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Supporting Data FY 2011 Budget Estimate - February 2010

DESCRIPTIVE SUMMARIES OF THE



RESEARCH, DEVELOPMENT, TEST AND EVALUATION Army Appropriation, Budget Activity 6

Department of the Army
Office of the Secretary of the Army (Financial Management and Comptroller)

Persuasive in Peace, Invincible in War

VOLUME VI

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**DESCRIPTIVE SUMMARIES FOR PROGRAM ELEMENTS
OF THE
RESEARCH, DEVELOPMENT, TEST AND
EVALUATION, ARMY
FY 2011
BUDGET ESTIMATE SUBMISSION
FEBRUARY 2010**

**VOLUME VI
Budget Activity 6**

**Department of the Army
Office of the Assistant Secretary of the Army (Financial Management and Comptroller)**

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**FY 2011 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), R-4A (Schedule Profile Detail) and R-5 (Termination Liability Funding for MDAPs) Exhibits, which provide narrative information on all RDT&E program elements and projects for FY 2009 through FY 2011.

2. Relationship of the FY 2011 Budget Submitted to Congress to the FY 2010 Budget Submitted to Congress. This paragraph provides a list of program elements restructured, transitioned, or established to provide specific program identification.

A. Program Element Restructures. Explanations for these changes can be found in the narrative sections of the Program Element R-2A Exhibits.

OLD		NEW
<u>PE/PROJECT</u>	<u>NEW PROJECT TITLE</u>	<u>PE/PROJECT</u>
0603308A/978	Long Endurance Multi-Intelligence Vehicle	0305205A/LE4
0604270A/L16	TROJAN – RH12-MIP	0303032A/RH5
0604802A/S23	SLAMRAAM	0605455A/S35
0604805A/589	Joint Battle Command – Platform (JBC-P)	0604805A/593
0604869A/M06	PAC-3/MSE Missile	0605456A/PA3
0303140/5PM	Biometrics Enabled Intelligence – MIP	0307665A/BI7
0303140/5PM	Intelligence Support to Cyber (ISC) – MIP	0203347A/CY7
0305204A/114	RQ-7 Shadow UAV	0305233A/RQ7
0305204A/D10	RQ-11 Raven (MIP)	0305232A/RA7
0307207A/024	Aerial Common Sensor – SDD	0605626A/AC5

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B. Developmental Transitions. Explanations for these changes can be found in the narrative sections of the Program Element R-2/R-3 Exhibits.

<u>OLD</u>	<u>NEW PROJECT TITLE</u>	<u>NEW</u>
<u>PE/PROJECT</u>		<u>PE/PROJECT</u>
0305204A/D09	ER/MP Unmanned Aircraft System (MIP)	0604276A/TU1
0307207A/024	Aerial Common Sensor (ACS)	0605626A/AC5

C. Establishment of New FY 2011 Program Elements/Projects. There are no major system new starts.

<u>TITLE</u>	<u>PE/PROJECT</u>
Aerial Common Sensor – SDD	0605626A/AC5
Armed Scout Helicopter	0604220A/53Z
Army Integrated Air and Missile Defense (AIAMD)	0605457A/S40
Army Integrated Military Human Resources System (A-IRMS)	0605018A/HR5
Biometrics Enabled Intelligence – MIP	0307665A/BI7
ER/MP Unmanned Aircraft System (MIP)	0604276A/TU1
Intelligence Support to Cyber (ISC) – MIP	0203347A/CY7
Joint Battle Command - Platform (JBC-P)	0604805A/593
Long Endurance Multi-Intelligence Vehicle	0305205A/LE4
MQ-1 Sky Warrior – Army UAV (MIP)	0305219A/MQ1
PAC-3/MSE Missile	0605456A/PA3
RQ-7 Shadow UAV	0305233A/RQ7
RQ-11 Raven (MIP)	0305232A/RA7
SLAMRAAM	0605455A/S35
Suicide Prevention/Mitigation	0602787A/VJ4
TROJAN – RH12-MIP	0303032A/RH5
Advanced Geospatial Intelligence (AGI)	0304348A/NI7

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D. FY 2011 programs for which funding existed in the FY 2010 President's Budget Submit (May 2009), but which are no longer funded in the FY 2011 President's Budget Submit.

<u>PE/PROJECT</u>	<u>TITLE</u>	<u>BRIEF EXPLANATION</u>
0603004A/L94	Electric Gun System Demo	Program restructured
0604270A/L12	Signals Warfare Development (MIP)	Program moved to a separate MIP PE
0604270A/L16	TROJAN Development (MIP)	Program moved to a separate MIP PE
0604666A/FC7	FCS – Spin Out Technology/Capability Integration	Terminated
0604802A/S23	Surface Launched Advanced Medium Range Air-to-Air Missile (SLAMRAAM)	Program moved to a separate missile defense PE
0604818A/C15	Mounted Battle Command On-The-Move (MBCOTM)	Terminated
0604818A/C39	Tactical Operations Center (TOCs)	Terminated
0303142A/562	Multi-band Integrated Satellite Terminal (MIST)	Terminated
0307207A/024	Aerial Common Sensor (MIP)	Program transitioned to BA 5 for proper execution

3. Classification. This document contains no classified data. Classified/Special Access Programs that are submitted offline are listed below.

0203801A/DF8/DF9	0603005A/C66	0604328A
0203808A	0603006A/DF7	
0301359A	0603009A	
0304348A	0603020A	
0602122A	0603322A	

4. Performance Metrics. Performance metrics used in the preparation of this justification book may be found in the FY 2010 Army Performance Budget Justification Book, dated March 2009.

