleet of aircraft.</p> <p>FY 2010 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).</p> <p>FY 2011 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, Global Air Traffic Management working groups).</p> <p>FY 2012 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, Global Air Traffic Management working groups).</p>		<p>0.376</p> <p>Articles: 0</p>	<p>1.114</p> <p>0</p>	<p>1.278</p>
Accomplishments/Planned Programs Subtotals		3.745	5.055	5.630

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605606A: <i>AIRCRAFT CERTIFICATION</i>	PROJECT 092: <i>AIRCRAFT CERTIFICATION</i>

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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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605702A: <i>Meteorological Support to RDT&E Activities</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	8.173	7.185	7.182	-	7.182	7.366	7.343	7.280	7.378	Continuing	Continuing
128: <i>Meteorological Support to RDT&E Activities</i>	8.173	7.185	7.182	-	7.182	7.366	7.343	7.280	7.378	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 Developmental Test Command, a subordinate command of the U.S. Army Test and Evaluation (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 and Ft Rucker, 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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605702A: <i>Meteorological Support to RDT&E Activities</i>
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B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	8.347	7.185	7.312	-	7.312
Current President's Budget	8.173	7.185	7.182	-	7.182
Total Adjustments	-0.174	-	-0.130	-	-0.130
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.174	-			
• Adjustments to Budget Years	-	-	-0.130	-	-0.130

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605702A: <i>Meteorological Support to RDT&E Activities</i>	PROJECT 128: <i>Meteorological Support to RDT&E Activities</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
128: <i>Meteorological Support to RDT&E Activities</i>	8.173	7.185	7.182	-	7.182	7.366	7.343	7.280	7.378	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 and Ft Rucker, 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 2010	FY 2011	FY 2012
Title: Civilian Pay and support Costs	2.627	2.548	2.763
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2010 Accomplishments: 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,			

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605702A: <i>Meteorological Support to RDT&E Activities</i>	PROJECT 128: <i>Meteorological Support to RDT&E Activities</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
<p>development, test and evaluation community and technical review/assistance to ranges and meteorological support teams. Includes Verification, Validation and Accreditation (VV&A) for the Four-Dimensional Weather (4DWX) System.</p> <p>FY 2011 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 Verification, Validation and Accreditation (VV&A) for the Four-Dimensional Weather (4DWX) System.</p> <p>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 Verification, Validation and Accreditation (VV&A) for the Four-Dimensional Weather (4DWX) System.</p>				
<p>Title: Four Dimensional Weather System (4DWX) and Instrumentation</p> <p>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.</p> <p>FY 2010 Accomplishments: FY10 accomplishments include continued use of the DPG high performance computer (HPC) to generate ensemble weather, providing probabilistic forecasts by incorporating 30 separate model executions; improved land-surface and boundary layer parameterizations; new data acquisition systems; and improved lightning warning capability.</p> <p>FY 2011 Plans: Continue 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</p>		<p>5.546</p> <p>Articles: 0</p>	<p>4.637</p> <p>0</p>	<p>4.419</p>

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605702A: <i>Meteorological Support to RDT&E Activities</i>	PROJECT 128: <i>Meteorological Support to RDT&E Activities</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
<p>measurements), and relocation of sodar systems (equipment to measure vertical weather profiles) between ranges to maximize use of equipment.</p> <p><i>FY 2012 Plans:</i> Continue 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. Continue the development and enhancement of the 4DWX system in support of of Army RDT&E mission requirements.</p>				
Accomplishments/Planned Programs Subtotals		8.173	7.185	7.182
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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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605706A: <i>MATERIEL SYSTEMS ANALYSIS</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	20.970	18.078	19.669	-	19.669	20.294	20.386	19.919	20.140	Continuing	Continuing
541: <i>MATERIEL SYS ANALYSIS</i>	20.970	18.078	19.669	-	19.669	20.294	20.386	19.919	20.140	Continuing	Continuing

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 systems. As part of this mission, AMSAA develops and certifies systems performance data used in Army studies, and develops systems performance methodology and Modeling and Simulation (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, 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 analyses, such as: Analyses of Alternatives, system cost/performance tradeoffs, early science and technology tradeoffs, weapons mix analyses, system risk assessments, analytical support for Test and Evaluation, and requirements analyses. 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, DA staff/ Assistant Secretary of the Army for Acquisition, Logistics, and Technology, and Department of Defense (DoD) leadership 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 voids. 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 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

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605706A: <i>MATERIEL SYSTEMS ANALYSIS</i>
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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 need 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

B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	19.864	18.078	18.512	-	18.512
Current President's Budget	20.970	18.078	19.669	-	19.669
Total Adjustments	1.106	-	1.157	-	1.157
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	1.200	-			
• SBIR/STTR Transfer	-0.094	-			
• Adjustments to Budget Years	-	-	1.157	-	1.157

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605706A: <i>MATERIEL SYSTEMS ANALYSIS</i>	PROJECT 541: <i>MATERIEL SYS ANALYSIS</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
541: <i>MATERIEL SYS ANALYSIS</i>	20.970	18.078	19.669	-	19.669	20.294	20.386	19.919	20.140	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 systems. As part of this mission, AMSAA develops and certifies systems performance data used in Army studies, and develops systems performance methodology and Modeling and Simulation (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, 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 analyses, such as: Analyses of Alternatives, system cost/performance tradeoffs, early science and technology tradeoffs, weapons mix analyses, system risk assessments, analytical support for Test and Evaluation, and requirements analyses. These analyses are used by the Army Research, Development and Engineering Command, Army Materiel Command, Program Executive Officers/Project Managers, DA staff/Assistant Secretary of the Army for Acquisition, Logistics, and Technology, and Department of Defense (DoD) leadership 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 voids. 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 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

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605706A: <i>MATERIEL SYSTEMS ANALYSIS</i>	PROJECT 541: <i>MATERIEL SYS ANALYSIS</i>
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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's unique analytical capabilities are supporting the Army Evaluation Command 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, 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 2010	FY 2011	FY 2012
<p>Title: Materiel Systems Analysis</p> <p style="text-align: right;">Articles:</p> <p>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 FY10-12. 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, 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. These analyses form the basis for Analysis of Alternatives (AoAs), system cost/performance tradeoffs, early technology trade-offs, weapons/systems mix analyses, requirements analyses, technology insertion studies, reliability growth studies, and Physics of Failure (PoF) analyses.</p> <p>FY 2010 Accomplishments: Critical AMSAA analyses supported the following programs: Stryker variants, Ground Combat Vehicle (GCV), Joint Light Tactical Vehicle (JLTV), Mine-Resistant Ambush-Protected All-Terrain Vehicle (M-ATV), Army Modernization Spin-Off Systems, Ground Soldier System, Biometrics, Armed Aerial Scout, Sensor Fusion Systems, and Scorpion as well as numerous other ground and air combat, combat support and combat service support systems. Efforts also focused on 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 PoF modeling, vehicle performance methodology, Active Protection System performance, System of Systems Communications Network Model development, non-lethal weapons</p>	<p>20.970</p> <p>0</p>	<p>18.078</p> <p>0</p>	<p>19.669</p>

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605706A: <i>MATERIEL SYSTEMS ANALYSIS</i>	PROJECT 541: <i>MATERIEL SYS ANALYSIS</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
<p>performance and effectiveness estimation methodology, and the Infantry Warrior Simulation (IWARS), to include modeling operations in urban terrain.</p> <p>FY 2011 Plans: Critical AMSAA analyses are supporting Army Modernization programs and follow-on studies associated with the GCV, 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 are being performed in support Irregular Warfare (IW) related tasks, analyses, and model enhancements. AMSAA is conducting initial planning efforts and beginning the standing-up an Army Center for Reliability Growth. Efforts are continuing 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 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).</p> <p>FY 2012 Plans: Critical AMSAA analyses will continue to support Army Modernization efforts and key milestone decision reviews. AMSAA will conduct follow-on studies for major Army programs as required and continue to provide essential certified weapons system performance data for Army studies as needed. Efforts will continue on 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. AMSAA will continue to enhance the essential methodologies, tools, and M&S to facilitate accurate analytical products.</p>				
Accomplishments/Planned Programs Subtotals		20.970	18.078	19.669
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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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>				PE 0605709A: <i>EXPLOITATION OF FOREIGN ITEMS</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	5.403	5.460	5.445	-	5.445	5.476	7.051	7.109	7.219	Continuing	Continuing
C28: <i>ACQ/EXPLOIT THREAT ITEMS (MIP)</i>	5.403	5.460	5.445	-	5.445	5.476	7.051	7.109	7.219	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. The surge in Afghanistan is expected to increase the number of items of captured threat materiel that will 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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	5.403	5.460	5.459	-	5.459
Current President's Budget	5.403	5.460	5.445	-	5.445
Total Adjustments	-	-	-0.014	-	-0.014
• Congressional General Reductions					
• Congressional Directed Reductions					
• Congressional Rescissions	-	-			
• Congressional Adds					
• Congressional Directed Transfers					
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	-0.014	-	-0.014

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605709A: <i>EXPLOITATION OF FOREIGN ITEMS</i>	PROJECT C28: <i>ACQ/EXPLOIT THREAT ITEMS (MIP)</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
C28: <i>ACQ/EXPLOIT THREAT ITEMS (MIP)</i>	5.403	5.460	5.445	-	5.445	5.476	7.051	7.109	7.219	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 2010	FY 2011	FY 2012
<p>Title: Army Foreign Material Program Acquisition</p> <p align="right">Articles:</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2010 Accomplishments: Successful acquisition of threat-related hardware to include weapons and ammunition; camouflage systems; and communications.</p> <p>FY 2011 Plans: Continue to focus efforts toward the acquisition of threat-related foreign materiel systems</p> <p>FY 2012 Plans: Continue to focus efforts toward the acquisition of threat-related foreign materiel systems</p>	<p>1.932</p> <p>0</p>	<p>1.853</p> <p>0</p>	<p>1.819</p>
<p>Title: FMP Exploitation</p> <p align="right">Articles:</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2010 Accomplishments: Exploitation of weapons systems to include IEDs; grenade launchers; RPGs; camouflage systems; and communications</p> <p>FY 2011 Plans: Continue to test threat-related foreign materiel systems</p> <p>FY 2012 Plans:</p>	<p>3.471</p> <p>0</p>	<p>3.607</p> <p>0</p>	<p>3.626</p>

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605709A: <i>EXPLOITATION OF FOREIGN ITEMS</i>		PROJECT C28: <i>ACQ/EXPLOIT THREAT ITEMS (MIP)</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2010	FY 2011	FY 2012
Base: 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			5.403	5.460	5.445
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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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>				PE 0605712A: <i>Support of Operational Testing</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	78.360	68.191	68.786	-	68.786	70.745	66.670	64.467	63.743	Continuing	Continuing
001: <i>ATEC Joint Tests and Follow-On Test & Evaluations</i>	2.914	4.422	4.414	-	4.414	4.517	4.500	3.083	3.091	Continuing	Continuing
V02: <i>ATEC ACTIVITIES</i>	75.446	63.769	64.372	-	64.372	66.228	62.170	61.384	60.652	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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	77.471	68.191	69.558	-	69.558
Current President's Budget	78.360	68.191	68.786	-	68.786
Total Adjustments	0.889	-	-0.772	-	-0.772
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	1.781	-			
• SBIR/STTR Transfer	-0.892	-			
• Adjustments to Budget Years	-	-	-0.772	-	-0.772

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>				R-1 ITEM NOMENCLATURE PE 0605712A: <i>Support of Operational Testing</i>				PROJECT 001: <i>ATEC Joint Tests and Follow-On Test & Evaluations</i>			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
001: <i>ATEC Joint Tests and Follow-On Test & Evaluations</i>	2.914	4.422	4.414	-	4.414	4.517	4.500	3.083	3.091	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 MOTTE, 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 2010	FY 2011	FY 2012
Title: Joint operational testing and evaluation.	1.418	0.978	1.043
Articles:	0	0	
Description: Joint operational testing and evaluation			
FY 2010 Accomplishments: Provides funding to support OCO task force requirements (TDY, Civ Pay and associated overhead expenses)			
FY 2011 Plans: Provides 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)			
Title: Other-Special projects/Operational Test and Evaluation without Army Project Manager	1.058	0.833	-
Articles:	0	0	
Description: Other-Special projects/Operational Test and Evaluation without Army Project Manager.			

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605712A: <i>Support of Operational Testing</i>	PROJECT 001: <i>ATEC Joint Tests and Follow-On Test & Evaluations</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
<p><i>FY 2010 Accomplishments:</i> Forward Operational Assessment (FOA) teams provided ATEC and U.S. Central Command area of responsibility in support of OCO, as well as conduct 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.</p> <p><i>FY 2011 Plans:</i> Forward Operational Assessment (FOA) teams provided ATEC and U.S. Central Command area of responsibility in support of OCO, as well as conduct 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.</p>				
<p><i>Title:</i> Multi-Service Operational Text and Evaluation/Follow-on testing and evaluations</p> <p><i>Description:</i> Funding is provided for the following effort</p> <p><i>FY 2010 Accomplishments:</i> Funding for Integrated broadcasting service spiral enterprise T&E</p> <p><i>FY 2011 Plans:</i> Continue to Fund Integrated broadcasting service spiral enterprise T&E</p> <p><i>FY 2012 Plans:</i> Continue to Fund Integrated broadcasting service spiral enterprise T&E</p>		0.438 0	0.398 0	3.371
<p><i>Title:</i> Operational Assessment Team Support</p> <p><i>Description:</i> Operational Assessment Team Support</p> <p><i>FY 2011 Plans:</i> Funding for Forward Operational Assessment Team Support.</p>		-	2.213 0	-
Accomplishments/Planned Programs Subtotals		2.914	4.422	4.414

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605712A: <i>Support of Operational Testing</i>	PROJECT 001: <i>A TEC Joint Tests and Follow-On Test & Evaluations</i>

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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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605712A: <i>Support of Operational Testing</i>	PROJECT V02: <i>ATEC ACTIVITIES</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
V02: <i>ATEC ACTIVITIES</i>	75.446	63.769	64.372	-	64.372	66.228	62.170	61.384	60.652	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 2010	FY 2011	FY 2012
<p>Title: Operational Test Command (OTC) Activities</p> <p align="right">Articles:</p> <p>Description: Operational costs including: civilian pay, support contracts, temporary duty, supplies and equipment for subordinate elements of the Operational Test Command.</p> <p>FY 2010 Accomplishments: Operational costs including: civilian pay, support contracts, temporary duty, supplies and equipment for subordinate elements of the Operational Test Command.</p> <p>FY 2011 Plans: Operational costs including: civilian pay, support contracts, temporary duty, supplies and equipment for subordinate elements of the Operational Test Command.</p> <p>FY 2012 Plans: Operational costs including: civilian pay, support contracts, temporary duty, supplies and equipment for subordinate elements of the Operational Test Command.</p>	56.709 0	48.880 0	51.838
<p>Title: Operational cost for HQ ATEC activities</p> <p align="right">Articles:</p>	18.737 0	12.589 0	12.534

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605712A: <i>Support of Operational Testing</i>	PROJECT V02: <i>ATEC ACTIVITIES</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
<p>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.</p> <p>FY 2010 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.</p> <p>FY 2011 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.</p> <p>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.</p>			
<p>Title: Testing of Jammers.</p> <p align="right">Articles:</p> <p>Description: Testing of Jammers.</p> <p>FY 2011 Plans: Testing of Jammers.</p>	-	2.300 0	-
Accomplishments/Planned Programs Subtotals	75.446	63.769	64.372

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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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605716A: <i>Army Evaluation Center</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	63.961	61.450	63.302	-	63.302	65.696	65.437	63.459	63.321	Continuing	Continuing
302: <i>Army Evaluation Center</i>	63.961	61.450	63.302	-	63.302	65.696	65.437	63.459	63.321	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. In support of ongoing Overseas Contingency Operations (OCO) related activities, AEC continues to dedicate a significant amount of its evaluation workload towards the evaluation of Rapid Initiative (RI) & Rapid Equipping Force (REF) systems, Urgent Material Releases, and Counter Improvised Explosive Device (IED) systems in support of the Joint IED Defeat Office (JIEDDO) and the Joint Test Board.

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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605716A: <i>Army Evaluation Center</i>
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B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	67.555	61.450	62.659	-	62.659
Current President's Budget	63.961	61.450	63.302	-	63.302
Total Adjustments	-3.594	-	0.643	-	0.643
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-3.594	-			
• Adjustments to Budget Years	-	-	0.643	-	0.643

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605716A: <i>Army Evaluation Center</i>	PROJECT 302: <i>Army Evaluation Center</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
302: <i>Army Evaluation Center</i>	63.961	61.450	63.302	-	63.302	65.696	65.437	63.459	63.321	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. In support of ongoing Overseas Contingency Operations (OCO) related activities, AEC continues to dedicate a significant amount of its evaluation workload towards the evaluation of Rapid Initiative (RI) & Rapid Equipping Force (REF) systems, Urgent Material Releases, and Counter Improvised Explosive Device (IED) systems in support of the Joint IED Defeat Office (JIEDDO) and the Joint Test Board.

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 2010	FY 2011	FY 2012
Title: Army Evaluation Center	58.443	57.855	59.542
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,			

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605716A: <i>Army Evaluation Center</i>	PROJECT 302: <i>Army Evaluation Center</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
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for programs such as Mine resistant Ambush Protected Vehicle (MRAP), Global Command and Control System - Army (GCCS-A), Warfighter Information Network- Tactical (WIN-T), Stryker, High Mobility Artillery Rocket System (HIMARS), Land Warrior (LW), General Fund Enterprise Business System (GFEBS), Joint Tactical Radio System (JTRS), Patriot and Patriot Advanced Capability (PAC 3), Integrated Air and Missile Defense (IAMD), Family of Medium Tactical Vehicles (FMTV), Excalibur, Longbow Apache, and Distributed Common Ground System - Army (DCSG-A) (plus hundreds of other systems/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 2010 Accomplishments:
Developed the evaluation strategy, design technical and operational tests, and evaluated 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, Land Warrior (LW), General Fund Enterprise Business System (GFEBS), Joint Tactical Radio System (JTRS), (plus hundreds of other systems/programs across The Army). Prepared integrated System Evaluation Plans and conduct integrated technical and operational evaluations for all Army weapon systems. In support of Overseas Contingency Operations (OCO), AEC 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 10 (equates to 91% of AEC's total budget).

FY 2011 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 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

	FY 2010	FY 2011	FY 2012

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605716A: <i>Army Evaluation Center</i>	PROJECT 302: <i>Army Evaluation Center</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
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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 evaluate 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 reliability requirements during operational testing - primarily due to lack of material readiness due to poor system reliability and maintenance (RAM). Funding provides 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	5.518	3.595	3.760
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.			
FY 2010 Accomplishments:			

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605716A: <i>Army Evaluation Center</i>	PROJECT 302: <i>Army Evaluation Center</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
<p>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.</p> <p><i>FY 2011 Plans:</i> 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.</p> <p><i>FY 2012 Plans:</i> 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.</p>				
Accomplishments/Planned Programs Subtotals		63.961	61.450	63.302
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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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605718A: <i>Army Modeling & Sim X-Cmd Collaboration & Integ</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	5.885	3.926	3.420	-	3.420	3.499	3.587	3.554	3.420	Continuing	Continuing
S02: <i>HQDA DECISION SUPPORT TOOLS & SERVICES</i>	1.450	0.483	-	-	-	-	-	-	-	Continuing	Continuing
S03: <i>Analysis M&S Tools and Services</i>	3.530	1.988	1.953	-	1.953	2.000	2.048	1.989	1.834	Continuing	Continuing
S05: <i>SIMULATION TECHNOLOGY (SIMTECH) PROGRAM</i>	0.905	1.455	1.467	-	1.467	1.499	1.539	1.565	1.586	Continuing	Continuing

Note

None required.

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&SC3I 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 programs that (1) develop new M&S models and improve existing M&S models 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 lifecycle cost. M&SC3I advocates the use of advanced technologies to enable Future-Force capabilities through improved understanding of operational requirements, collaborative analyses of emerging technologies, and cross-domain participation in experiments and exercises. The following is a description of key programs under the three projects of PE 0605718. Under the project "HQDA Decision Support Tools and Services," the Army develops (1) the Cross-Command Collaboration Effort (3CE) and (2) the enhanced ARFORGEN Synchronization Tool (AST). (ARFORGEN = Army Force Generation.) The 3CE is a cross-command M&S data environment for the design, development, integration, and testing of capabilities, systems, and prototypes across the life cycle of a program; 3CE promotes the science and technology, analysis, experimentation, development, and testing of all products with the DOTMLPF continuum; DOTMLPF = Doctrine, Organization, Training, Materiel, Leadership, Personnel, and Facilities. The 3CE is a consistent, reliable and reusable environment that meets the common requirements of all commands and Army Program Managers (PMs) who employ MS to conduct DOTMLPF development. The 3CE achieves significant cost avoidance by reducing duplication of effort; maximizing reuse of tools, data and services; and ensuring interoperability. The enhanced AST provides for current and out-year synchronization and optimization of Generating Force functions with respect to operational and contingency timelines and home-station readiness requirements. Synchronization occurs among the ARFORGEN

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE
2040: <i>Research, Development, Test & Evaluation, Army</i>	PE 0605718A: <i>Army Modeling & Sim X-Cmd Collaboration & Integ</i>
BA 6: <i>RDT&E Management Support</i>	

functional modules of equipping, manning, training and resourcing. Under the project "Analysis M&S Tools and Services," the Army develops common and cross-cutting M&S tools for concept development, analysis, acquisition, testing, evaluation and experimentation. The primary developers/users of these tools are the Training and Doctrine Command Analysis Center (TRAC), the Army Materiel Systems Analysis Activity (AMSAA), and the Center for Army Analysis (CAA). Additionally, Army M&S Capability Area Teams (CATs) conduct HQDA-directed research to develop solutions for high priority M&S objectives impacting current and future operations. CATs 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. Under the project "Army Simulation Technology (SIMTECH)," the Army enhances Current and Future Force effectiveness by inducing research organizations on an immediate/short-term basis to conduct high-priority, promising simulation research initiatives that are outside the scope of Small Business Innovative Research and Army Science and Technology programs. SIMTECH directs simulation research initiatives toward immediate and short-term Army needs and serves as a catalyst for major technology breakthroughs in M&SC3I, embedded simulation, rapid prototyping, commercial innovation and related simulation technology.

B. Program Change Summary (\$ in Millions)	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>
Previous President's Budget	5.328	3.926	3.482	-	3.482
Current President's Budget	5.885	3.926	3.420	-	3.420
Total Adjustments	0.557	-	-0.062	-	-0.062
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	0.739	-			
• SBIR/STTR Transfer	-0.182	-			
• Adjustments to Budget Years	-	-	-0.062	-	-0.062

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army									DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>				R-1 ITEM NOMENCLATURE PE 0605718A: <i>Army Modeling & Sim X-Cmd Collaboration & Integ</i>				PROJECT S02: <i>HQDA DECISION SUPPORT TOOLS & SERVICES</i>			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
S02: <i>HQDA DECISION SUPPORT TOOLS & SERVICES</i>	1.450	0.483	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The project "HQDA Decision Support Tools and Services" provides decision support tools and services for the Army staff and field operating agencies assigned to the Headquarters, Department of the Army. Two major Modeling and Simulation programs are funded under this project during FY09-11. These are the Cross-Command Collaboration Effort (3CE) and the enhanced ARFORGEN Synchronization Tool (AST). (ARFORGEN = Army Force Generation.) The 3CE is a cross-command M&S data environment for the design, development, integration, and testing of capabilities, systems, and prototypes across the life cycle of a program; 3CE promotes the science and technology, analysis, experimentation, development, and testing of all products with the DOTMLPF continuum; DOTMLPF = Doctrine, Organization, Training, Materiel, Leadership, Personnel, and Facilities. The 3CE identifies, develops, integrates and maintains a core set of M&S tools, data and business processes; develops, maintains and provides interoperable connectivity to link the participating organizations; and provides the common 3CE environment and expertise to leverage 3CE capabilities. The 3CE achieves significant cost avoidance by reducing duplication of effort; maximizing reuse of tools, data and services; and ensuring interoperability. The AST, directed in the Army Campaign Plan, is the only tool in operation under ARFORGEN that is capable of synchronizing vital readiness requirements. The synchronization occurs across the ARFORGEN functional modules of equipping, manning, training and resourcing. The enhanced AST links operational and contingency timelines (Generating Force efforts) to home station readiness and training requirements. The enhanced AST enables the Army to conduct out-year assessments in managing the Active and Reserve component forces through ARFORGEN within the Joint Force Provider (JFP)/Global Force Management (GFM) processes. Several efforts under this project are identified by Army M&S Capability Area Teams (CATs), who conduct HQDA-directed research to develop solutions for high priority M&S objectives impacting current war fighting capabilities. Army M&S CATs 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.

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

	FY 2010	FY 2011	FY 2012
Title: Cross-Command Collaboration Effort (3CE)	0.243	0.216	-
Articles:	0	0	
Description: The 3CE is a systems-engineering approach to management of a program's life cycle that (1) identifies, integrates and maintains a core set of M&S tools, data and business processes and (2) provides interoperable connectivity by linking participating organizations through a common environment that constrains the aforementioned elements.			
FY 2010 Accomplishments: Funds enable the expansion of 3CE across the entire Army (beyond its current limited use) to develop system-of-system concepts, prototypes, and test and evaluation methodologies.			
FY 2011 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605718A: <i>Army Modeling & Sim X-Cmd</i> <i>Collaboration & Integ</i>		PROJECT S02: <i>HQDA DECISION SUPPORT TOOLS & SERVICES</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
Funds to enable the expansion of 3CE across the entire Army (beyond its current limited use) to develop system-of-system concepts, prototypes, and test and evaluation methodologies.				
<p>Title: Enhanced ARFORGEN Synchronization Tool (AST) ARFORGEN = Army Force Generation</p> <p align="right">Articles:</p> <p>Description: The enhanced ARFORGEN Synchronization Tool (AST) provides out-year synchronization across the ARFORGEN functional modules of equipping, manning, training and resourcing (that are linked to and enable home station training and readiness) along with out-year course-of-action analysis and an optimization capability while operating on DoD classified and unclassified networks.</p> <p>FY 2010 Accomplishments: FY10 funds enhance the AST by allowing data for unit type to be shown by requirement code and component code when dealing with readiness associations. This enables identification of a unit's position within the ARFORGEN cycle.</p> <p>FY 2011 Plans: FY11 funds enhance the AST by allowing data for unit type to be shown by requirement code and component code when dealing with readiness associations. This will enable identification of a unit's position within the ARFORGEN cycle.</p>		0.226 0	0.267 0	-
<p>Title: Capability Gaps Identified by Modeling and Simulation (M&S) Capability Area Teams (CATs)</p> <p align="right">Articles:</p> <p>Description: Army M&S CATs conduct HQDA-directed research to develop solutions for high priority M&S objectives impacting current war fighting capabilities. Army M&S CATs 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.</p> <p>FY 2010 Accomplishments: Funds enable the Army to find M&S solutions to capability gaps in the area of irregular warfare.</p>		0.981 0	-	-
Accomplishments/Planned Programs Subtotals		1.450	0.483	-
C. Other Program Funding Summary (\$ in Millions)				
N/A				
D. Acquisition Strategy				
N/A				

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605718A: <i>Army Modeling & Sim X-Cmd</i> <i>Collaboration & Integ</i>	PROJECT S02: <i>HQDA DECISION SUPPORT TOOLS &</i> <i>SERVICES</i>

E. Performance Metrics

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

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605718A: <i>Army Modeling & Sim X-Cmd Collaboration & Integ</i>	PROJECT S03: <i>Analysis M&S Tools and Services</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
S03: <i>Analysis M&S Tools and Services</i>	3.530	1.988	1.953	-	1.953	2.000	2.048	1.989	1.834	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. 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 analysis-of-futures work to justify Army requirements, assessment of alternative approaches to satisfy those requirements, and development of current and emerging war fighting doctrine from the tactical to the operational levels of warfare. Many efforts funded under this project are identified by Army M&S Capability Area Teams (CATs), who conduct HQDA-directed research to develop solutions for high priority M&S objectives impacting current war fighting capabilities. Army M&S CATs 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. Presently, CATs are placing emphasis on Army M&S data strategy and modeling for Irregular Warfare (IW)

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

	FY 2010	FY 2011	FY 2012
<p>Title: M&S Concepts and the Global Employment of the Force (GEF)</p> <p align="right">Articles:</p> <p>Description: The Army represents in simulation the emerging operational M&S concepts that will become an essential part of the Global Employment of the Force (GEF).</p> <p>FY 2010 Accomplishments: FY10 funds enable the Army to represent in simulation the emerging operational M&S concepts that will become an essential part of the Global Employment of the Force (GEF).</p> <p>FY 2011 Plans: FY11 funds enable the Army to represent in simulation the emerging operational M&S concepts that will become an essential part of the Global Employment of the Force (GEF).</p>	0.409 0	0.418 0	-
<p>Title: Army Modeling and Simulation (M&S) Data Strategy</p> <p align="right">Articles:</p> <p>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.</p>	0.409 0	0.418 0	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605718A: <i>Army Modeling & Sim X-Cmd Collaboration & Integ</i>	PROJECT S03: <i>Analysis M&S Tools and Services</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
<i>FY 2010 Accomplishments:</i> FY 10 funds enable the M&S community to collect, store and disseminate M&S data.				
<i>FY 2011 Plans:</i> FY 11 funds enable the M&S community to collect, store and disseminate M&S data.				
<i>Title:</i> Capability Gaps Identified by Modeling and Simulation (M&S) Capability Teams (CATs) <i>Description:</i> Army M&S CATs conduct HQDA-directed research to develop solutions for high priority M&S objectives that impact current war fighting capabilities. CATs 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. <i>FY 2010 Accomplishments:</i> FY10 funds enable 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. <i>FY 2011 Plans:</i> FY11 fund enable 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.		Articles: 2.712 0	1.152 0	-
<i>Title:</i> Irregular Warfare (IW) <i>Description:</i> Modeling for IW 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 IW are Foreign Internal Defense (FID), Stability Operations (SO), Counterinsurgency (COIN), Combating Terrorism (CT), Unconventional Warfare (UW), and application of the dynamics of cultural and human behavior. <i>FY 2012 Plans:</i> FY12 funds will be directed toward modeling for the following operations associated with IW: foreign internal defense, stability operations, counterinsurgency, combating terrorism, unconventional warfare, 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 IW.		-	-	0.585
<i>Title:</i> M&S Data and Standards <i>Description:</i> 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		-	-	0.800

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>		R-1 ITEM NOMENCLATURE PE 0605718A: <i>Army Modeling & Sim X-Cmd</i> <i>Collaboration & Integ</i>		PROJECT S03: <i>Analysis M&S Tools and Services</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)				FY 2010
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 2011
FY 2012 Plans: FY12 funds will be directed toward 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 2012
Title: Cyberspace Operations				-
Description: Cyberspace operations are the employment of cyber capabilities where the primary purpose is to achieve 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 network of information technology infrastructures. These include telecommunications networks, computer systems, and embedded processors and controllers.				-
FY 2012 Plans: FY12 funds will be directed toward simulation enhancements for Extended Air Defense Simulation (EADSIM) cyber modeling and cyber operations.				0.176
Title: Army Network Modeling				-
Description: The Army Network is an enhanced and 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 funds will be directed toward modeling for the Army Network to maximize the effectiveness and accuracy of systems (space-based and aerial sensors, robots and command posts) that provide situational awareness and control.				0.292
Title: Non-Lethal Weapons				-
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.				0.100

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605718A: <i>Army Modeling & Sim X-Cmd</i> <i>Collaboration & Integ</i>	PROJECT S03: <i>Analysis M&S Tools and Services</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
<i>FY 2012 Plans:</i> FY12 funds will be directed toward development of methodologies for establishing priority non-lethal weapons and enhancement of non-lethal weapon simulations now in operation.				
Accomplishments/Planned Programs Subtotals		3.530	1.988	1.953
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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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605718A: <i>Army Modeling & Sim X-Cmd Collaboration & Integ</i>	PROJECT S05: <i>SIMULATION TECHNOLOGY (SIMTECH) PROGRAM</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
S05: <i>SIMULATION TECHNOLOGY (SIMTECH) PROGRAM</i>	0.905	1.455	1.467	-	1.467	1.499	1.539	1.565	1.586	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The Army Simulation Technology (SIMTECH) program enhances Current and Future Force effectiveness by inducing Modeling and Simulation (M&S) research agencies and organizations to conduct high-priority, 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.) Successful SIMTECH projects are generally transitioned to start-up projects and existing Army simulation programs. SIMTECH activities are performed by 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, the Program Executive Office for Simulation, Training and Instrumentation (PEO-STRI) and other Army agencies.