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01-Feb-2010

Summary

<u>Summary Recap of Budget Activities</u>	Thousands of Dollars				
	FY2009	FY2010	FY2011	FY2011 OCO	FY2011 Total
Basic research	422,136	431,777	406,873	0	406,873
Applied Research	1,224,889	1,337,114	841,364	0	841,364
Advanced technology development	1,438,797	1,373,609	696,592	0	696,592
Advanced Component Development and Prototypes	1,010,485	932,004	746,248	57,900	804,148
System Development and Demonstration	5,025,850	4,454,743	5,021,546	13,500	5,035,046
Management support	1,470,157	1,196,744	1,142,383	0	1,142,383
Operational system development	1,482,756	1,823,380	1,473,939	79,506	1,553,445
Total RDT&E, Army	12,075,070	11,549,371	10,328,945	150,906	10,479,851

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Program				Thousands of Dollars				
Line	Element	Act	Item	FY2009	FY2010	FY2011	FY2011 OCO	FY2011 Total
Basic research								
1	0601101A	01	IN-HOUSE LABORATORY INDEPENDENT RESEARCH	19,357	19,568	21,780		21,780
2	0601102A	01	DEFENSE RESEARCH SCIENCES	193,968	197,471	195,845		195,845
3	0601103A	01	UNIVERSITY RESEARCH INITIATIVES	87,485	99,400	91,161		91,161
4	0601104A	01	UNIVERSITY AND INDUSTRY RESEARCH CENTERS	121,326	115,338	98,087		98,087
Tota Basic research				422,136	431,777	406,873	0	406,873
Applied Research								
5	0602105A	02	MATERIALS TECHNOLOGY	80,686	99,447	29,882		29,882
6	0602120A	02	SENSORS AND ELECTRONIC SURVIVABILITY	76,213	70,272	48,929		48,929
7	0602122A	02	TRACTOR HIP	17,659	14,250	14,624		14,624
8	0602211A	02	AVIATION TECHNOLOGY	46,232	49,273	43,476		43,476
9	0602270A	02	ELECTRONIC WARFARE TECHNOLOGY	20,058	22,303	17,330		17,330
10	0602303A	02	MISSILE TECHNOLOGY	57,502	70,924	49,525		49,525
11	0602307A	02	ADVANCED WEAPONS TECHNOLOGY	22,638	21,964	18,190		18,190
12	0602308A	02	ADVANCED CONCEPTS AND SIMULATION	18,205	27,330	20,582		20,582
13	0602601A	02	COMBAT VEHICLE AND AUTOMOTIVE TECHNOLOGY	84,436	78,923	64,740		64,740
14	0602618A	02	BALLISTICS TECHNOLOGY	84,827	78,034	60,342		60,342
15	0602622A	02	CHEMICAL, SMOKE AND EQUIPMENT DEFEATING TECHNOLOGY	8,873	13,622	5,324		5,324
16	0602623A	02	JOINT SERVICE SMALL ARMS PROGRAM	9,165	7,634	7,893		7,893
17	0602624A	02	WEAPONS AND MUNITIONS TECHNOLOGY	106,253	144,864	42,645		42,645
18	0602705A	02	ELECTRONICS AND ELECTRONIC DEVICES	99,118	134,532	60,859		60,859
19	0602709A	02	NIGHT VISION TECHNOLOGY	45,329	50,877	40,228		40,228
20	0602712A	02	COUNTERMINE SYSTEMS	27,827	23,621	19,118		19,118
21	0602716A	02	HUMAN FACTORS ENGINEERING TECHNOLOGY	42,208	30,446	21,042		21,042
22	0602720A	02	ENVIRONMENTAL QUALITY TECHNOLOGY	15,786	25,469	18,364		18,364
23	0602782A	02	COMMAND, CONTROL, COMMUNICATIONS TECHNOLOGY	45,350	30,036	25,573		25,573
24	0602783A	02	COMPUTER AND SOFTWARE TECHNOLOGY	7,786	5,609	6,768		6,768
25	0602784A	02	MILITARY ENGINEERING TECHNOLOGY	58,671	60,779	79,189		79,189
26	0602785A	02	MANPOWER/PERSONNEL/TRAINING TECHNOLOGY	16,096	16,614	22,198		22,198
27	0602786A	02	WARFIGHTER TECHNOLOGY	35,866	38,347	27,746		27,746

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Program				Thousands of Dollars				
Line No	Element Number	Act	Item	FY2009	FY2010	FY2011	FY2011 OCO	FY2011 Total
Basic research								
28	0602787A	02	MEDICAL TECHNOLOGY	198,105	221,944	96,797		96,797
Tota Applied Research				1,224,889	1,337,114	841,364	0	841,364
Advanced technology development								
29	0603001A	03	WARFIGHTER ADVANCED TECHNOLOGY	72,271	54,290	37,364		37,364
30	0603002A	03	MEDICAL ADVANCED TECHNOLOGY	329,258	339,752	71,510		71,510
31	0603003A	03	AVIATION ADVANCED TECHNOLOGY	102,207	112,388	57,454		57,454
32	0603004A	03	WEAPONS AND MUNITIONS ADVANCED TECHNOLOGY	112,544	89,861	64,438		64,438
33	0603005A	03	COMBAT VEHICLE AND AUTOMOTIVE ADVANCED TECHNOLOGY	270,195	240,190	89,499		89,499
34	0603006A	03	COMMAND, CONTROL, COMMUNICATIONS ADVANCED TECHNOLOGY	11,307	12,352	8,102		8,102
35	0603007A	03	MANPOWER, PERSONNEL AND TRAINING ADVANCED TECHNOLOGY	6,725	7,371	7,921		7,921
36	0603008A	03	ELECTRONIC WARFARE ADVANCED TECHNOLOGY	61,192	57,199	50,359		50,359
37	0603009A	03	TRACTOR HIKE	14,157	11,270	8,015		8,015
38	0603015A	03	NEXT GENERATION TRAINING & SIMULATION SYSTEMS	24,769	25,362	15,334		15,334
39	0603020A	03	TRACTOR ROSE	11,216	14,493	12,309		12,309
40	0603103A	03	EXPLOSIVES DEMILITARIZATION TECHNOLOGY	17,213	12,495			
41	0603105A	03	MILITARY HIV RESEARCH	14,867	29,502	6,688		6,688
42	0603125A	03	COMBATING TERRORISM - TECHNOLOGY DEVELOPMENT	12,656	11,927	10,550		10,550
43	0603270A	03	ELECTRONIC WARFARE TECHNOLOGY	32,544	21,877	18,350		18,350
44	0603313A	03	MISSILE AND ROCKET ADVANCED TECHNOLOGY	74,967	86,559	84,553		84,553
45	0603322A	03	TRACTOR CAGE	12,037	12,090	9,986		9,986
46	0603606A	03	LANDMINE WARFARE AND BARRIER ADVANCED TECHNOLOGY	36,883	34,855	26,953		26,953
47	0603607A	03	JOINT SERVICE SMALL ARMS PROGRAM	8,568	8,949	9,151		9,151
48	0603710A	03	NIGHT VISION ADVANCED TECHNOLOGY	69,778	72,250	39,912		39,912
49	0603728A	03	ENVIRONMENTAL QUALITY TECHNOLOGY DEMONSTRATIONS	16,782	16,121	15,878		15,878
50	0603734A	03	MILITARY ENGINEERING ADVANCED TECHNOLOGY	34,935	45,394	27,393		27,393
51	0603772A	03	ADVANCED TACTICAL COMPUTER SCIENCE AND SENSOR TECHNOLOGY	91,726	57,062	24,873		24,873
Tota Advanced technology development				1,438,797	1,373,609	696,592	0	696,592