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

	FY 2010	FY 2011	FY 2012
<p>Title: Mobility Common Operational Picture (MCOP); geoBattlefield Management Language (geoBML); and integrated use of common geo-environmental, maneuver, and command and control behaviors</p> <p align="right">Articles:</p> <p>Description: To meet information needs of operational commanders, data and services available in the Global Information Grid will be composed to create a Common Operational Picture (COP). The COP is defined as a single identical display of relevant information shared by more than one command. The COP facilitates 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 battlespace from which warfighters can assess the ability of forces to achieve dominant maneuver in a variety of regions under multiple environmental conditions and tactical situations. The unified knowledge space for supporting such mobility planning the Mobility Common Operational Picture (M-COP). A Battle Management Language (BML) is defined as 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.</p> <p>FY 2010 Accomplishments:</p>	0.292 0	0.522 0	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605718A: <i>Army Modeling & Sim X-Cmd</i> <i>Collaboration & Integ</i>	PROJECT S05: <i>SIMULATION TECHNOLOGY (SIMTECH)</i> <i>PROGRAM</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
FY10 funds enable the Army to improve commonality and consistency in the simulation results of an operations plan (OPLAN) during mission rehearsal.				
FY 2011 Plans: FY11 funds will enable the Army to improve commonality and consistency in the simulation results of an operations plan (OPLAN) during mission rehearsal.				
Title: GIS-Enabled Modeling and Project (GEMS) (GIS = Geospatial Information Systems).		0.234	0.418	-
Description: Current C4ISR and simulation systems use different tools and formats for generating and storing geospatial information. C4ISR systems tend to use Geospatial Information Systems (GIS) for this information, while simulation systems use proprietary terrain database formats that are generated from a number of different terrain database generation tools. This leads to problems sharing 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 would eliminate these problems and allow higher integration of diverse military systems. (C4ISR = Command, Control, Communications, Computers, Intelligence, Surveillance, Reconnaissance).		Articles: 0	0	
FY 2010 Accomplishments: FY10 funds increase interoperability of M&S and C4ISR systems with GEMs.				
FY 2011 Plans: FY11 funds will increase interoperability of M&S and C4ISR systems with GEMs.				
Title: Improvement of the various components of Modeling and Simulation (M&S) in accordance with priorities established by SIMTECH managers.		0.379	0.515	0.880
Description: SIMTECH managers are responsible for improving the various components of Modeling and Simulation (M&S) in accordance with priorities that they themselves establish. Decisions are rendered on an annual basis and reflect the critical needs of the Army.		Articles: 0	0	
FY 2010 Accomplishments: FY10 funds -- Improvement of the various components of M&S in accordance with priorities established by SIMTECH managers.				
FY 2011 Plans:				

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605718A: <i>Army Modeling & Sim X-Cmd Collaboration & Integ</i>		PROJECT S05: <i>SIMULATION TECHNOLOGY (SIMTECH) PROGRAM</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2010	FY 2011	FY 2012
FY11 funds -- Improvement of the various components of M&S in accordance with priorities established by SIMTECH managers. FY 2012 Plans: FY12 funds will be directed toward a variety of projects aimed at improving the various components of M&S. SIMTECH managers select the projects in accordance with the priorities they establish.					
Title: Simulation Technology Program (SIMTECH) in Support of Advanced Technologies Description: The SIMTECH program accelerates advanced technologies to ensure battlefield superiority by enhancing current and future 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. 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 related simulation technology. (COA = Course of Action.) FY 2012 Plans: FY10 funds are directed toward a variety of SIMTECH projects selected by way of request for proposals to the Army M&S community and research agencies. The request 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.			-	-	0.587
Accomplishments/Planned Programs Subtotals			0.905	1.455	1.467
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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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>				R-1 ITEM NOMENCLATURE PE 0605801A: <i>Programwide Activities</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	76.503	73.685	83.054	-	83.054	85.654	87.619	87.495	87.870	Continuing	Continuing
M02: <i>MED CMD SPT (NON-AMHA)</i>	22.204	20.615	22.144	-	22.144	22.839	23.361	23.856	24.182	Continuing	Continuing
M15: <i>ARI MGMT/ADM ACT</i>	1.994	1.977	5.327	-	5.327	5.444	5.472	5.456	5.529	Continuing	Continuing
M16: <i>STANDARDIZATION GROUPS</i>	5.034	5.135	4.220	-	4.220	4.357	4.357	4.369	4.478	Continuing	Continuing
M42: <i>ARDEC CMD/CTR Support</i>	6.935	7.184	8.220	-	8.220	8.477	8.570	8.605	8.723	Continuing	Continuing
M44: <i>CECOM CMD/CTR SPT</i>	4.870	4.954	5.643	-	5.643	5.816	5.775	5.818	5.896	Continuing	Continuing
M46: <i>AMCOM CMD/CTR SPT</i>	10.311	10.623	12.719	-	12.719	13.266	13.563	12.770	12.930	Continuing	Continuing
M47: <i>TACOM CMD/CTR SPT</i>	3.396	3.364	3.847	-	3.847	3.966	3.966	4.044	4.099	Continuing	Continuing
M53: <i>Developmental Test Command/Ctr Spt</i>	11.606	9.466	9.486	-	9.486	9.721	9.686	9.590	9.722	Continuing	Continuing
M55: <i>Edgewood Chemical Biological Center (ECBC)</i>	6.456	6.601	7.321	-	7.321	7.526	8.511	9.041	9.164	Continuing	Continuing
M58: <i>SSCOM CMD/CTR SPT</i>	2.394	2.430	2.781	-	2.781	2.866	2.966	2.573	1.828	Continuing	Continuing
M76: <i>Armament Group Support</i>	1.303	1.336	1.346	-	1.346	1.376	1.392	1.373	1.319	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). Starting in FY06, the bulk of funding for The Futures Center transfers to the Operation and Maintenance appropriation

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605801A: <i>Programwide Activities</i>
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B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	77.419	73.685	84.011	-	84.011
Current President's Budget	76.503	73.685	83.054	-	83.054
Total Adjustments	-0.916	-	-0.957	-	-0.957
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.916	-			
• Adjustments to Budget Years	-	-	-0.957	-	-0.957

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army									DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>				R-1 ITEM NOMENCLATURE PE 0605801A: <i>Programwide Activities</i>				PROJECT M02: <i>MED CMD SPT (NON-AMHA)</i>			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
M02: <i>MED CMD SPT (NON-AMHA)</i>	22.204	20.615	22.144	-	22.144	22.839	23.361	23.856	24.182	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 US 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 supporting the Special Immunization Program (SIP); providing protection for workers at risk of exposure to highly hazardous pathogenic microorganisms or toxins. It also provides for continued operations of contracting and acquisition management functions performed by the US 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 FY12.

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

	FY 2010	FY 2011	FY 2012
Title: Medical Research Information Technology System (MeRITS)	6.814	1.640	1.015
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2010 Accomplishments: In FY10, acquire and begin integrating a Commercially-Off-The-Shelf (COTS) software capability for handling Serious Adverse Effects and Electronic Data Capture.			
FY 2011 Plans: In FY11, will deliver completed software to field installations, will sustain delivered subsystems, and will continue with customization of remaining subsystems. Selected contractor positions will be considered for in-sourcing.			
FY 2012 Plans: In FY12, Will provide for sustainment of MeRITS capabilities.			
Title: Civilian Authorized Salaries and the Special Immunization Program (SIP)	15.390	18.975	21.129

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>		R-1 ITEM NOMENCLATURE PE 0605801A: <i>Programwide Activities</i>		PROJECT M02: <i>MED CMD SPT (NON-AMHA)</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2010	FY 2011	FY 2012
<p align="right">Articles:</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2010 Accomplishments: 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.</p> <p>FY 2011 Plans: Civilian authorizations will increase due to an administrative change and selected contractor positions will undergo review for in-sourcing. 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.</p> <p>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.</p>			0	0	
Accomplishments/Planned Programs Subtotals			22.204	20.615	22.144
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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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605801A: <i>Programwide Activities</i>	PROJECT M15: <i>ARI MGMT/ADM ACT</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
M15: <i>ARI MGMT/ADM ACT</i>	1.994	1.977	5.327	-	5.327	5.444	5.472	5.456	5.529	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 2010	FY 2011	FY 2012
Title: ARI	1.994	1.977	5.327
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2010 Accomplishments: Provides continued 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 2011 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 2012 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	1.994	1.977	5.327

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605801A: <i>Programwide Activities</i>	PROJECT M15: <i>ARI MGMT/ADM ACT</i>

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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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>				R-1 ITEM NOMENCLATURE PE 0605801A: <i>Programwide Activities</i>				PROJECT M16: <i>STANDARDIZATION GROUPS</i>			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
M16: <i>STANDARDIZATION GROUPS</i>	5.034	5.135	4.220	-	4.220	4.357	4.357	4.369	4.478	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 2010	FY 2011	FY 2012
<p>Title: International Technology Centers Management</p> <p style="text-align: right;">Articles:</p> <p>Description: Management / administrative support to International Technology Centers</p> <p>FY 2010 Accomplishments: Provided continued management and administrative functions at a level consistent with mission requirements and support needs at the nine International Technology Centers.</p> <p>FY 2011 Plans: Provide continued management and administrative functions at a level consistent with mission requirements and support needs at the nine International Technology Centers.</p> <p>FY 2012 Plans: Will provide continued management and administrative functions at a level consistent with mission requirements and support needs at the nine International Technology Centers.</p>	5.034 0	5.135 0	4.220
Accomplishments/Planned Programs Subtotals	5.034	5.135	4.220

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605801A: <i>Programwide Activities</i>	PROJECT M16: <i>STANDARDIZATION GROUPS</i>

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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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605801A: <i>Programwide Activities</i>	PROJECT M42: <i>ARDEC CMD/CTR Support</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
M42: ARDEC CMD/CTR Support	6.935	7.184	8.220	-	8.220	8.477	8.570	8.605	8.723	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 2010	FY 2011	FY 2012
Title: Management Support	6.935	7.184	8.220
Articles:	0	0	
Description: ARDEC management / administrative efforts			
FY 2010 Accomplishments: Provided continued management and administrative functions at a level consistent with mission requirements and support needs at ARDEC.			
FY 2011 Plans: Provide continued management and administrative functions at a level consistent with mission requirements and support needs at ARDEC.			
FY 2012 Plans: Will provide continued management and administrative functions at a level consistent with mission requirements and support needs at ARDEC.			
Accomplishments/Planned Programs Subtotals	6.935	7.184	8.220

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.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605801A: <i>Programwide Activities</i>	PROJECT M44: <i>CECOM CMD/CTR SPT</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
M44: <i>CECOM CMD/CTR SPT</i>	4.870	4.954	5.643	-	5.643	5.816	5.775	5.818	5.896	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 2010	FY 2011	FY 2012
Title: Management Support	4.870	4.954	5.643
Articles:	0	0	
Description: CERDEC management and administrative efforts			
FY 2010 Accomplishments: Provided continued management and administrative functions at a level consistent with mission requirements and support needs at CERDEC.			
FY 2011 Plans: Provide continued management and administrative functions at a level consistent with mission requirements and support needs at CERDEC.			
FY 2012 Plans: Will provide continued management and administrative functions at a level consistent with mission requirements and support needs at CERDEC.			
Accomplishments/Planned Programs Subtotals	4.870	4.954	5.643

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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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605801A: <i>Programwide Activities</i>	PROJECT M46: <i>AMCOM CMD/CTR SPT</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
M46: <i>AMCOM CMD/CTR SPT</i>	10.311	10.623	12.719	-	12.719	13.266	13.563	12.770	12.930	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 2010	FY 2011	FY 2012
<p>Title: Management Support</p> <p style="text-align: right;">Articles:</p> <p>Description: AMRDEC management and administrative efforts</p> <p>FY 2010 Accomplishments: Provided continued management and administrative functions at a level consistent with mission requirements and support needs at AMRDEC.</p> <p>FY 2011 Plans: Provide continued management and administrative functions at a level consistent with mission requirements and support needs at AMRDEC.</p> <p>FY 2012 Plans: Will provide continued management and administrative functions at a level consistent with mission requirements and support needs at AMRDEC.</p>	6.611 0	6.923 0	8.019
<p>Title: Anti-Tamper (AT) Program</p> <p style="text-align: right;">Articles:</p> <p>Description: The AT 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 AT measures.</p> <p>FY 2010 Accomplishments:</p>	3.700 0	3.700 0	4.700

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605801A: <i>Programwide Activities</i>	PROJECT M46: <i>AMCOM CMD/CTR SPT</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
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. <i>FY 2011 Plans:</i> Continue to 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. <i>FY 2012 Plans:</i> Will continue to 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.			
Accomplishments/Planned Programs Subtotals	10.311	10.623	12.719

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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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605801A: <i>Programwide Activities</i>	PROJECT M47: <i>TACOM CMD/CTR SPT</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
M47: TACOM CMD/CTR SPT	3.396	3.364	3.847	-	3.847	3.966	3.966	4.044	4.099	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 2010	FY 2011	FY 2012
Title: Management Support	3.396	3.364	3.847
Articles:	0	0	
Description: TARDEC management and administrative efforts			
FY 2010 Accomplishments: Provided continued management and administrative functions at a level consistent with mission requirements and support needs at TARDEC.			
FY 2011 Plans: Provide continued management and administrative functions at a level consistent with mission requirements and support needs at TARDEC.			
FY 2012 Plans: Will provide continued management and administrative functions at a level consistent with mission requirements and support needs at TARDEC.			
Accomplishments/Planned Programs Subtotals	3.396	3.364	3.847

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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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army									DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>				R-1 ITEM NOMENCLATURE PE 0605801A: <i>Programwide Activities</i>				PROJECT M53: <i>Developmental Test Command/Ctr Spt</i>			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
M53: <i>Developmental Test Command/Ctr Spt</i>	11.606	9.466	9.486	-	9.486	9.721	9.686	9.590	9.722	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 3289 tests, 8853 workyears, and a \$2.0 billion program.

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

	FY 2010	FY 2011	FY 2012
Title: Civilian Labor and Other Support Costs	11.606	9.466	9.486
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2010 Accomplishments: DTC Civilian labor and other support costs needed to provide technical direction and to administer the assigned Army developmental test mission.			
FY 2011 Plans: DTC Civilian labor and other support costs needed to provide technical direction and to administer the assigned Army developmental test mission.			
FY 2012 Plans: DTC Civilian labor and other support costs needed to provide technical direction and to administer the assigned Army developmental test mission.			
Accomplishments/Planned Programs Subtotals	11.606	9.466	9.486

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605801A: <i>Programwide Activities</i>	PROJECT M53: <i>Developmental Test Command/Ctr Spt</i>

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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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605801A: <i>Programwide Activities</i>	PROJECT M55: <i>Edgewood Chemical Biological Center (ECBC)</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
M55: <i>Edgewood Chemical Biological Center (ECBC)</i>	6.456	6.601	7.321	-	7.321	7.526	8.511	9.041	9.164	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 2010	FY 2011	FY 2012
Title: Management Support	6.456	6.601	7.321
Articles:	0	0	
Description: ECBC management and administrative efforts			
FY 2010 Accomplishments: Provided continued management and administrative functions at a level consistent with mission requirements and support needs at ECBC.			
FY 2011 Plans: Provide continued management and administrative functions at a level consistent with mission requirements and support needs at ECBC.			
FY 2012 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	6.601	7.321

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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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605801A: <i>Programwide Activities</i>	PROJECT M58: <i>SSCOM CMD/CTR SPT</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
M58: <i>SSCOM CMD/CTR SPT</i>	2.394	2.430	2.781	-	2.781	2.866	2.966	2.573	1.828	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 2010	FY 2011	FY 2012
Title: Management Support	2.394	2.430	2.781
Articles:	0	0	
Description: NSRDEC management and administrative functions			
FY 2010 Accomplishments: Provided continued management and administrative functions at a level consistent with mission requirements and support needs at NSRDEC.			
FY 2011 Plans: Provide continued management and administrative functions at a level consistent with mission requirements and support needs at NSRDEC.			
FY 2012 Plans: Will provide continued management and administrative functions at a level consistent with mission requirements and support needs at NSRDEC.			
Accomplishments/Planned Programs Subtotals	2.394	2.430	2.781

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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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605801A: <i>Programwide Activities</i>	PROJECT M76: <i>Armament Group Support</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
M76: <i>Armament Group Support</i>	1.303	1.336	1.346	-	1.346	1.376	1.392	1.373	1.319	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 2010	FY 2011	FY 2012
<p>Title: Army scientific support</p> <p style="text-align: right;">Articles:</p> <p>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.</p> <p>FY 2010 Accomplishments: Funds supported 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.</p> <p>FY 2011 Plans: Funds support 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.</p> <p>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.</p>	0.301 0	0.286 0	0.295
<p>Title: Executive Agent</p> <p style="text-align: right;">Articles:</p>	1.002 0	1.050 0	1.051

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011				
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605801A: <i>Programwide Activities</i>		PROJECT M76: <i>Armament Group Support</i>			
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)				FY 2010	FY 2011	FY 2012
<p>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.</p> <p>FY 2010 Accomplishments: Funded the United States' share of the NATO Civil Budget, Chapter IX (Defense Support Programs). U. S. Army is Executive Agent for this NATO bill.</p> <p>FY 2011 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.</p> <p>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.</p>						
Accomplishments/Planned Programs Subtotals				1.303	1.336	1.346
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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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605803A: <i>Technical Information Activities</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	77.926	48.309	63.872	-	63.872	71.390	68.945	69.376	68.368	Continuing	Continuing
720: <i>TECH INFO FUNC ACTV</i>	8.709	8.672	8.644	-	8.644	9.094	8.862	8.939	8.915	Continuing	Continuing
727: <i>TECH INFO ACTIVITIES</i>	8.141	7.750	14.856	-	14.856	14.948	12.852	12.262	10.540	Continuing	Continuing
729: <i>YOUTH SCIENCE ACTIV</i>	4.008	3.152	3.128	-	3.128	8.640	8.779	8.897	9.018	Continuing	Continuing
730: <i>PERS & TRNG ANALYS ACT</i>	1.997	1.828	2.196	-	2.196	2.203	2.143	2.174	2.205	Continuing	Continuing
731: <i>ARMY HIGH PERFORMANCE COMPUTING CENTERS (AHPCC)</i>	7.514	7.688	7.690	-	7.690	7.892	8.036	8.165	8.277	Continuing	Continuing
733: <i>ACQUISITION TECH ACT</i>	16.544	15.933	23.859	-	23.859	25.109	24.931	25.509	25.932	Continuing	Continuing
C16: <i>FAST</i>	2.492	2.219	2.768	-	2.768	2.761	2.670	2.708	2.745	Continuing	Continuing
C18: <i>BAST</i>	1.144	1.067	0.731	-	0.731	0.743	0.672	0.722	0.736	Continuing	Continuing
VR6: <i>GEOSPATIAL CONGRESSIONAL ADDS (CA)</i>	27.377	-	-	-	-	-	-	-	-	Continuing	Continuing

Note
 FY10 funding increase for congressional special interest items.
 FY12 funding increase for WSARA and DoD 5000 changes for Technology Readiness Assessments.

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

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605803A: <i>Technical Information Activities</i>
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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 Director, Defense Research and Engineering Strategic Plan, the Army Modernization Strategy, and the Army Science and Technology Master Plan.

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)	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>
Previous President's Budget	51.351	48.309	51.878	-	51.878
Current President's Budget	77.926	48.309	63.872	-	63.872
Total Adjustments	26.575	-	11.994	-	11.994
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	28.159	-			
• SBIR/STTR Transfer	-1.584	-			
• Adjustments to Budget Years	-	-	11.994	-	11.994

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605803A: <i>Technical Information Activities</i>	PROJECT 720: <i>TECH INFO FUNC ACTV</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
720: <i>TECH INFO FUNC ACTV</i>	8.709	8.672	8.644	-	8.644	9.094	8.862	8.939	8.915	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 Director, Defense Research and Engineering Strategic Plan, the Army Modernization Strategy, and the Army Science and Technology Master Plan.

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 2010	FY 2011	FY 2012
Title: Provide Army funding support for Federal Laboratory Consortium as required by Public Law 104-113.	0.233	0.245	0.247
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2010 Accomplishments: Provided Army funding support for Federal Laboratory Consortium as required by Public Law 104-113.			
FY 2011 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605803A: <i>Technical Information Activities</i>	PROJECT 720: <i>TECH INFO FUNC ACTV</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
Provide Army funding support for Federal Laboratory Consortium as required by Public Law 104-113. FY 2012 Plans: Will provide Army funding support for Federal Laboratory Consortium as required by Public Law 104-113.				
Title: Provide administrative and contractual support for the Army Science Board. Description: Funding is provided for the following effort. FY 2010 Accomplishments: Provided administrative and contractual support for the Army Science Board. FY 2011 Plans: Provide administrative and contractual support for the Army Science Board. FY 2012 Plans: Will provide administrative and contractual support for the Army Science Board.		2.073 0	2.106 0	2.126
Articles:				
Title: Administrative support for the Army's SBIR and STTR programs. Description: Funding is provided for the following effort FY 2010 Accomplishments: Provided administrative support for the Army's SBIR and STTR programs. FY 2011 Plans: Provide administrative support for the Army's SBIR and STTR programs. FY 2012 Plans: Will provide administrative support for the Army's SBIR and STTR programs.		1.202 0	1.250 0	1.250
Articles:				
Title: Provide funding for patent fees and patent legal expenses for Army Materiel Command (AMC) commands and laboratories. Description: Funding is provided for the following effort FY 2010 Accomplishments:		1.173 0	0.910 0	0.844
Articles:				

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605803A: <i>Technical Information Activities</i>	PROJECT 720: <i>TECH INFO FUNC ACTV</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
<p>Provided funding for patent fees and patent legal expenses for AMC commands and laboratories.</p> <p>FY 2011 Plans: Provide funding for patent fees and patent legal expenses for AMC commands and laboratories.</p> <p>FY 2012 Plans: Will provide funding for patent fees and patent legal expenses for AMC commands and laboratories.</p>				
<p>Title: Provide funding for S&T Strategic Planning and Support.</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2010 Accomplishments: Provided funding for S&T Strategic Planning and Support.</p> <p>FY 2011 Plans: Provide funding for S&T Strategic Planning and Support.</p> <p>FY 2012 Plans: Will provide funding for S&T Strategic Planning and Support.</p>		<p>0.277</p> <p>Articles: 0</p>	<p>0.383</p> <p>0</p>	<p>0.390</p>
<p>Title: Provide funding for the Army Science Conference.</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2010 Accomplishments: Provided funding for the Army Science Conference.</p> <p>FY 2011 Plans: Provide funding for the Army Science Conference.</p> <p>FY 2012 Plans: Will provide funding for the Army Science Conference.</p>		<p>0.509</p> <p>Articles: 0</p>	<p>0.500</p> <p>0</p>	<p>0.495</p>
<p>Title: Administer S&T database computer engineering support contract and support RDECOM databases S&T management support.</p>		<p>3.242</p> <p>Articles: 0</p>	<p>3.278</p> <p>0</p>	<p>3.292</p>

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605803A: <i>Technical Information Activities</i>	PROJECT 720: <i>TECH INFO FUNC ACTV</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
<p>Description: Funding is provided for the following effort</p> <p>FY 2010 Accomplishments: Administered S&T database computer engineering support contract and supported RDECOM databases S&T management support.</p> <p>FY 2011 Plans: Administer S&T database computer engineering support contract and support RDECOM databases S&T management support.</p> <p>FY 2012 Plans: Will administer S&T database computer engineering support contract and support RDECOM databases S&T management support.</p>			
Accomplishments/Planned Programs Subtotals	8.709	8.672	8.644

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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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605803A: <i>Technical Information Activities</i>	PROJECT 727: <i>TECH INFO ACTIVITIES</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
727: <i>TECH INFO ACTIVITIES</i>	8.141	7.750	14.856	-	14.856	14.948	12.852	12.262	10.540	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 Director, Defense Research and Engineering Strategic Plan and Basic Research Plan, the Army Modernization Strategy, and the Army Science and Technology Master Plan.

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 2010	FY 2011	FY 2012
<p>Title: Conduct and support S&T program portfolio assessments and analysis.</p> <p align="right">Articles:</p> <p>Description: Funding is provided for the following effort.</p> <p>FY 2010 Accomplishments: Conducted and supported S&T program portfolio assessments and analysis.</p> <p>FY 2011 Plans: Conduct and support S&T program portfolio assessments and analysis.</p> <p>FY 2012 Plans: Will conduct and support S&T program portfolio assessments and analysis.</p>	1.720 0	1.600 0	1.800
<p>Title: Support Army S&T strategic planning, analysis, and prioritization.</p> <p align="right">Articles:</p>	3.123 0	3.010 0	7.699

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605803A: <i>Technical Information Activities</i>	PROJECT 727: <i>TECH INFO ACTIVITIES</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
<p>Description: Funding is provided for the following effort.</p> <p>FY 2010 Accomplishments: Supported Army S&T strategic planning, analysis, and prioritization.</p> <p>FY 2011 Plans: Support Army S&T strategic planning, analysis, and prioritization.</p> <p>FY 2012 Plans: Will support Army S&T strategic planning, analysis, and prioritization.</p>				
<p>Title: Provide funding and support for Army Science and Technology Master Plan development and publication.</p> <p align="right">Articles:</p> <p>Description: Funding is provided for the following effort.</p> <p>FY 2010 Accomplishments: Provided funding and support for Army Science and Technology Master Plan development and publication.</p> <p>FY 2011 Plans: Provide funding and support for Army Science and Technology Master Plan development and publication.</p> <p>FY 2012 Plans: Will provide funding and support for Army Science and Technology Master Plan development and publication.</p>		1.003 0	0.950 0	0.950
<p>Title: Provide funding and support for Army Acquisition Program Technology Readiness Assessments for Program Milestone Decisions.</p> <p align="right">Articles:</p> <p>Description: Funding is provided for the following effort.</p> <p>FY 2010 Accomplishments: Provided funding and support for Army Acquisition Program Technology Readiness Assessments for Program Milestone Decisions.</p> <p>FY 2011 Plans: Provide funding and support for Army Acquisition Program Technology Readiness Assessments for Program Milestone Decisions.</p> <p>FY 2012 Plans:</p>		1.803 0	1.700 0	3.427

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605803A: <i>Technical Information Activities</i>	PROJECT 727: <i>TECH INFO ACTIVITIES</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Will provide funding and support for Army Acquisition Program Technology Readiness Assessments for Program Milestone Decisions.			
<p>Title: Provide Army support to Director, Defense Research and Engineering Executive Staff for DoD-wide Science and Technology oversight.</p> <p align="right">Articles:</p> <p>Description: Funding is provided for the following effort.</p> <p>FY 2010 Accomplishments: Provided Army support to Director, Defense Research and Engineering Executive Staff for DoD-wide Science and Technology oversight.</p> <p>FY 2011 Plans: Provide Army support to Director, Defense Research and Engineering Executive Staff for DoD-wide Science and Technology oversight.</p> <p>FY 2012 Plans: Will provide Army support to Director, Defense Research and Engineering Executive Staff for DoD-wide Science and Technology oversight.</p>	0.492 0	0.490 0	0.980
Accomplishments/Planned Programs Subtotals	8.141	7.750	14.856

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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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605803A: <i>Technical Information Activities</i>	PROJECT 729: <i>YOUTH SCIENCE ACTIV</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
729: <i>YOUTH SCIENCE ACTIV</i>	4.008	3.152	3.128	-	3.128	8.640	8.779	8.897	9.018	Continuing	Continuing
Quantity of RDT&E Articles											

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 Director, Defense Research and Engineering Strategic Plan, the Army Modernization Strategy, and the Army Science and Technology Master Plan.

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 2010	FY 2011	FY 2012
Title: STEM Competitions	1.933	1.742	1.756
Articles:	0	0	
Description: Funding is provided for the following effort.			
FY 2010 Accomplishments: Foster high school student interest nationally in science, technology, mathematics, engineering, and computer science by sponsoring the Junior Science and Humanities Symposium (JSHS), International Mathematical Olympiad (IMO), International Science and Engineering Fair (ISEF), Research and Engineering Apprenticeship Program (REAP) and the UNITE Program.			
FY 2011 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605803A: <i>Technical Information Activities</i>	PROJECT 729: <i>YOUTH SCIENCE ACTIV</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
Provide student competition incentives in STEM competitions that include scholarships, experiences, and mentorships as well as expose students to DoD career opportunities. FY 2012 Plans: Will provide competition incentives in STEM competitions that include scholarships, experiences, and mentorships as well as expose students to DoD career opportunities.				
Title: STEM Experiences Description: Funding is provided for the following effort. FY 2010 Accomplishments: Sponsor joint Army/Navy Washington Regional Area SEAP and increase Army Laboratory/Research, Development, and Engineering Center (RDEC) sponsorship of students. FY 2011 Plans: Increase Army Laboratory/Research, Development, and Engineering Center (RDEC) sponsorship of students and STEM education opportunities. FY 2012 Plans: Will increase Army Laboratory/Research, Development, and Engineering Center (RDEC) sponsorship of students and STEM education opportunities.		Articles: 0.468 0	0.233 0	0.233
Title: West Point Cadet Research Description: Funding is provided for the following effort. FY 2010 Accomplishments: Conducted West Point cadet research internship program to enhance cadet training through field experience within Army research labs and centers. FY 2011 Plans: Conducting West Point cadet research internship program to enhance cadet training through field experience within Army research labs and centers. FY 2012 Plans:		Articles: 0.546 0	0.315 0	0.318

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605803A: <i>Technical Information Activities</i>	PROJECT 729: <i>YOUTH SCIENCE ACTIV</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
Will conduct West Point cadet research internship program to enhance cadet training through field experience within Army research labs and centers.				
Title: Education Outreach and Development				
Description: Funding is provided for the following effort.				
FY 2010 Accomplishments: Supported Army Educational Outreach Program (AEOP) to enhance STEM education through student experiences in Army labs and academic partner institutions.				
FY 2011 Plans: Support 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.				
FY 2012 Plans: Will 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		1.061 0	0.862 0	0.821
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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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605803A: <i>Technical Information Activities</i>	PROJECT 730: <i>PERS & TRNG ANALYS ACT</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
730: <i>PERS & TRNG ANALYS ACT</i>	1.997	1.828	2.196	-	2.196	2.203	2.143	2.174	2.205	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 Director, Defense Research and Engineering Strategic Plan, the Army Modernization Strategy, and the Army Science and Technology Master Plan.