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Line No	Element Number	Act	Item	FY2009	FY2010	FY2011	FY2011 OCO	FY2011 Total
Basic research								
Advanced Component Development and Prototypes								
52	0603024A	04	UNIQUE ITEM IDENTIFICATION (UID)	628	1,990			
53	0603305A	04	ARMY MISSILE DEFENSE SYSTEMS INTEGRATION	90,552	71,788	11,455		11,455
54	0603308A	04	ARMY SPACE SYSTEMS INTEGRATION	53,416	118,610	27,551		27,551
55	0603327A	04	AIR AND MISSILE DEFENSE SYSTEMS ENGINEERING	115,567	166,061			
56	0603619A	04	LANDMINE WARFARE AND BARRIER - ADV DEV	13,789	17,445	15,596		15,596
57	0603627A	04	SMOKE, OBSCURANT AND TARGET DEFEATING SYS-ADV DEV	3,721	4,894	2,425		2,425
58	0603639A	04	TANK AND MEDIUM CALIBER AMMUNITION	39,590	33,757	42,183		42,183
59	0603653A	04	ADVANCED TANK ARMAMENT SYSTEM (ATAS)	76,072	89,828	136,302		136,302
60	0603747A	04	SOLDIER SUPPORT AND SURVIVABILITY	18,058	33,178	18,556	57,900	76,456
61	0603766A	04	TACTICAL ELECTRONIC SURVEILLANCE SYSTEM - ADV DEV	12,235	12,164	17,962		17,962
62	0603774A	04	NIGHT VISION SYSTEMS ADVANCED DEVELOPMENT	2,508				
63	0603779A	04	ENVIRONMENTAL QUALITY TECHNOLOGY - DEM/VAL	20,443	18,374	4,695		4,695
64	0603782A	04	WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL	392,138	169,783	190,903		190,903
65	0603790A	04	NATO RESEARCH AND DEVELOPMENT	4,883	5,022	5,060		5,060
66	0603801A	04	AVIATION - ADV DEV	26,507	8,492	8,355		8,355
67	0603804A	04	LOGISTICS AND ENGINEER EQUIPMENT - ADV DEV	42,939	59,662	80,490		80,490
68	0603805A	04	COMBAT SERVICE SUPPORT CONTROL SYSTEM EVALUATION AN	17,267	9,817	14,290		14,290
69	0603807A	04	MEDICAL SYSTEMS - ADV DEV	29,572	35,886	28,132		28,132
70	0603827A	04	SOLDIER SYSTEMS - ADVANCED DEVELOPMENT	41,599	73,785	48,323		48,323
71	0603850A	04	INTEGRATED BROADCAST SERVICE	9,001	1,468	970		970
72	0305205A	04	ENDURANCE UAVS			93,000		93,000
Tota Advanced Component Development and Prototypes				1,010,485	932,004	746,248	57,900	804,148
System Development and Demonstration								
73	0604201A	05	AIRCRAFT AVIONICS	60,781	89,508	89,210		89,210
74	0604220A	05	ARMED, DEPLOYABLE HELOS	63,017	66,169	72,550		72,550
75	0604270A	05	ELECTRONIC WARFARE DEVELOPMENT	38,256	281,570	172,269	5,400	177,669
76	0604280A	05	JOINT TACTICAL RADIO			784		784
77	0604321A	05	ALL SOURCE ANALYSIS SYSTEM	13,211	13,039	22,574	8,100	30,674