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 2010	FY 2011	FY 2012
Title: PERS & TRNG ANALYS ACT	1.997	1.828	2.196
Articles:	0	0	
Description: Funding is provided for the following effort.			
FY 2010 Accomplishments: Validated and assessed selection tools and methods for job assignments; and identified and assessed novel training content that impacts Soldier preparedness.			
FY 2011 Plans: Studies and analyses are 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: 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	1.997	1.828	2.196

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605803A: <i>Technical Information Activities</i>	PROJECT 730: <i>PERS & TRNG ANALYS ACT</i>

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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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605803A: <i>Technical Information Activities</i>	PROJECT 731: <i>ARMY HIGH PERFORMANCE COMPUTING CENTERS (AHPCC)</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
731: <i>ARMY HIGH PERFORMANCE COMPUTING CENTERS (AHPCC)</i>	7.514	7.688	7.690	-	7.690	7.892	8.036	8.165	8.277	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 Director, Defense Research and Engineering Strategic Plan, the Army Modernization Strategy, and the Army Science and Technology Master Plan.

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 2010	FY 2011	FY 2012
Title: Sustain the high performance computing environment and infrastructure in support of the US Army Research Laboratory DoD Supercomputing Resource Center (DSRC).	4.138	4.271	4.272
Articles:	0	0	
Description: Funding is provided for the following effort.			
FY 2010 Accomplishments: Sustained the high performance computing environment and infrastructure in support of the US Army Research Laboratory DoD Supercomputing Resource Center (DSRC).			
FY 2011 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605803A: <i>Technical Information Activities</i>	PROJECT 731: <i>ARMY HIGH PERFORMANCE COMPUTING CENTERS (AHPCC)</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
Sustain the high performance computing environment and infrastructure in support of the US Army Research Laboratory DoD Supercomputing Resource Center (DSRC). FY 2012 Plans: Will sustain the high performance computing environment and infrastructure in support of the US Army Research Laboratory 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 2010 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 2011 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 2012 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).		2.128 0	2.172 0	2.169
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 2010 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 2011 Plans:		1.248 0	1.245 0	1.249

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605803A: <i>Technical Information Activities</i>	PROJECT 731: <i>ARMY HIGH PERFORMANCE COMPUTING CENTERS (AHPCC)</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
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.			
<i>FY 2012 Plans:</i> Will 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.			
Accomplishments/Planned Programs Subtotals	7.514	7.688	7.690

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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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605803A: <i>Technical Information Activities</i>	PROJECT 733: <i>ACQUISITION TECH ACT</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
733: <i>ACQUISITION TECH ACT</i>	16.544	15.933	23.859	-	23.859	25.109	24.931	25.509	25.932	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 Director, Defense Research and Engineering Strategic Plan, the Army Modernization Strategy, and the Army Science and Technology Master Plan.

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 2010	FY 2011	FY 2012
<p>Title: Army Materiel Systems Analysis Activity (AMSAA) analytical support for the Program Executive Officers.</p> <p style="text-align: right;">Articles:</p> <p>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 methodology development/validation/accreditation, business case analyses, integrated logistics support/supportability analyses, operation and support cost reduction, and reliability improvement.</p> <p>FY 2010 Accomplishments: Supported activities include system performance analysis, technology and risk assessment, modeling and simulation new methodology development/validation/accreditation, business case analyses, integrated logistics support/supportability analyses, operation and support cost reduction, and reliability improvement.</p> <p>FY 2011 Plans: Support activities include system performance analysis, technology and risk assessment, modeling and simulation new methodology development/validation/accreditation, business case analyses, integrated logistics support/supportability analyses, operation and support cost reduction, and reliability improvement.</p>	4.391 0	4.004 0	-
Title: ACQUISITION TECH ACT	7.234	7.041	9.859

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605803A: <i>Technical Information Activities</i>	PROJECT 733: <i>ACQUISITION TECH ACT</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
<p align="right">Articles:</p> <p>Description: Distribute and beta test application programs and user interface utilities for executive level information systems that offer Standard Query Language services to Army Acquisition Corps corporate and global databases. Analyze acquisition program financial programming and budgeting requirements. Continue development of Weapon Systems Handbook, long-range planning and policy analysis, resource allocation analysis, cost tracking, and analysis.</p> <p>FY 2010 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.</p> <p>FY 2011 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.</p> <p>FY 2012 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.</p>		0	0	
<p>Title: Geospatial Acquisition Support Office (GASO).</p> <p align="right">Articles:</p> <p>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.</p> <p>FY 2010 Accomplishments:</p>		4.919 0	4.888 0	6.000

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605803A: <i>Technical Information Activities</i>	PROJECT 733: <i>ACQUISITION TECH ACT</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
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 2011 Plans: 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 2012 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 provide a geospatial baseline system of systems in theater, which is a near-term requirement that cannot be deferred.			
Title: Analytical Support for Analysis of Alternatives Description: This effort provides analytical support for Analysis of Alternatives (AoA). FY 2012 Plans: Will support a pilot program to centrally fund the analysis of alternatives for new programs that have a material development decision but have not been assigned to a program manager for material development. This is a new start.	-	-	8.000
Accomplishments/Planned Programs Subtotals	16.544	15.933	23.859

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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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605803A: <i>Technical Information Activities</i>	PROJECT C16: <i>FAST</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
C16: <i>FAST</i>	2.492	2.219	2.768	-	2.768	2.761	2.670	2.708	2.745	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

This project provides funding 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 Army. FAST also maintains close coordination with the Navy Science Advisor Program (Naval Fleet Forces Technology Integration Office).

The cited work is consistent with the Director, Defense Research and Engineering Strategic Plan, the Army Modernization Strategy, and the Army Science and Technology Master Plan.

Work in this project is performed by the US Army Materiel Command (AMC), Ft. Belvoir, VA.

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

	FY 2010	FY 2011	FY 2012
Title: Respond to combatant commanders worldwide with technological solutions	2.492	2.219	2.768
Articles:	0	0	
Description: Funding is provided for the following effort.			
FY 2010 Accomplishments: Responded to combatant commanders worldwide with technological solutions to urgent materiel problems they identify; deploy science advisers with US Task Forces in support of combatant commanders; execute biannual Technology Applications Conference.			
FY 2011 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605803A: <i>Technical Information Activities</i>	PROJECT C16: <i>FAST</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
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. <i>FY 2012 Plans:</i> 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		2.492	2.219	2.768
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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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605803A: <i>Technical Information Activities</i>	PROJECT C18: <i>BAST</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
C18: <i>BAST</i>	1.144	1.067	0.731	-	0.731	0.743	0.672	0.722	0.736	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 Director, Defense Research and Engineering Strategic Plan, the Army Modernization Strategy, and the Army Science and Technology Master Plan.

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 2010	FY 2011	FY 2012
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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.	1.144	1.067	0.731
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Articles:

Description: Funding is provided for the following effort.

FY 2010 Accomplishments:

Continued study on Protection Materials based on Army S&T strategy and senior leader initiatives.

FY 2011 Plans:

Continue studying the emerging topics based on Army S&T strategy and senior leader initiatives.

FY 2012 Plans:

These topics will again be selected according to Army S&T strategy and senior leader initiatives.

Accomplishments/Planned Programs Subtotals	1.144	1.067	0.731
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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605803A: <i>Technical Information Activities</i>	PROJECT C18: <i>BAST</i>

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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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605803A: <i>Technical Information Activities</i>	PROJECT VR6: <i>GEOSPATIAL CONGRESSIONAL ADDS (CA)</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
VR6: <i>GEOSPATIAL CONGRESSIONAL ADDS (CA)</i>	27.377	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Congressional Interest Item funding for Geospatial Initiatives.

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

	FY 2010	FY 2011	FY 2012
<p>Title: Field Deployable Hologram Production System</p> <p style="text-align: right;">Articles:</p> <p>Description: This is a Congressional Interest Item.</p> <p>FY 2010 Accomplishments: Developed a compact production unit to provide 3D imagery to deployed combat forces.</p>	3.820 0	-	-
<p>Title: Defense Support to Civil Authorities Automated Support System</p> <p style="text-align: right;">Articles:</p> <p>Description: This is a Congressional Interest Item.</p> <p>FY 2010 Accomplishments: Developed the management tools for the approval, coordination, and tracking of DoD mission assignments issued from the Federal Emergency Management Agency.</p>	1.592 0	-	-
<p>Title: Optimization of the U.S. Army Topographic Data Management Enterprise</p> <p style="text-align: right;">Articles:</p> <p>Description: This is a Congressional Interest Item.</p> <p>FY 2010 Accomplishments: Developed a common set of data models for terrain and tactical data entities.</p>	2.069 0	-	-
<p>Title: Geospatial System Capabilities/Exploitation Tools</p> <p style="text-align: right;">Articles:</p> <p>Description: This is a Congressional Interest Item.</p>	19.896 0	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605803A: <i>Technical Information Activities</i>	PROJECT VR6: <i>GEOSPATIAL CONGRESSIONAL ADDS (CA)</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
<i>FY 2010 Accomplishments:</i> Developed tools for geospatial system exploitation.			
Accomplishments/Planned Programs Subtotals	27.377	-	-

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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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605805A: <i>Munitions Standardization, Effectiveness and Safety</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	84.951	53.338	57.142	-	57.142	55.166	55.412	55.455	51.884	Continuing	Continuing
296: <i>Close Combat Technology</i>	7.451	7.330	2.824	-	2.824	3.241	2.707	2.388	2.461	Continuing	Continuing
297: <i>Mun Survivability & Log</i>	9.870	8.281	12.803	-	12.803	12.859	13.302	13.444	10.363	Continuing	Continuing
857: <i>DOD EXPLOSIVES SAFETY STANDARDS</i>	1.600	1.736	2.174	-	2.174	2.244	2.223	2.253	2.284	Continuing	Continuing
858: <i>ARMY EXPLOSIVES SAFETY MANAGEMENT PROGRAM</i>	0.450	0.619	0.702	-	0.702	0.590	0.680	0.671	0.680	Continuing	Continuing
859: <i>LIFE CYCLE PILOT PROCESS</i>	31.084	4.546	5.026	-	5.026	4.993	4.824	4.873	4.935	Continuing	Continuing
862: <i>Indirect Fire and Fuze Technology</i>	2.974	12.350	4.621	-	4.621	3.657	3.707	3.768	4.316	Continuing	Continuing
F21: <i>Direct Fire Technology and NATO Ammo Evaluation</i>	2.923	3.489	12.985	-	12.985	11.072	11.072	10.780	9.194	Continuing	Continuing
F24: <i>CONVENTIONAL MUNITIONS DEMIL</i>	28.599	14.987	16.007	-	16.007	16.510	16.897	17.278	17.651	Continuing	Continuing

Note

Change Summary Explanation:

FY 2012: Funds increased (\$10.633 million) to support various technology investigations.

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

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE
2040: <i>Research, Development, Test & Evaluation, Army</i>	PE 0605805A: <i>Munitions Standardization, Effectiveness and Safety</i>
BA 6: <i>RDT&E Management Support</i>	

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)	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>
Previous President's Budget	72.851	53.338	46.509	-	46.509
Current President's Budget	84.951	53.338	57.142	-	57.142
Total Adjustments	12.100	-	10.633	-	10.633
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	10.633	-	10.633
• Other Adjustments 1	12.100	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605805A: <i>Munitions Standardization, Effectiveness and Safety</i>	PROJECT 296: <i>Close Combat Technology</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
296: <i>Close Combat Technology</i>	7.451	7.330	2.824	-	2.824	3.241	2.707	2.388	2.461	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, 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 2010	FY 2011	FY 2012
<p>Title: Demolition Shape Charge Improvement</p> <p align="right">Articles:</p> <p>Description: Demolition Shaped Charges have been basically unchanged since WWII. Current configuration based on legacy technology is heavier and larger than necessary to complete the mission</p> <p>FY 2011 Plans: Redesign with advanced technology such as wave propagation shapers and Unitary Warhead.</p>	-	0.800 0	-
<p>Title: Heavy Metal Mitigation in Illuminants</p> <p align="right">Articles:</p> <p>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</p> <p>FY 2010 Accomplishments: .Design and sevelop alternate materials</p> <p>FY 2011 Plans: .Conduct component and system tests</p> <p>FY 2012 Plans: Complete tests and type classify</p>	0.256 0	0.143 0	0.300
<p>Title: Nanoparticles for Pyro Items</p> <p align="right">Articles:</p> <p>Description: .</p>	0.666 0	0.500 0	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605805A: <i>Munitions Standardization, Effectiveness and Safety</i>	PROJECT 296: <i>Close Combat Technology</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
<p><i>FY 2010 Accomplishments:</i> Develop the technology to produce pyrophoric nanopowders 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.</p> <p><i>FY 2011 Plans:</i> Develop the technology to produce pyrophoric nanopowders 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.</p>				
<p><i>Title:</i> Aircraft Countermeasure Improvements</p> <p><i>Description:</i> 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 rotary and fixed wing Army Aircraft</p> <p><i>FY 2010 Accomplishments:</i> Begin variability and tolerance reduction on impulse cartridges, Begin IR flare trajectory and material dispersion improvement. Begin modeling and simulation of Apache and Chinook.</p> <p><i>FY 2011 Plans:</i> Continue IR flare trajectory and material dispersion improvement. Begin chaff effectiveness improvements. Begin modeling and simulation for Army fixed wing aircraft.</p>		<p>2.693</p> <p><i>Articles:</i> 0</p>	<p>3.137</p> <p>0</p>	<p>-</p>
<p><i>Title:</i> Demolition Initiator Packaging - Skin Pack</p> <p><i>Description:</i> 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.</p> <p><i>FY 2010 Accomplishments:</i> MDI Skin Pack design</p> <p><i>FY 2011 Plans:</i> Design and develop new packaging.</p> <p><i>FY 2012 Plans:</i></p>		<p>0.820</p> <p><i>Articles:</i> 0</p>	<p>0.875</p> <p>0</p>	<p>0.900</p>

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605805A: <i>Munitions Standardization, Effectiveness and Safety</i>	PROJECT 296: <i>Close Combat Technology</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
Test and type classify new packaging. Title: M10 Universal Destructor Capability Enhancement Description: . FY 2011 Plans: Develop an infinitely variable adapter for the M10 -change explosive fill to an IM 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	-
Articles:				
Advanced Incendary Grenade Title: Advanced Incendary Grenade Description: . FY 2011 Plans: Develop improvements to the existing ANM14 incendary hand grenade to increase the penetration from 1/8 inch to 1inch of steel plate.		-	0.975 0	-
Articles:				
Chaff Performance Improvements Title: Chaff Performance Improvements Description: Increase effectiveness against advanced missile threats. FY 2010 Accomplishments: Increase effectiveness against advanced missile threats FY 2012 Plans: Develop chaff cuts to improve effectiveness against current and new threats.		0.473 0	-	1.200
Articles:				
Low Observable Ignition for CM Flares Title: Low Observable Ignition for CM Flares Description: Enhanced aircraft survivability FY 2010 Accomplishments:		1.789 0	-	0.424
Articles:				

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605805A: <i>Munitions Standardization, Effectiveness and Safety</i>	PROJECT 296: <i>Close Combat Technology</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
Develop low visibility ignition composition for M212 Countermeasure Flare FY 2012 Plans: Use low visibility ignition composition for M212 Countermeasure Flare.				
Title: Stun Hand Grenade Improvement Description: Reduce the use of perchlorates to comply with environmental standards FY 2010 Accomplishments: Qualify government owned design to reduce hardware unit cost and provide an environmentally friendly and enhanced safety design.		Articles: 0.754 0	-	-
Accomplishments/Planned Programs Subtotals		7.451	7.330	2.824
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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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605805A: <i>Munitions Standardization, Effectiveness and Safety</i>	PROJECT 297: <i>Mun Survivability & Log</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
297: <i>Mun Survivability & Log</i>	9.870	8.281	12.803	-	12.803	12.859	13.302	13.444	10.363	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