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Line	Element	Act	Item	FY2009	FY2010	FY2011	FY2011 OCO	FY2011 Total
Basic research								
78	0604328A	05	TRACTOR CAGE	16,300	16,201	23,194		23,194
79	0604601A	05	INFANTRY SUPPORT WEAPONS	57,677	83,178	80,337		80,337
80	0604604A	05	MEDIUM TACTICAL VEHICLES	2,169	5,653	3,710		3,710
81	0604609A	05	SMOKE, OBSCURANT AND TARGET DEFEATING SYS - ENG DEV	5,428	973	5,335		5,335
82	0604611A	05	JAVELIN			9,999		9,999
83	0604622A	05	FAMILY OF HEAVY TACTICAL VEHICLES	4,550	9,826	3,519		3,519
84	0604633A	05	AIR TRAFFIC CONTROL	16,092	7,538	9,892		9,892
85	0604642A	05	LIGHT TACTICAL WHEELED VEHICLES			1,990		1,990
86	0604646A	05	NON-LINE OF SIGHT LAUNCH SYSTEM	253,684	91,223	81,247		81,247
87	0604647A	05	NON-LINE OF SIGHT CANNON	87,038	47,964			
88	0604660A	05	FCS MANNED GRD VEHICLES & COMMON GRD VEHICLE	760,744	275,116			
89	0604661A	05	FCS SYSTEMS OF SYSTEMS ENGR & PROGRAM MGMT	1,022,165	912,399	568,711		568,711
90	0604662A	05	FCS RECONNAISSANCE (UAV) PLATFORMS	55,923	75,107	50,304		50,304
91	0604663A	05	FCS UNMANNED GROUND VEHICLES	104,571	124,962	249,948		249,948
92	0604664A	05	FCS UNATTENDED GROUND SENSORS	20,135	26,778	7,515		7,515
93	0604665A	05	FCS SUSTAINMENT & TRAINING R&D	819,721	655,745	610,389		610,389
94	0604666A	05	SPIN OUT TECHNOLOGY/CAPABILITY INSERTION	122,788				
95	0604710A	05	NIGHT VISION SYSTEMS - ENG DEV	96,678	57,111	52,549		52,549
96	0604713A	05	COMBAT FEEDING, CLOTHING, AND EQUIPMENT	2,422	2,081	2,118		2,118
97	0604715A	05	NON-SYSTEM TRAINING DEVICES - ENG DEV	36,826	30,052	27,756		27,756
98	0604741A	05	AIR DEFENSE COMMAND, CONTROL AND INTELLIGENCE - ENG D	21,737	28,785	34,209		34,209
99	0604742A	05	CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT	25,095	33,039	30,291		30,291
100	0604746A	05	AUTOMATIC TEST EQUIPMENT DEVELOPMENT	17,020	15,240	14,041		14,041
101	0604760A	05	DISTRIBUTIVE INTERACTIVE SIMULATIONS (DIS) - ENG DEV	18,999	15,645	15,547		15,547
102	0604778A	05	POSITIONING SYSTEMS DEVELOPMENT (SPACE)		9,396			
103	0604780A	05	COMBINED ARMS TACTICAL TRAINER (CATT) CORE	32,541	26,107	27,670		27,670
104	0604783A	05	JOINT NETWORK MANAGEMENT SYSTEM	659				
105	0604802A	05	WEAPONS AND MUNITIONS - ENG DEV	101,823	87,022	24,345		24,345
106	0604804A	05	LOGISTICS AND ENGINEER EQUIPMENT - ENG DEV	29,884	37,023	41,039		41,039
107	0604805A	05	COMMAND, CONTROL, COMMUNICATIONS SYSTEMS - ENG DEV	9,489	58,688	90,736		90,736
108	0604807A	05	MEDICAL MATERIEL/MEDICAL BIOLOGICAL DEFENSE EQUIPMENT	41,081	41,794	34,474		34,474
109	0604808A	05	LANDMINE WARFARE/BARRIER - ENG DEV	113,590	72,380	95,577		95,577
110	0604814A	05	ARTILLERY MUNITIONS - EMD	70,008	42,230	26,371		26,371
111	0604817A	05	COMBAT IDENTIFICATION	8,967	10,018	29,884		29,884

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Program				Thousands of Dollars				
Line	Element	Act	Item	FY2009	FY2010	FY2011	FY2011 OCO	FY2011 Total
Basic research								
112	0604818A	05	ARMY TACTICAL COMMAND & CONTROL HARDWARE & SOFTWARE	63,552	79,448	60,970		60,970
113	0604822A	05	GENERAL FUND ENTERPRISE BUSINESS SYSTEM (GFEBS)	50,308	23,777	13,576		13,576
114	0604823A	05	FIREFINDER	64,834	20,227	24,736		24,736
115	0604827A	05	SOLDIER SYSTEMS - WARRIOR DEM/VAL	20,086	19,683	20,886		20,886
116	0604854A	05	ARTILLERY SYSTEMS - EMD	32,261	115,811	53,624		53,624
117	0604869A	05	PATRIOT/MEADS COMBINED AGGREGATE PROGRAM (CAP)	454,665	566,215	467,139		467,139
118	0604870A	05	NUCLEAR ARMS CONTROL MONITORING SENSOR NETWORK	6,064	7,103	7,276		7,276
119	0605013A	05	INFORMATION TECHNOLOGY DEVELOPMENT	68,194	66,561	23,957		23,957
120	0605018A	05	ARMY INTEGRATED MILITARY HUMAN RESOURCES SYSTEM (A-IMHRS)			100,500		100,500
121	0605450A	05	JOINT AIR-TO-GROUND MISSILE (JAGM)	114,817	126,775	130,340		130,340
122	0605455A	05	SLAMRAAM			23,700		23,700
123	0605456A	05	PAC-3/MSE MISSILE			62,500		62,500
124	0605457A	05	ARMY INTEGRATED AIR AND MISSILE DEFENSE (AIAMD)			251,124		251,124
125	0605625A	05	MANNED GROUND VEHICLE		79,583	934,366		934,366
126	0605626A	05	AERIAL COMMON SENSOR			211,500		211,500
127	0303032A	05	TROJAN - RH12			3,697		3,697
128	0304270A	05	ELECTRONIC WARFARE DEVELOPMENT			21,571		21,571
Tota System Development and Demonstration				5,025,850	4,454,743	5,021,546	13,500	5,035,046
Management support								
129	0604256A	06	THREAT SIMULATOR DEVELOPMENT	22,015	25,091	26,158		26,158
130	0604258A	06	TARGET SYSTEMS DEVELOPMENT	13,124	13,544	8,614		8,614
131	0604759A	06	MAJOR T&E INVESTMENT	62,699	51,576	42,102		42,102
132	0605103A	06	RAND ARROYO CENTER	19,817	17,812	20,492		20,492
133	0605301A	06	ARMY KWAJALEIN ATOLL	169,367	162,662	163,788		163,788
134	0605326A	06	CONCEPTS EXPERIMENTATION PROGRAM	33,178	26,407	17,704		17,704
135	0605502A	06	SMALL BUSINESS INNOVATIVE RESEARCH	297,531				
136	0605601A	06	ARMY TEST RANGES AND FACILITIES	356,720	352,845	393,937		393,937
137	0605602A	06	ARMY TECHNICAL TEST INSTRUMENTATION AND TARGETS	84,905	84,389	59,040		59,040
138	0605604A	06	SURVIVABILITY/LETHALITY ANALYSIS	40,037	44,782	41,812		41,812
139	0605605A	06	DOD HIGH ENERGY LASER TEST FACILITY	6,772	7,352	4,710		4,710

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 Department of the Army
 FY 2011 RDT&E Program
 President's Budget FY 2011

Exhibit R-1

Appropriation: 2040 A RDT&E, Army 01-Feb-2010

Program				Thousands of Dollars				
Line	Element	Act	Item	FY2009	FY2010	FY2011	FY2011 OCO	FY2011 Total
Basic research								
140	0605606A	06	AIRCRAFT CERTIFICATION	5,001	3,746	5,055		5,055
141	0605702A	06	METEOROLOGICAL SUPPORT TO RDT&E ACTIVITIES	8,120	8,347	7,185		7,185
142	0605706A	06	MATERIEL SYSTEMS ANALYSIS	17,472	19,864	18,078		18,078
143	0605709A	06	EXPLOITATION OF FOREIGN ITEMS	3,908	5,403	5,460		5,460
144	0605712A	06	SUPPORT OF OPERATIONAL TESTING	76,231	77,471	68,191		68,191
145	0605716A	06	ARMY EVALUATION CENTER	61,461	67,555	61,450		61,450
146	0605718A	06	ARMY MODELING & SIM X-CMD COLLABORATION & INTEG	5,159	5,328	3,926		3,926
147	0605801A	06	PROGRAMWIDE ACTIVITIES	72,659	77,419	73,685		73,685
148	0605803A	06	TECHNICAL INFORMATION ACTIVITIES	44,051	51,351	48,309		48,309
149	0605805A	06	MUNITIONS STANDARDIZATION, EFFECTIVENESS AND SAFETY	44,326	72,851	53,338		53,338
150	0605857A	06	ENVIRONMENTAL QUALITY TECHNOLOGY MGMT SUPPORT	9,966	5,165	3,195		3,195
151	0605898A	06	MANAGEMENT HQ - R&D	15,586	15,784	16,154		16,154
152	0909999A	06	FINANCING FOR CANCELLED ACCOUNT ADJUSTMENTS	52				
Tota Management support				1,470,157	1,196,744	1,142,383	0	1,142,383
Operational system development								
153	0603778A	07	MLRS PRODUCT IMPROVEMENT PROGRAM	53,954	27,549	51,619		51,619
154	0102419A	07	AEROSTAT JOINT PROJECT OFFICE	344,850	328,356	372,493		372,493
155	0203347A	07	INTELLIGENCE SUPPORT TO CYBER (ISC) MIP			2,360		2,360
156	0203726A	07	ADV FIELD ARTILLERY TACTICAL DATA SYSTEM	16,200	29,174	24,622		24,622
157	0203735A	07	COMBAT VEHICLE IMPROVEMENT PROGRAMS	139,100	196,393	204,481		204,481
158	0203740A	07	MANEUVER CONTROL SYSTEM	36,072	21,283	25,540		25,540
159	0203744A	07	AIRCRAFT MODIFICATIONS/PRODUCT IMPROVEMENT PROGRAM	298,640	231,792	134,999		134,999
160	0203752A	07	AIRCRAFT ENGINE COMPONENT IMPROVEMENT PROGRAM	326	788	710		710
161	0203758A	07	DIGITIZATION	7,835	10,636	6,329		6,329
162	0203759A	07	FORCE XXI BATTLE COMMAND, BRIGADE AND BELOW (FBCB2)	22,688		3,935		3,935
163	0203801A	07	MISSILE/AIR DEFENSE PRODUCT IMPROVEMENT PROGRAM	34,189	39,068	24,280		24,280
164	0203802A	07	OTHER MISSILE PRODUCT IMPROVEMENT PROGRAMS	5,167	3,979			
165	0203808A	07	TRACTOR CARD	15,818	19,930	14,870		14,870
166	0208010A	07	JOINT TACTICAL COMMUNICATIONS PROGRAM (TRI-TAC)	892				
167	0208053A	07	JOINT TACTICAL GROUND SYSTEM	1,949	36,005	12,403		12,403