This project supports the Army Transformation 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 2010	FY 2011	FY 2012
<p>Title: Munitions Predictive Life</p> <p style="text-align: right;">Articles:</p> <p>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.</p> <p>FY 2010 Accomplishments: Conducted low cost environmental sensor accuracy and durability testing, completed design of canary indicator electronic boards that predict the reliability of electronic components in munitions in the stockpile without having to expend samples of the munitions via destructive test.</p> <p>FY 2011 Plans: Complete testing and analysis of canary indicator electronic boards for munitions, complete qualification of low cost environmental sensors for use with munitions.</p> <p>FY 2012 Plans: Complete algorithms used to determine remaining useful life of small caliber tracer and incendiary munitions resulting from exposure to heat and humidity, complete business case analysis for implementation of ammunition condition based management,</p>	2.796 0	1.476 0	1.837

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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605805A: <i>Munitions Standardization, Effectiveness and Safety</i>		PROJECT 297: <i>Mun Survivability & Log</i>			
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)				FY 2010	FY 2011	FY 2012
complete and validate a model that will determine the correlation between simulated and actual temperatures experienced by ammunition assets while stored in open storage, in a 20 foot International Standards Organization container, and in an earth covered magazine in order to provide more accurate reliability forecasts. Demonstrate 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.						
Title: Munitions Containerization Program				1.115	1.218	1.226
				Articles: 0	0	
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 2010 Accomplishments: Completed container size optimization, packaging/vehicle interface, and combat unit load quantity analyses.						
FY 2011 Plans: Complete design of container integrated locking mechanism that will permit the interlocking of individual containers to each other and a pallet base, complete analysis of improved container stacking mechanisms, complete analysis of automation friendly container closure mechanisms.						
FY 2012 Plans: Complete analysis of life cycle logistics system impact of Ammoblocks, complete designs of prototype Ammoblock interlocking cylindrical and rectangular munitions containers.						
Title: Improved Munitions Packaging				0.518	0.539	0.500
				Articles: 0	0	
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 2010 Accomplishments:						

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2010	FY 2011	FY 2012
<p>Completed market survey of most promising inkjet vendors for ammunition packaging low cost inkjet printing feasibility analysis. Completed design concepts for a mechanism that will indicate whether a palletized closed ammunition container is empty, or not in order to facilitate more efficient use of ammunition and improve handling safety in ammunition logistics operations.</p> <p>FY 2011 Plans: Complete test and evaluation of inkjet materials and methods and make recommendations for implementing inkjet printing for ammunition packaging. Fabricate and test ammunition containers with prototype empty container identification mechanisms. Complete design and lab testing of low cost, lightweight High Density Polyethylene (HDPE) cylindrical ammunition containers. Complete design and preliminary testing of an improved security seal for rectangular ammunition containers. Complete a draft standard specification for pressure sensitive adhesive labels used on ammunition packaging.</p> <p>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.</p>					
<p>Title: Insensitive Munitions (IM) Integration Program</p> <p>Description: Develop 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.</p> <p>FY 2010 Accomplishments: Down-selected and tested final IM Explosives formulations to replace Comp A-5 and H-6 in the 40mm Grenade and 25mm ammunition. Completed initial integration and testing of IM warhead, packaging, and cartridge case venting technologies for the 40mm Grenade. Performed multiple performance and IM tests to down-select a fuze-to-projectile plastic adapter for the 120mm HE Mortar.</p> <p>FY 2011 Plans:</p>			3.880 0	3.162 0	7.450

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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605805A: <i>Munitions Standardization, Effectiveness and Safety</i>	PROJECT 297: <i>Mun Survivability & Log</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
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<p>Complete integration and testing of IM Technologies (explosives, warhead, packaging, and cartridge case) into the 40mm HEDP, Hand Held Signals (Packaging & Propellant), 120mm Mortar (Warhead), 105mm Tank Round (Propulsion & Propellant, & Packaging), M67 Grenade (Warhead), and complementary packaging containers for selected munitions.</p>			
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<p>FY 2012 Plans: Complete formulation and perform sub-scale safety and performance tests to prove-out integration of IM Igniter, low Nitro Glycerin Propellants with IM enhanced cartridge cases for medium caliber ammunition. Develop multiscale and environmentally friendly IM Explosives and conformal initiation systems for artillery, mortars, close combat ammunition, and demolition items. Perform modeling and simulation to identify multiple IM enhanced warhead concepts and build prototypes. Warhead technologies to consider for development are Multi-purpose liners, Surface ignition, and Reactive composite casings for artillery and tank ammunition. Incorporate state-of-the art materials in development efforts and use Modeling and Simulation to reduce testing and development costs. Conduct IM and performance testing of ionomer window vent, sealed seam, or metallic bonding IM packaging technologies in artillery and tank ammunition.</p>			
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<p>Title: Ammo Provider</p>	1.561	1.886	1.790
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<p>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)</p>	0	0	
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<p>FY 2010 Accomplishments: Designed and fabricated a Joint Modular Intermodal Container (JMIC) that incorporates a forklift actuated interlocking mechanism that makes it possible to automatically lock JMICs together top to bottom and to a delivery platform equipped with a JMIC restraint system to permit rapid ammunition handling. Expanded software architecture of an ammunition igloo planning tool to perform storage space usage optimization across all igloos at a depot.</p>			
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<p>FY 2011 Plans: Refine design and test JMIC with a forklift actuated interlocking mechanism. Incorporate optimal storage configuration, stock rewarehousing, and stock rotation planning functions into ammo igloo storage optimization software tool. Design fabricate and test 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. Complete design, modeling, and fabrication of a CROP with locking</p>			
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605805A: <i>Munitions Standardization, Effectiveness and Safety</i>	PROJECT 297: <i>Mun Survivability & Log</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
restraint mechanisms incorporated into its deck to secure JMICs without tie down strapping. Integrate base camp planning use cases into a Field Ammunition Storage Planner software tool. <i>FY 2012 Plans:</i> Complete integration and final testing of 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 integration of base camp planning software into the design of the Field Ammunition Storage Planner tool to provide capability for rapid planning of Forward Operating Bases (FOB).			
Accomplishments/Planned Programs Subtotals	9.870	8.281	12.803

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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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605805A: <i>Munitions Standardization, Effectiveness and Safety</i>	PROJECT 857: <i>DOD EXPLOSIVES SAFETY STANDARDS</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
857: <i>DOD EXPLOSIVES SAFETY STANDARDS</i>	1.600	1.736	2.174	-	2.174	2.244	2.223	2.253	2.284	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 2010	FY 2011	FY 2012
<p>Title: TM-51300</p> <p align="right">Articles:</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2010 Accomplishments: Develop improved tri-service design procedures and improved computer codes for explosion-resistant structures. Initiate preparation of revised tri-service manual TM-51300.</p> <p>FY 2011 Plans: Develop improved tri-service design procedures and improved computer codes for explosion-resistant structures. Initiate preparation of revised tri-service manual TM-51300.</p> <p>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.</p>	<p>0.306</p> <p>0</p>	<p>0.340</p> <p>0</p>	<p>0.375</p>
<p>Title: Collect and analyze</p> <p align="right">Articles:</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2010 Accomplishments:</p>	<p>0.240</p> <p>0</p>	<p>0.266</p> <p>0</p>	<p>0.275</p>

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605805A: <i>Munitions Standardization, Effectiveness and Safety</i>	PROJECT 857: <i>DOD EXPLOSIVES SAFETY STANDARDS</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
Collect and analyze airblast/fragment/thermal data for revising DoD, NATO hazard classification. FY 2011 Plans: Collect and analyze 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.				
Title: Explosive and Munitions Tests Description: Funding is provided for the following effort FY 2010 Accomplishments: Develop improved explosives and munitions tests and characterization data. Specifically, develop improved gap tests for rocket motors. FY 2011 Plans: Develop improved explosives and munitions tests and characterization data. Specifically, develop 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.		0.322 Articles: 0	0.344 0	0.485
Title: Safety Guidelines Description: Funding is provided for the following effort FY 2010 Accomplishments: 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 2011 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 2012 Plans:		0.218 Articles: 0	0.230 0	0.275

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605805A: <i>Munitions Standardization, Effectiveness and Safety</i>	PROJECT 857: <i>DOD EXPLOSIVES SAFETY STANDARDS</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
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				
		Articles:	0.255 0	0.270 0
Description: Funding is provided for the following effort				
FY 2010 Accomplishments: Conduct other hazards analyses and expand/automate explosives safety databases. Develop improved Explosives Safety Mishap Analysis Module with links to accident reports.				
FY 2011 Plans: Conduct other hazards analyses and expand/automate explosives safety databases. Develop 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.				
Title: Analysis Tools				
		Articles:	0.259 0	0.286 0
Description: Funding is provided for the following effort				
FY 2010 Accomplishments: Develop and improve risk based analysis tools for explosives safety. Develop sequence of operations prototype.				
FY 2011 Plans: Develop and improve risk based analysis tools for explosives safety. Develop sequence of operations prototype.				
FY 2012 Plans: Develop and improve risk based analysis tools for explosives safety. Develop sequence of operations prototype.				
Accomplishments/Planned Programs Subtotals		1.600	1.736	2.174

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605805A: <i>Munitions Standardization, Effectiveness and Safety</i>	PROJECT 857: <i>DOD EXPLOSIVES SAFETY STANDARDS</i>

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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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605805A: <i>Munitions Standardization, Effectiveness and Safety</i>	PROJECT 858: <i>ARMY EXPLOSIVES SAFETY MANAGEMENT PROGRAM</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
858: <i>ARMY EXPLOSIVES SAFETY MANAGEMENT PROGRAM</i>	0.450	0.619	0.702	-	0.702	0.590	0.680	0.671	0.680	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 2010	FY 2011	FY 2012
<p>Title: Risk based explosive safety criteria</p> <p align="right">Articles:</p> <p>Description: Development of risk based explosives safety criteria that will aid commanders and safety personnel in the transition from regulation to risk management.</p> <p>FY 2010 Accomplishments: Initiate research into historical relationship of ?intra-line distance? to the hazards and consequences to exposed personnel, facilities, and equipment.</p> <p>FY 2011 Plans: Continue support of hazard research and exposure consequences.</p> <p>FY 2012 Plans: Continue support of hazard research and exposure consequences.</p>	0.123 0	0.143 0	0.164
<p>Title: Development of enhanced protective structure designs</p> <p align="right">Articles:</p> <p>Description: Develop enhanced protective structure designs that improve the survivability of Army personnel, facilities, and equipment.</p> <p>FY 2010 Accomplishments:</p>	0.151 0	0.223 0	0.264

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
Initiate project to determine the effectiveness of sand filled and concrete barricades to stop inadvertently fire 2.75? rockets. FY 2011 Plans: Continue support of barricade development. FY 2012 Plans: Continue support of barricade development.				
Title: Development of explosive safety tools Description: Develop explosive safety tools for use by Army personnel. Explosive safety tools allow commanders and safety personnel to make explosive safety decisions using risk management rather than regulations. FY 2010 Accomplishments: Develop new methods and algorithms for a risk based explosive safety tool that addresses potential probabilities and consequences of mishaps involving Army ammunition and explosives. FY 2011 Plans: Continue development of new methods for risk assesment. FY 2012 Plans: Continue development of new methods for risk assesment.		0.176 0	0.253 0	0.274
Accomplishments/Planned Programs Subtotals		0.450	0.619	0.702
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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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605805A: <i>Munitions Standardization, Effectiveness and Safety</i>	PROJECT 859: <i>LIFE CYCLE PILOT PROCESS</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
859: <i>LIFE CYCLE PILOT PROCESS</i>	31.084	4.546	5.026	-	5.026	4.993	4.824	4.873	4.935	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 2010	FY 2011	FY 2012
<p>Title: Product Costs Thrust Area</p> <p align="right">Articles:</p> <p>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.</p> <p>FY 2010 Accomplishments: Significant accomplishments include: initiated development of an improved process for cutting propellant. Initiated manufacturing process to integrate foamed beads into combustible structural components of munitions, reducing cost of grenade simulators for various medium and large caliber items.</p> <p>FY 2011 Plans: Planned programs include the following: initiate testing on prototype configuration of smoke mix with m-terphenyl. Complete chemical predictive model for propellant performance.</p> <p>FY 2012 Plans: Evaluate new technology for legacy processes to reduce overall production costs for the Army.</p>	0.877 0	0.675 0	0.810
<p>Title: Single Point Failures</p> <p align="right">Articles:</p>	3.125 0	3.196 0	3.388

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605805A: <i>Munitions Standardization, Effectiveness and Safety</i>	PROJECT 859: <i>LIFE CYCLE PILOT PROCESS</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
<p>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). In addition, thrust area efforts address ammunition manufacturing capability shortfalls. This area leverages RDTE accomplishments and product knowledge to satisfy manufacturing requirements.</p> <p>FY 2010 Accomplishments: Significant accomplishments include: initiated industrial survey on mitigation strategy for adhesive single point failures (SPF) group. Developed and manufactured a small lot of synthetic calcium silicide and conducted testing in primers. Efforts mitigated SPF in production of medium caliber and illumination munitions rounds. Completed an industrial base assessment on sources of densified magnesium carbonate.</p> <p>FY 2011 Plans: 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.</p> <p>FY 2012 Plans: Continue development of manufacturing technology and processes for SPFs. Efforts will address source of supply problems within the NTIB.</p>				
<p>Title: Manufacturing Technology for Industrial Base Transformation</p> <p align="right">Articles:</p> <p>Description: Project thrust area identifies and develops technologies that can be utilized at multiple government and private ammunition manufacturing locations to transform the NTIB.</p> <p>FY 2010 Accomplishments: Significant accomplishments include: completed ultrasonic probe prototype for large caliber melt-pour applications. Initiated data assessments for modeling the nitration process of nitrocellulose (NC) to reduce variation in process parameters.</p> <p>FY 2011 Plans:</p>		0.658 0	0.675 0	0.828

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605805A: <i>Munitions Standardization, Effectiveness and Safety</i>	PROJECT 859: <i>LIFE CYCLE PILOT PROCESS</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
<p>Planned programs include the following: develop mathematical model for nitration process of NC to reduce variation of the process parameters. Initiate transition of ultrasonic probe technology to industry. Initiate assessment of manufacturing technology for high precision components.</p> <p>FY 2012 Plans: Investigate potential technologies to transform key manufacturing processes in the NTIB. Continue investigations, develop and document manufacturing technology for transition to the NTIB.</p>				
<p>Title: Nano Advanced Cluster Energetics</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2010 Accomplishments: Developed advanced coating technology and began transfer of process technology to the explosive manufacturing Industrial Base. Continue development of processes to eliminate safety concerns and achieve net-shape manufacturing of advanced cluster energetic materials by developing novel coating and handling processes to support Insensitive Munitions (IM) explosive fill and transfer those processes to the supplier base.</p>		<p>Articles: 1.585 0</p>	-	-
<p>Title: Medium Caliber Metal Parts Upgrade</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2010 Accomplishments: Established framework for integrated data environment for sharing of manufacturing science. Establish commercial partnership with ARDEC's Center for Manufacturing Science for the prototyping process and capturing of production knowledge in the arena of forged and drawn metal parts.</p>		<p>Articles: 2.971 0</p>	-	-
<p>Title: Defense Metals Technology Center</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2010 Accomplishments: Establish a focal point with the Defense Metals Technology Center to investigate innovative technology to support the needs of the munitions industrial base in metals manufacturing.</p>		<p>Articles: 1.981 0</p>	-	-
<p>Title: Atomized Magnesium Domestic Production Design and Development</p>		1.585	-	-