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Exhibit R-1

Appropriation: 2040 A RDT&E, Army 01-Feb-2010

Program				Thousands of Dollars				
Line No	Element Number	Act	Item	FY2009	FY2010	FY2011	FY2011 OCO	FY2011 Total
Basic research								
168	0208058A	07	JOINT HIGH SPEED VESSEL (JHSV)	2,986	3,066	3,153		3,153
169	0301359A	07	SPECIAL ARMY PROGRAM					
170	0303028A	07	SECURITY AND INTELLIGENCE ACTIVITIES	3,189	9,777			
171	0303140A	07	INFORMATION SYSTEMS SECURITY PROGRAM	39,679	60,866	54,784	63,306	118,090
172	0303141A	07	GLOBAL COMBAT SUPPORT SYSTEM	107,693	143,979	125,569		125,569
173	0303142A	07	SATCOM GROUND ENVIRONMENT (SPACE)	46,799	39,889	33,694		33,694
174	0303150A	07	WWMCCS/GLOBAL COMMAND AND CONTROL SYSTEM	12,599	11,972	13,024		13,024
175	0303158A	07	JOINT COMMAND AND CONTROL PROGRAM (JC2)	13,228				
176	0305204A	07	TACTICAL UNMANNED AERIAL VEHICLES	100,454	202,116	54,300		54,300
177	0305208A	07	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS	88,483	188,465	103,002	16,200	119,202
178	0305219A	07	MQ-1 SKY WARRIOR A UAV			123,156		123,156
179	0305232A	07	RQ-11 UAV			1,599		1,599
180	0305233A	07	RQ-7 UAV			7,805		7,805
181	0307207A	07	AERIAL COMMON SENSOR (ACS)		115,430			
182	0307665A	07	BIOMETRICS ENABLED INTELLIGENCE			14,114		14,114
183	0702239A	07	AVIONICS COMPONENT IMPROVEMENT PROGRAM	991				
184	0708045A	07	END ITEM INDUSTRIAL PREPAREDNESS ACTIVITIES	88,975	102,867	61,098		61,098
Tota Operational system development				1,482,756	1,823,380	1,473,939	79,506	1,553,445
Total: RDT&E, Army				12,075,070	11,549,371	10,328,945	150,906	10,479,851

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130	0604258A	TARGET SYSTEMS DEVELOPMENT	11
131	0604759A	Major T&E Investment	24
132	0605103A	Rand Arroyo Center	49
133	0605301A	ARMY KWAJALEIN ATOLL	56
134	0605326A	Concepts Experimentation Program	65
136	0605601A	ARMY TEST RANGES AND FACILITIES	89
137	0605602A	Army Technical Test Instrumentation and Targets	97
138	0605604A	Survivability/Lethality Analysis	114
139	0605605A	DOD High Energy Laser Test Facility	123
140	0605606A	AIRCRAFT CERTIFICATION	127
141	0605702A	Meteorological Support to RDT&E Activities	142
142	0605706A	MATERIEL SYSTEMS ANALYSIS	148
143	0605709A	EXPLOITATION OF FOREIGN ITEMS	155
144	0605712A	Support of Operational Testing	160
145	0605716A	Army Evaluation Center	169
146	0605718A	Army Modeling & Sim X-Cmd Collaboration & Integ	175
147	0605801A	Programwide Activities	189
148	0605803A	Technical Information Activities	227
149	0605805A	Munitions Standardization, Effectiveness and Safety	264
150	0605857A	Environmental Quality Technology Mgmt Support	336
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145	0605716A	Army Evaluation Center	169
133	0605301A	ARMY KWAJALEIN ATOLL	56
146	0605718A	Army Modeling & Sim X-Cmd Collaboration & Integ	175
137	0605602A	Army Technical Test Instrumentation and Targets	97
136	0605601A	ARMY TEST RANGES AND FACILITIES	89
134	0605326A	Concepts Experimentation Program	65
139	0605605A	DOD High Energy Laser Test Facility	123
150	0605857A	Environmental Quality Technology Mgmt Support	336
143	0605709A	EXPLOITATION OF FOREIGN ITEMS	155
131	0604759A	Major T&E Investment	24
151	0605898A	Management HQ - R&D	363
142	0605706A	MATERIEL SYSTEMS ANALYSIS	148
141	0605702A	Meteorological Support to RDT&E Activities	142
149	0605805A	Munitions Standardization, Effectiveness and Safety	264
147	0605801A	Programwide Activities	189
132	0605103A	Rand Arroyo Center	49
144	0605712A	Support of Operational Testing	160
138	0605604A	Survivability/Lethality Analysis	114
130	0604258A	TARGET SYSTEMS DEVELOPMENT	11
148	0605803A	Technical Information Activities	227
129	0604256A	THREAT SIMULATOR DEVELOPMENT	1

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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>
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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	22.015	25.091	26.158	0.000	26.158	17.300	17.648	17.442	17.597	Continuing	Continuing
976: <i>ARMY THREAT SIM (ATS)</i>	22.015	25.091	26.158	0.000	26.158	17.300	17.648	17.442	17.597	Continuing	Continuing

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.

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B. Program Change Summary (\$ in Millions)

	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>
Previous President's Budget	25.092	22.222	17.163	0.000	17.163
Current President's Budget	22.015	25.091	26.158	0.000	26.158
Total Adjustments	-3.077	2.869	8.995	0.000	8.995
• Congressional General Reductions		-0.131			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		3.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	-2.602	0.000			
• SBIR/STTR Transfer	-0.475	0.000			
• Adjustments to Budget Years	0.000	0.000	8.995	0.000	8.995

Change Summary Explanation

Change Summary Explanation: Project 976 includes \$9.2 million FY11 RDTE incorrectly placed in this funding line. It was intended for 0605602A - Army Technical Test Instrumentation and Targets Project 62C Modeling and Simulation Instrumentation in support of operational and developmental testing.

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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
976: <i>ARMY THREAT SIM (ATS)</i>	22.015	25.091	26.158	0.000	26.158	17.300	17.648	17.442	17.597	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 Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1 FY09-FY11: Continue development of Network Exploitation Test Tool (NETT). Combines with the wireless NETT program in FY09 to provide single program approach for both technologies. <i>FY 2009 Accomplishments:</i> FY 2009	3.473	3.499	3.253	0.000	3.253

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B. Accomplishments/Planned Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Program #2 FY09-FY11: Conduct Threat Systems Management Office Operations efforts. FY09 program mission re-scoped to match Army T&E mission areas. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO				2.261	2.286	1.851	0.000	1.851
Program #3 FY09-FY11: Develop Threat Intelligence and Electronic Warfare (IEW) Environment to simulate Electronic Warfare capabilities.				0.328	3.054	3.874	0.000	3.874