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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605805A: <i>Munitions Standardization, Effectiveness and Safety</i>	PROJECT 859: <i>LIFE CYCLE PILOT PROCESS</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
Articles:		0		
Description: Funding is provided for the following effort				
FY 2010 Accomplishments: Completed facility design for production of atomized magnesium within the National Technology and Industrial Base (NTIB). Build a pilot scale reactor.				
Title: Army Range Technology Program (ARTP)		4.833	-	-
Articles:		0		
Description: Funding is provided for the following effort				
FY 2010 Accomplishments: Gathered imaging data of depleted uranium munitions from Army ranges. Tested initial hardware prototype designs. Developed initial software for data analysis. Refine hardware designs and integrate with software for the Army Range Technology Program.				
Title: Joint Munitions and Lethality Mission Integration		1.585	-	-
Articles:		0		
Description: Funding is provided for the following effort				
FY 2010 Accomplishments: Develop streamline business processes and foster integration across the Joint Munitions and Lethality Ammunition Enterprise to more efficiently and effectively support warfighter needs.				
Title: Protective Armor Systems		4.951	-	-
Articles:		0		
Description: Funding is provided for the following effort				
FY 2010 Accomplishments: Developed, proved-out, and fielded several new prototype protective armor solutions that utilize various lightweight ballistic materials. The configured hybrid solution is optimal for weight reduction, high performance and affordability. Continue to improve existing solutions and develop new armor solutions.				
Title: Domestic Production of Nanodiamond for Military Applications		1.585	-	-
Articles:		0		

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605805A: <i>Munitions Standardization, Effectiveness and Safety</i>	PROJECT 859: <i>LIFE CYCLE PILOT PROCESS</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
<p>Description: Funding is provided for the following effort</p> <p>FY 2010 Accomplishments: Establish capability to produce nanodiamonds within National Technology and Industrial Base (NTIB). Assess the effectiveness of incorporating nanodiamonds in prototype parts.</p>				
<p>Title: Improved Thermal Batteries for Guided Munitions</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2010 Accomplishments: Investigate the feasibility of adapting conventional battery manufacturing processing and technology to thermal batteries used in guided munitions.</p>		2.377 0	-	-
<p>Title: Nano Tech Enabled Self Healing ACCP</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2010 Accomplishments: Develop and evaluate novel self-healing pretreatments and polymer coatings to achieve enhanced corrosion resistance. Nanotechnology-enabled products adhesion to magnesium and titanium alloys will be researched.</p>		1.386 0	-	-
<p>Title: 3D Woven Preform Technology for Army Munitions Applications</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2010 Accomplishments: 3-D woven technology for adaptation to improve the strength and reduce the weight of sabots. Manufacture prototype components for testing and to verify mechanical properties.</p>		1.585 0	-	-
Accomplishments/Planned Programs Subtotals		31.084	4.546	5.026

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605805A: <i>Munitions Standardization, Effectiveness and Safety</i>	PROJECT 859: <i>LIFE CYCLE PILOT PROCESS</i>

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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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605805A: <i>Munitions Standardization, Effectiveness and Safety</i>	PROJECT 862: <i>Indirect Fire and Fuze Technology</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
862: <i>Indirect Fire and Fuze Technology</i>	2.974	12.350	4.621	-	4.621	3.657	3.707	3.768	4.316	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. The XM1128, 155mm extended range projectile addresses structural survivability and igniter reliability to achieve extended range on a modified profile projectile using the current weapon platform and existing propulsion systems.

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

	FY 2010	FY 2011	FY 2012
Title: Indirect Fire & Fuze ARDEC Support.	2.017	2.083	1.159
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 demonstrated increased sensitivity of 30mm M759 fuze, and performing engineering test.			

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605805A: <i>Munitions Standardization, Effectiveness and Safety</i>	PROJECT 862: <i>Indirect Fire and Fuze Technology</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
<p>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). Tested several iterations of the Turbine Alternator (T/A) on the M734A1/M783 mortar fuze to survive high G gun launch environments, and provided a final design to PM CAS for final qualification testing.</p> <p>FY 2010 Accomplishments: Indirect Fire & Fuze ARDEC Support.</p> <p>FY 2011 Plans: Indirect Fire & Fuze ARDEC Support.</p> <p>FY 2012 Plans: Indirect Fire & Fuze ARDEC Support.</p>				
<p>Title: Indirect fire & Fuze PM CAS Support</p> <p align="right">Articles:</p> <p>Description: Indirect Fire: Initiate formulations design, propellants manufacturing, producibility assessments, propellants manufacturing and Stability Study. Develop prototype of parts/materials, load mortar and improve pilot controls, explosive train design and IM Testing. Finite element analyses, computational fluid dynamics modeling, strength of design testing. Conduct Ballistic testing including firing tables, safety, reliability and performance.</p> <p>FY 2010 Accomplishments: Indirect fire & Fuze PM CAS Support</p> <p>FY 2011 Plans: Indirect fire & Fuze PM CAS Support</p> <p>FY 2012 Plans: Indirect fire & Fuze PM CAS Support</p>		0.957 0	0.971 0	1.006
<p>Title: XM1128 development and testing</p> <p align="right">Articles:</p> <p>Description: Indirect Fire: Develop the 155mm HE projectile, XM1128 with a base burner to reduce drag and provide capability of a fully zone-able projectile with a maximum range of 30km when fired from a 39 caliber cannon. Activities include the study and fabrication of a reliable igniter and base bleed grain, producibility study of metal parts and pre-production prototyping with</p>		-	9.296 0	2.456

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605805A: <i>Munitions Standardization, Effectiveness and Safety</i>	PROJECT 862: <i>Indirect Fire and Fuze Technology</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
initial tooling. Initiate hazard classification and lethality analysis, verification of structural integrity of one piece body. Additional actions include the definition of projectile aerodynamics across entire launch Mach spectrum, characterization of the base burn performance, definition of muzzle velocity and range overlap at all MACS charges and complete qualification testing. FY 2011 Plans: XM1128 development and testing FY 2012 Plans: XM1128 development and testing				
Accomplishments/Planned Programs Subtotals		2.974	12.350	4.621
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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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605805A: <i>Munitions Standardization, Effectiveness and Safety</i>	PROJECT F21: <i>Direct Fire Technology and NATO Ammo Evaluation</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
F21: <i>Direct Fire Technology and NATO Ammo Evaluation</i>	2.923	3.489	12.985	-	12.985	11.072	11.072	10.780	9.194	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 2012 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 ammunitions, 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. Funds increased in FY2012 \$9,437 thousand to support Improved Small Caliber Armor Piercing Capabilities, Low Observable Traced Projectiles and Lightweight Ammunition.

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

	FY 2010	FY 2011	FY 2012
<p>Title: Improved Small Caliber Armor Piercing Capabilities</p> <p align="right">Articles:</p> <p>Description: Increase Armor Piercing capabilities against Advanced Body Armors. Potentially improve capability against soft targets which is a significant deficiency of current AP projectiles.</p> <p>FY 2011 Plans: Concept analysis.</p> <p>FY 2012 Plans: Investigate multiple designs, fabricate and test engineering prototypes.</p>	-	0.200 0	3.000
<p>Title: Low Observable Traced Projectiles</p> <p align="right">Articles:</p> <p>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.</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605805A: <i>Munitions Standardization, Effectiveness and Safety</i>	PROJECT F21: <i>Direct Fire Technology and NATO Ammo Evaluation</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
<p><i>FY 2011 Plans:</i> Baseline material testing and initial producibility analysis.</p> <p><i>FY 2012 Plans:</i> Initial Engineering prototype, development and testing.</p>				
<p><i>Title:</i> Lightweight Ammunition</p> <p align="right"><i>Articles:</i></p> <p><i>Description:</i> An alternate 7.62mm stainless steel (SS) cartridge case offering a 20% reduction in combat ammunition weight and cost effective manufacturing capabilities.</p> <p><i>FY 2011 Plans:</i> Developing lightweight cartridge cases with cost effective manufacturing processes that support high volume production.</p> <p><i>FY 2012 Plans:</i> Improve Producibility to manufacture lightweight cartridge cases..</p>		-	0.489 0	1.500
<p><i>Title:</i> New Ammo Design Qualification & NATO Mission Support</p> <p align="right"><i>Articles:</i></p> <p><i>Description:</i> 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.</p> <p><i>FY 2010 Accomplishments:</i> Support NARTC Test operations.</p> <p><i>FY 2011 Plans:</i> Support NARTC Test operations.</p> <p><i>FY 2012 Plans:</i> Support NARTC Test operations.</p>		0.941 0	0.500 0	0.500
<p><i>Title:</i> M433 Warhead Improvement</p> <p align="right"><i>Articles:</i></p> <p><i>Description:</i> 40mm: Improve lethality (fragmentation) of the M433 grenade.</p> <p><i>FY 2010 Accomplishments:</i></p>		0.612 0	0.750 0	1.750

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605805A: <i>Munitions Standardization, Effectiveness and Safety</i>	PROJECT F21: <i>Direct Fire Technology and NATO Ammo Evaluation</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
<p>Performed initial design studies, and long lead tooling for warhead loading.</p> <p>FY 2011 Plans: Fabricating warhead tooling, manufacturing warhead bodies and will conduct static lethality testing of new warhead design.</p> <p>FY 2012 Plans: Complete optimization and testing of integrated M433 with new warhead design. Increase manufacturing readiness.</p>				
<p>Title: Non-Dud 40mm Producing Training Cartridge</p> <p align="right">Articles:</p> <p>Description: Goal to have training cartridge that will not leave unexploded ordnance on the range. May use similar technology to the 30mm TP spotter.</p> <p>FY 2010 Accomplishments: Performed initial feasibility design and testing.</p>		0.870 0	-	-
<p>Title: Target Practice Spotter Technology Insertion</p> <p align="right">Articles:</p> <p>Description: Training cartridge similar in technology to the 40mm Non-Dud Producing Cartridge. Goal is to have better signature upon impact.</p> <p>FY 2010 Accomplishments: Performed Modeling and Simulation on design concepts, manufactured test assets and completed short range testing.</p> <p>FY 2011 Plans: Extended range testing and producibility assessments. Optimization of design and extended range testing of optimized design.</p> <p>FY 2012 Plans: Qualification Testing and approval for use.</p>		0.500 0	0.500 0	1.500
<p>Title: Improved M789 Effectiveness</p> <p align="right">Articles:</p> <p>Description: Developed improved quickness of current fuze to improve effectiveness of M789 in soft media(mud,sand,etc)</p> <p>FY 2011 Plans:</p>		-	0.750 0	2.050

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605805A: <i>Munitions Standardization, Effectiveness and Safety</i>	PROJECT F21: <i>Direct Fire Technology and NATO Ammo Evaluation</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
Design and evaluate alternative designs. FY 2012 Plans: Improve Fuzing and propulsion system improvements, reliability and implement green technologies.				
Title: .50 Cal DODIC Reduction Description: Improve .50 Cal ammunition cartridges to provide increased capabilities with fewer types of rounds and achieving logistics benefits. FY 2012 Plans: Feasibility analysis for reduced DODICS.		-	-	0.185
Accomplishments/Planned Programs Subtotals		2.923	3.489	12.985
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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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>				R-1 ITEM NOMENCLATURE PE 0605805A: <i>Munitions Standardization, Effectiveness and Safety</i>				PROJECT F24: <i>CONVENTIONAL MUNITIONS DEMIL</i>			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
F24: <i>CONVENTIONAL MUNITIONS DEMIL</i>	28.599	14.987	16.007	-	16.007	16.510	16.897	17.278	17.651	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Under the leadership and oversight of the Product Manager for Demilitarization, this project supports a continuing technology evaluation of demilitarization 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. In FY10, the Explosive Demilitarization Technology Program, a cooperative inter-service, interagency effort dedicated to the maturation of safe, efficient, and environmentally acceptable processes for the closed disposal of conventional munitions including explosives, missiles, missile components, and large rocket motors was moved into the Conventional Munitions Demil Project (F24). The effort employs the highly matured technology base in the DoD Service Laboratories and Technical Centers, the Department of Energy (DOE) national laboratories, industry, and academia. The program is integrated through the leadership of the Product Manager for Demilitarization and the Joint Ordnance Commanders Group Munitions Demilitarization/Disposal Subgroup leveraging support from the Department's 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 demilitarization symposium for technical review and data evaluation from ongoing projects and advanced demonstrations. The PM Demilitarization R&D Integrated Process Team utilizes a systematic approach for project prioritization.

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

	FY 2010	FY 2011	FY 2012
Title: Advanced Destruction	17.199	6.989	6.559
Articles:	0	0	
Description: This effort focuses on destruction of munitions.			
FY 2010 Accomplishments: Plasma Ordnance Disposal System (PODS) Pollution Abatement System upgrade was designed. Mobile Plasma Treatment System (MPTS) installation, technical supervision, and support completed. Cryo Plasma Arc Demil System (CPDS) fabrication completed. Initiated fabrication of demil design for White Phosphorous Felt Wedges. Continued support of the Ammonium Pechlorate (AP) Destruction project's design phase. Completed Phase I and down selected technology for Letterkenny Munitions Center (LEMC) Motor Destruction. Began design and fabrication of components for White Phosphorous Felt Wedges. Initiated development of Contained Burn Facility for Multiple Launch Rocket System (MLRS) at Hawthorne Army Depot.			
FY 2011 Plans: Initiating assessment of Bull Pup Liquid Fuel Motors. Initiated the design of the Acid Hydrolysis Processing Plant. Beginning facility prove-out for Cryo Plasma Arc Demil System (CPDS). Initiating Mobile Plasma Treatment System (MPTS) prove-out			

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605805A: <i>Munitions Standardization, Effectiveness and Safety</i>	PROJECT F24: <i>CONVENTIONAL MUNITIONS DEMIL</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
<p>process. Plasma Ordnance Disposal System (PODS) system layaway will be initiated. Initiate Red Phosphorous Disposal study. Initiate process study on Family of Scatterable Mines (FASCAM) demil. Initiate study on Rotary Kiln Productivity Improvements.</p> <p>FY 2012 Plans: Initiate development of Red Phosphorous Disposal. Develop demil process for White Phosphorous Felt Wedges. Continue support of the AP Rocket Motor Destruction at LEMC. Test Transportable Cryo-Plasma Demil System. Develop process for Family of Scatterable Mines (FASCAM) Demil. Complete fabrication of equipment for Rotary Kiln Productivity Improvement.</p>				
<p>Title: Resource Recovery and Recycling (R3)</p> <p>Description: This effort focuses on enhancing existing methods of munitions R3.</p> <p>FY 2010 Accomplishments: Magnesium Recovery installation completed, prove-out is ongoing. Munitions Residue Inspection System (MRIS) prototype design initiated. Stinger Recycling program completed. The Nitro-Guanidine (NQ) recovery pilot process design was initiated and fabrication completed. Anniston Defense Munition Center (ADMC) efforts were suspended in FY 2010 awaiting the safety investigation results. Initiated research and design of recycling process for Cluster Bomb Units (CBUs) and Combined Effects Munitions (ECMs). Initiated demil process development for Navy Gun Ammunition.</p> <p>FY 2011 Plans: Nitro-Guanidine (NQ) installation and prove-out will be conducted. Magnesium Recovery demonstration and validation will be conducted. Evaluate results and initiate the design of a High Pressure Water Washout system.</p> <p>FY 2012 Plans: Proveout process for Nitro-Guanidine (NQ) Recovery and evaluate pilot scale. Initiate development of Projectile High-Pressure Water Washout process at Crane Army Ammunition Activity. Begin process development for Plasticized White Phosphorous Demil. Initiate a design for removal of Welded Rotating Bands.</p>		<p>Articles:</p> <p>7.545 0</p>	<p>4.100 0</p>	<p>4.160</p>
<p>Title: Advanced Removal</p> <p>Description: This effort develops technology to remove propellant and energetics.</p> <p>FY 2010 Accomplishments:</p>		<p>Articles:</p> <p>1.929 0</p>	<p>1.001 0</p>	<p>4.082</p>