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B. Accomplishments/Planned Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Program #4 FY09-FY10: Follow-on development for an Electronic Combat and Counter Terrorism Training Range for threat scenarios. This is a follow-on to a FY08 Congressional Add Threat Systems Management satellite office for Townsend Electronic Combat Training Range. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO				3.189	2.914	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #5 FY09-11: Develop the functionality of the Threat Battle Command Center (TBCC) to support new threat systems/ equipment. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO	3.757	3.782	3.858	0.000	3.858
Program #6 FY09-FY11: Develop design for 2-channel man-pack Remote Jamming Unit (RJU) and 10 watt environmentally sealed Control Signal Transmitter (CST) for Threat Signal Injection Jammer (TSIJ). <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base	2.650	2.675	1.128	0.000	1.128

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #7 FY09-FY11: Begins development of Control of Signal Transmission-Open Air Capability (CST-OAC) and Signal Intelligence/Direct Finding (SIGINT/DF) sensors onto a larger aerial platform for Threat Devices capability. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		2.573	2.463	0.667	0.000	0.667
Program #8 FY09-FY10: Develops Networked Electronic Support Threat Sensors (NESTS) systems up to 3GHz for integration within threat force. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010		0.996	1.027	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #9 FY09-FY11: Develops key Computer Network Operations (CNO) Team support for threat events. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		2.788	2.806	2.327	0.000	2.327
Program #10 FY09: Small Business Innovative Research/Small Business Technology Transfer Programs. <i>FY 2009 Accomplishments:</i> FY 2009		0.000	0.585	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #11 FY11: 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. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.000	9.200	0.000	9.200
Accomplishments/Planned Programs Subtotals		22.015	25.091	26.158	0.000	26.158

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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 2011 Army **DATE:** February 2010

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 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	13.124	13.544	8.614	0.000	8.614	8.625	8.649	8.575	8.460	Continuing	Continuing
238: <i>AERIAL TARGETS</i>	4.304	4.251	4.525	0.000	4.525	4.945	5.102	5.061	4.996	Continuing	Continuing
459: <i>GROUND TARGETS</i>	8.820	9.293	4.089	0.000	4.089	3.680	3.547	3.514	3.464	Continuing	Continuing

A. Mission Description and Budget Item Justification

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

B. Program Change Summary (\$ in Millions)

	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>
Previous President's Budget	13.453	13.615	8.865	0.000	8.865
Current President's Budget	13.124	13.544	8.614	0.000	8.614
Total Adjustments	-0.329	-0.071	-0.251	0.000	-0.251
• Congressional General Reductions		-0.071			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.329	0.000			
• Adjustments to Budget Years	0.000	0.000	-0.251	0.000	-0.251

Change Summary Explanation

The Change Summary includes the following: None required.

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army								DATE: February 2010			
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>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
238: <i>AERIAL TARGETS</i>	4.304	4.251	4.525	0.000	4.525	4.945	5.102	5.061	4.996	Continuing	Continuing
Quantity of RDT&E Articles											
A. Mission Description and Budget Item Justification											
<p>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.</p>											
B. Accomplishments/Planned Program (\$ in Millions)											
						FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	
Program #1 FY09-FY11: Continues management and sustainment of Army (Reliance Lead) 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 Large Aircraft Infrared Countermeasures (LAIRCM), Navy Standard Missile (SM-6), and others. <i>FY 2009 Accomplishments:</i> FY 2009						0.497	0.488	0.494	0.000	0.494	

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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</i> <i>DEVELOPMENT</i>	PROJECT 238: <i>AERIAL TARGETS</i>				
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2 FY09-FY11: Provides Research, Development, Test and Evaluation (RDT&E) portion of funds needed to update 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. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		1.200	1.275	1.280	0.000	1.280
Program #3		0.614	0.523	0.552	0.000	0.552

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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 Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>FY09-FY11: Provides for engineering support for all Target Tracking Control Systems (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. Provide 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><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #4</p> <p>FY09-FY11: 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>		0.689	0.669	0.641	0.000	0.641

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010				
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 Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>								
<p>Program #5</p> <p>FY09-FY11: Supports research and development of 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 Developmental Test Command's simulations, Operational Test Command's Analytical Simulation and Instrumentation Suite (OASIS), and multiple weapon system's T&E activities. These models are available on-line to all T&E simulation developers.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p>				0.493	0.549	0.843	0.000	0.843

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #6 FY09-FY11: Provides engineering support for the Integrated Avionics Program (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. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.289	0.170	0.241	0.000	0.241
Program #7		0.522	0.508	0.474	0.000	0.474

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>FY09-FY11: Provides engineering funding for the generic, tactical class Unmanned Aerial System Target (UAS-T) to provide threat representative support for SLAMRAAM testing in FY09-13, C-RAM technology demonstration testing in FY10-11, Littoral Combat Ship testing in FY10-11 and MEADS testing in future years. Provides management for approximately 20 customer funded production air vehicles, initial ground support equipment, initial spares, and operational test support missions. Enables identification and correction of system anomalies identified during operations. Provides limited engineering capability to address minor enhancements to the basic target system identified during operations. The target system can be controlled manually and in a beyond-visual-range mode using either the CloudCap Piccolo ground station or the Target Tracking Control System-UHF ground control station. This target system provides significant cost avoidance over using operational, tactical Unmanned Aerial Vehicles for T&E Targets.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #8</p> <p>FY10: Small Business Innovative Research / Small Business Technology Transfer Programs</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p>		0.000	0.069	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010				
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B. Accomplishments/Planned Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2010 Plans:</i> FY 2010								
<i>FY 2011 Base Plans:</i> FY 2011 Base								
<i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Accomplishments/Planned Programs Subtotals				4.304	4.251	4.525	0.000	4.525
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 2011 Army								DATE: February 2010			
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>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
459: <i>GROUND TARGETS</i>	8.820	9.293	4.089	0.000	4.089	3.680	3.547	3.514	3.464	Continuing	Continuing
Quantity of RDT&E Articles											
A. Mission Description and Budget Item Justification											
<p>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.</p>											
B. Accomplishments/Planned Program (\$ in Millions)											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1 FY09-FY11: Mobile Ground Targets Operations Effort. Funds management and oversight of five Primary Operating Centers to include operation, storage, maintenance, repair, safety and configuration management for 155 active and 152 inactive Foreign Mobile Ground Target Vehicles, and acquisition of new material and spare parts. Efforts support users such as Army Brigade Combat Team Modernization (ABCTM), Apache Block III, Guided Multiple Launch Rocket System (GMLRS), Intelligent Munitions System (IMS), Non-Line-of-Sight Launch System (NLOS-LS), and others. <i>FY 2009 Accomplishments:</i> FY 2009							2.230	2.461	2.605	0.000	2.605