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605805A: <i>Munitions Standardization, Effectiveness and Safety</i>	PROJECT F24: <i>CONVENTIONAL MUNITIONS DEMIL</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
Completed the development of a technique for the milling of multiple missiles, flexible milling of rocket motors. Evaluated alternative technologies for Insensitive Munitions (IM). FY 2011 Plans: Continue development and fabrication of milling. Initiate design and down select technologies for Insensitive Munitions (IM). Initiate study into Autoclave improvements in removing Insensitive Munition Explosives (IMX). FY 2012 Plans: Develop process and establish pilot for Ultrasonic Fragmentation. Initiate lab study and pilot scale testing for Removal of Insensitive Munitions (IM) fills via Acid Digestion. Initiate pilot phase of Removal of Cast-Cures Insensitive Munition (IM) Explosives. Design and fabricate improvements for Autoclave Insensitive Munition Explosives (IMX).				
Title: Advanced Waste Stream Treatment Description: This effort focuses on handling waste streams from munitions items. FY 2010 Accomplishments: Demonstrated thermal treatment oven liner technology. Initiated the feasibility of utilizing emissions monitoring technology during open detonation. FY 2011 Plans: Design prototype equipment for Asbestos effort. FY 2012 Plans: Facilitize Supercritical Water Oxidation (SCWO) for base hydrolysis.		1.059 Articles: 0	1.372 0	1.206
Title: Advanced Munitions Disassembly Description: Funding is provided for the following efforts: FY 2010 Accomplishments: Cryofracture final prove-out and demonstration/validation testing was conducted. Initiated facility design for Acid Digestion. Complete D563 demonstration and validation as well as Low Rate Initial Production (LRIP). Rocket Motor Segmenting initiated fabrication. Completed installation for Demilitarization by Induction Heating Meltout System (DIHMES). FY 2011 Plans:		0.867 Articles: 0	1.525 0	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011				
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605805A: <i>Munitions Standardization, Effectiveness and Safety</i>		PROJECT F24: <i>CONVENTIONAL MUNITIONS DEMIL</i>			
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)				FY 2010	FY 2011	FY 2012
Initiate the demil concept design of Cryofracture adaptation to Demil of Rockeye Munitions. Fabricate components for Acid Digestion. Complete Autoclave modeling and simulation. Conduct demonstration /validation for Rocket Motor Segmenting. Demilitarization by Induction Heating Meltout System (DIHMES) will complete demonstration /validation and begin Low Rate Initial Production (LRIP). Initiate the design of BLU Cryofracture. Proveout process for disassembly of M42/M46/M77 Insensitive Cluster Munitions (ICM) R3 and conduct downselect.						
Accomplishments/Planned Programs Subtotals				28.599	14.987	16.007
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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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>				PE 0605898A: <i>Management HQ - R&D</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	15.772	16.154	17.558	-	17.558	17.978	18.310	18.641	19.016	Continuing	Continuing
M65: <i>Army Test and Evaluation Command (ATEC)</i>	15.772	16.154	17.558	-	17.558	17.978	18.310	18.641	19.016	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 Alexandria, VA, and 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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	15.784	16.154	16.482	-	16.482
Current President's Budget	15.772	16.154	17.558	-	17.558
Total Adjustments	-0.012	-	1.076	-	1.076
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.012	-			
• Adjustments to Budget Years	-	-	1.076	-	1.076

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605898A: <i>Management HQ - R&D</i>	PROJECT M65: <i>Army Test and Evaluation Command (ATEC)</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
M65: <i>Army Test and Evaluation Command (ATEC)</i>	15.772	16.154	17.558	-	17.558	17.978	18.310	18.641	19.016	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 Alexandria, VA, and 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 2010	FY 2011	FY 2012
Title: Civilian labor and other support required to manage and administer the Army test and evaluation mission at ATEC.	15.772	16.154	17.558
Articles:	0	0	
Description: Civilian labor and other support required to manage and administer the Army test and evaluation mission at ATEC.			
FY 2010 Accomplishments: Civilian labor and other support required to manage and administer the Army test and evaluation mission at ATEC.			
FY 2011 Plans: 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 required to manage and administer the Army test and evaluation mission at ATEC.			
Accomplishments/Planned Programs Subtotals	15.772	16.154	17.558

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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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>				R-1 ITEM NOMENCLATURE PE 0605857A: <i>Environmental Quality Technology Mgmt Support</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	4.991	3.195	4.961	-	4.961	5.075	4.498	4.505	4.321	Continuing	Continuing
031: <i>Environmentally Sustainable Acquisition/Logistics</i>	3.532	2.301	3.710	-	3.710	3.795	3.210	3.190	2.989	Continuing	Continuing
06H: <i>UNEXPLODED ORDNANCE CLEARANCE TECHNOLOGY SUPPORT</i>	1.194	0.852	1.251	-	1.251	1.280	1.288	1.315	1.332	Continuing	Continuing
06I: <i>POLLUTION PREVENTION TECH SUPPORT</i>	0.265	0.042	-	-	-	-	-	-	-	Continuing	Continuing

Note

Funds realigned (\$1.349 million) to higher priority requirements.

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 the 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 to disposal. It includes systematic consideration of environmental impacts, energy use, natural resource, 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 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 cost and includes the following: efforts to eliminate the use of hazardous and ozone-depleting materials from weapon systems and facilities, and helping to ensure the availability of Halon 1301 to support weapon system fire suppression requirements through the year 2010.

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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605857A: <i>Environmental Quality Technology Mgmt Support</i>
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The Pollution Prevention Technology Support project will provide management support for the demonstration and validation of reformulated surface coating materials for weapon systems production and maintenance operations. These materials will 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.

B. Program Change Summary (\$ in Millions)	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>
Previous President's Budget	5.165	3.195	6.310	-	6.310
Current President's Budget	4.991	3.195	4.961	-	4.961
Total Adjustments	-0.174	-	-1.349	-	-1.349
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.174	-			
• Adjustments to Budget Years	-	-	-1.349	-	-1.349

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>				R-1 ITEM NOMENCLATURE PE 0605857A: <i>Environmental Quality Technology Mgmt Support</i>				PROJECT 031: <i>Environmentally Sustainable Acquisition/Logistics</i>			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
031: <i>Environmentally Sustainable Acquisition/Logistics</i>	3.532	2.301	3.710	-	3.710	3.795	3.210	3.190	2.989	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 and occupational health (OH), energy efficiency and materials compatibility 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, the Assistant Secretary of the Army (Acquisition, Logistics, and Technology), and the Commanding General, Army Materiel Command (AMC). This project provides direct support to the Army acquisition community to pursue environmental sustainability and comply with legal statutes, policy 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 2010	FY 2011	FY 2012
Title: Environmental Quality Support	1.654	1.455	1.738
Articles:	0	0	
Description: Environmental Quality Support to Acquisition Programs			
FY 2010 Accomplishments: Provided support to Program Executive Offices and Program Managers (PEOs/PMs) to integrate EQ considerations and, to a much lesser extent, some safety and OH considerations into systems engineering activities. This included 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. Provided technology management and technical support to logistics initiatives including the EQ aspects of the Army Corrosion Program and the DoD Corrosion Program. Analyzed impending legal statutes impacting production, operation and support of weapon systems. Supported implementation 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 Defense Federal Acquisition Regulation Supplement (DFARS) clause restricting the use of hexavalent chromium on all defense contracts. Assessed readiness impacts to weapon systems resulting from EQ impacts in capabilities of industrial base and			

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605857A: <i>Environmental Quality Technology Mgmt Support</i>	PROJECT 031: <i>Environmentally Sustainable Acquisition/ Logistics</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
<p>garrisons to support production levels, training and operational tempo and maintenance activities. Provided Army acquisition community representation in Office of the Secretary of Defense (OSD) and Department of the Army (DA) committees addressing environmental legislation and rulemaking.</p> <p>FY 2011 Plans: Provide support to PEOs/PMs to integrate EQ considerations into systems engineering activities. This includes fulfillment of National Environmental Policy Act requirements, definition of EQ technology needs to meet operational requirements, analysis of technical data to support implementation decisions, and assessment and revision of contractual and operational requirements for successful technology integration, operation and support. Analyze impending legal statutes impacting production, operation and support of weapon systems. 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 select OSD and DA committees addressing environmental legislation and rulemaking.</p> <p>FY 2012 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 provide technology management and technical support to logistics initiatives including the EQ aspects of the Army Corrosion Program and the DoD Corrosion Program. 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 DFARS clause restricting the use of hexavalent chromium on all defense contracts. Will 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. Will provide Army acquisition community representation in OSD and DA committees addressing environmental legislation and rulemaking.</p>				
<p>Title: Environmental Quality Technology (EQT) Program Management</p> <p>Description: Provide EQT program management support to Army programs</p> <p>FY 2010 Accomplishments:</p>		1.274 0	0.701 0	1.338
		Articles:		

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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605857A: <i>Environmental Quality Technology Mgmt Support</i>	PROJECT 031: <i>Environmentally Sustainable Acquisition/Logistics</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
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<p>Provided system acquisition support to the Army's Environmental Technology Technical Council (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 AMC voting member of the Army EQT program. This included coordination of RDT&E Budget Activity (BA)-1 and BA-2 requirements among members of the EQT Pollution Prevention Technology Team, coordination of RDTE 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. Participated in performance and cost/risk assessments in support of ASA(I&E) program objectives. 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; 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; and Airborne Lead Reduction in Army Weapon Systems.</p> <p>FY 2011 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 and coordination of RDTE BA-3 and BA-4 technology evaluations and operational requirements in support of weapon system platform integration. Manage 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.</p> <p>FY 2012 Plans: Will provide system acquisition support to the Army's ETTC and coordination of EQ-related systems' needs for expanded RDT&E efforts. Will 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. Will provide technology management, technical support, and representation of the AMC voting member of the Army EQT program. This will include coordination of RDT&E BA-1 and BA-2 requirements among members of the EQT Pollution Prevention</p>			
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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605857A: <i>Environmental Quality Technology Mgmt Support</i>	PROJECT 031: <i>Environmentally Sustainable Acquisition/Logistics</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
<p>Technology Team, coordination of RDTE 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. Will participate in performance and cost/risk assessments in support of ASA(I&E) program objectives. Will 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.</p>				
<p>Title: Ozone Depleting Substance Management</p> <p>Description: Oversee Army efforts to manage the use/eliminatin of ozone depleting substances, greenhouse gases and hazardous and toxic materials on Army weapon systems.</p> <p>FY 2010 Accomplishments: Oversaw Army efforts to manage the use/elimination of ozone-depleting substances, greenhouse gases, and hazardous and toxic materials on Army weapon systems. Managed and oversaw the Army's reserve of ozone-depleting substances that contains the Army's strategic supplies of Halon used for explosion and fire suppression systems and R-22 used in fielded environmental control units. Coordinated with PEOs/PMs to affect system replacement and retrofit to eliminate ozone depleting substances while minimizing greenhouse gases, obtained approval to require use of Halon in new contracts, and assisted garrison commanders to assure recovery and deposit of excess Halon and R-22 into the reserve. Participated 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 supported Army warfighters in Operation Enduring Freedom and Operation Iraqi Freedom assuring adequate supplies of fire/explosion suppression and cooling agents in the theatre of operations.</p> <p>FY 2011 Plans: Oversee Army efforts to manage the use/elimination of ozone-depleting substances, greenhouse gases, and hazardous and toxic materials on Army weapon systems. Participate 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.</p> <p>FY 2012 Plans:</p>		<p>0.604 0</p>	<p>0.145 0</p>	<p>0.634</p>

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605857A: <i>Environmental Quality Technology Mgmt Support</i>	PROJECT 031: <i>Environmentally Sustainable Acquisition/ Logistics</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
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 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 will support 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.			
Accomplishments/Planned Programs Subtotals	3.532	2.301	3.710

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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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605857A: <i>Environmental Quality Technology Mgmt Support</i>	PROJECT 06H: <i>UNEXPLODED ORDNANCE CLEARANCE TECHNOLOGY SUPPORT</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
06H: <i>UNEXPLODED ORDNANCE CLEARANCE TECHNOLOGY SUPPORT</i>	1.194	0.852	1.251	-	1.251	1.280	1.288	1.315	1.332	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 2010	FY 2011	FY 2012
<p>Title: Coordinate/collect/analyze UXO RDT&E information via conferences, seminars, and workshops.</p> <p align="right">Articles:</p>	0.463 0	0.286 0	0.499
<p>Description: Coordinate/collect/analyze UXO RDT&E information via conferences, seminars, and workshops.</p> <p>FY 2010 Accomplishments: Coordinate/collect/analyze UXO RDT&E information via conferences, seminars, and workshops.</p> <p>FY 2011 Plans: Coordinate/collect/analyze UXO RDT&E information via conferences, seminars, and workshops.</p> <p>FY 2012 Plans: Coordinate/collect/analyze UXO RDT&E information via conferences, seminars, and workshops.</p>			
<p>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.</p> <p align="right">Articles:</p>	0.225 0	0.156 0	0.232
<p>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.</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605857A: <i>Environmental Quality Technology Mgmt Support</i>	PROJECT 06H: <i>UNEXPLODED ORDNANCE CLEARANCE TECHNOLOGY SUPPORT</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
<p><i>FY 2010 Accomplishments:</i> 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.</p> <p><i>FY 2011 Plans:</i> 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.</p> <p><i>FY 2012 Plans:</i> 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.</p>				
<p><i>Title:</i> 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.</p> <p align="right"><i>Articles:</i></p> <p><i>Description:</i> 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.</p> <p><i>FY 2010 Accomplishments:</i> 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.</p> <p><i>FY 2011 Plans:</i> 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.</p> <p><i>FY 2012 Plans:</i> 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.</p>		0.313 0	0.280 0	0.322
<p><i>Title:</i> 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</p> <p align="right"><i>Articles:</i></p> <p><i>Description:</i> 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.</p>		0.193 0	0.130 0	0.198

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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605857A: <i>Environmental Quality Technology Mgmt Support</i>	PROJECT 06H: <i>UNEXPLODED ORDNANCE CLEARANCE TECHNOLOGY SUPPORT</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
<p>Full-scale development would occur during engineering and manufacturing development and be aimed at meeting validated requirements prior to full-rate production.</p> <p><i>FY 2010 Accomplishments:</i> 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.</p> <p><i>FY 2011 Plans:</i> 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.</p> <p><i>FY 2012 Plans:</i> 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.</p>				
Accomplishments/Planned Programs Subtotals		1.194	0.852	1.251
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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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605857A: <i>Environmental Quality Technology Mgmt Support</i>	PROJECT 06I: <i>POLLUTION PREVENTION TECH SUPPORT</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
06I: <i>POLLUTION PREVENTION TECH SUPPORT</i>	0.265	0.042	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

This project provides 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 provides for management of RDTE activities conducted under project 0603804A, Logistics and Engineer Equipment - Adv Dev (K42). The project supports 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 expedites technology transition from the laboratory to operational use by supporting the demonstration of new materials and processes to fulfill the performance requirements outlined in Material Specifications, Depot Maintenance Work Requirements, Technical Manuals and other technical data. The project is 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 2010	FY 2011	FY 2012
Title: Sustainable Painting Operations for the Total Army Management Support	0.265	0.042	-
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2010 Accomplishments: Managed and oversaw qualification of reformulated surface coating materials.			
FY 2011 Plans: Manage and oversee implementation of reformulated surface coating materials.			
Accomplishments/Planned Programs Subtotals	0.265	0.042	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605857A: <i>Environmental Quality Technology Mgmt Support</i>	PROJECT 06I: <i>POLLUTION PREVENTION TECH SUPPORT</i>

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.