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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</i> <i>DEVELOPMENT</i>	PROJECT 459: <i>GROUND TARGETS</i>				
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2 FY09-FY10: Manages Mobile Ground Target Hardware effort. Supplements 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 (e.g.ABCTM, NLOS, IMS and others). <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		2.874	2.580	0.000	0.000	0.000
Program #3		1.038	1.041	0.776	0.000	0.776

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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 Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>FY09-FY11: Ground Virtual Targets Effort. Supports research and development of Ground Virtual Targets for evolving Army and DOD simulation standards and evolving 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 in the Developmental Test Command's simulations, and the Operational Test Command's Analytical Simulation and Instrumentation Suite (OASIS), and by multiple weapon system's T&E (e.g. Joint Common Missile (JCM), Excalibur, Mid Range Munition (MRM), etc.). These models are available on-line to all T&E simulation developers.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
Program #4		2.678	2.951	0.708	0.000	0.708

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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 Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>FY09-FY11: Operational Threat Vehicle Company Effort. Funds acquire and field fully mission capable targets (such as Main battle Tanks, Infantry Fighting Vehicles, and Armored Personnel Carriers) to meet emerging requirements for threat 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.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #5</p> <p>FY10: Small Business Innovative Research / Small Business Technology Transfer Program</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p>		0.000	0.260	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010				
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</i> <i>DEVELOPMENT</i>		PROJECT 459: <i>GROUND TARGETS</i>				
B. Accomplishments/Planned Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Accomplishments/Planned Programs Subtotals				8.820	9.293	4.089	0.000	4.089
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 2011 Army **DATE:** February 2010

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 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	62.699	51.576	42.102	0.000	42.102	35.423	39.400	41.221	40.922	Continuing	Continuing
983: <i>Reagan Test Site (RTS) T&E Investments</i>	8.243	8.669	8.805	0.000	8.805	0.000	0.000	0.000	0.000	Continuing	Continuing
984: <i>Major Developmental Testing Instrumentation</i>	34.332	35.473	25.935	0.000	25.935	26.336	26.808	26.699	26.473	Continuing	Continuing
986: <i>Major Operational Test Instrumentation</i>	20.124	7.434	7.362	0.000	7.362	9.087	12.592	14.522	14.449	Continuing	Continuing

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 2011 Army	DATE: February 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 0604759A: <i>Major T&E Investment</i>
--	--

B. Program Change Summary (\$ in Millions)

	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>
Previous President's Budget	64.404	51.846	35.672	0.000	35.672
Current President's Budget	62.699	51.576	42.102	0.000	42.102
Total Adjustments	-1.705	-0.270	6.430	0.000	6.430
• Congressional General Reductions		-0.270			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-1.705	0.000			
• Adjustments to Budget Years	0.000	0.000	6.430	0.000	6.430

Change Summary Explanation

Change Summary Explanation: FY11 includes increases for Project 983 - Reagan Test Site (RTS) T&E Investments.

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army								DATE: February 2010			
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>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
983: <i>Reagan Test Site (RTS) T&E Investments</i>	8.243	8.669	8.805	0.000	8.805	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											
A. Mission Description and Budget Item Justification											
<p>This project funds the purchase of improvement and modernization (I&M) equipment for the Ronald Reagan Ballistic Missile Defense Test Site located on U.S. Army Kwajalein Atoll (USAKA) in the Marshall Islands. Reagan Test Site (RTS) is an activity of the Major Range and Test Facility Base supporting Army, Missile Defense Agency (MDA), U.S. Air Force, National Aeronautics and Space Administration (NASA), U.S. Strategic Command (STRATCOM), and other developmental test, operational test, and space operations customers. Program upgrades radars, telemetry, optics, range safety, communications, command/control and other equipment required to maintain RTS as a national strategic asset. These upgrades are critical both to maintain a state of the art instrumentation suite and to the successful collection of data supporting developmental and operational decisions for MDA test missions, Minuteman Operational Tests, and STRATCOM's Space Surveillance Network (SSN) and Space Object Identification (SOI) programs.</p>											
B. Accomplishments/Planned Program (\$ in Millions)											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1 FY09-11: RTS Distributed Operations (RDO). Provide for distributed operation of the Range instrumentation from Continental U.S. Command and Control (C2) sites. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base							2.000	2.075	2.000	0.000	2.000

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2 FY09-11: RTS Optics Modernization Program (ROMP). Modernize RTS optics sensor suite, fixing deficiencies and enabling remote operations of the equipment. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		3.374	3.010	1.600	0.000	1.600
Program #3 FY09-10: Millimeter Wave (MMW) Ka-Band Tubes. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010		0.300	0.350	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #4 FY09: Ultra High Frequency (UHF) Traveling Wave Tube (TWT) Reliability. Improve ARPA Long Range Tracking & Instrumentation Radar UHF transmitter tube reliability and implement corrections. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.040	0.000	0.000	0.000	0.000
Program #5 FY09-11: Radar Reliability Improvement Program (RRI). Address technology refresh, obsolescence and sustainment issues for critical radar system operation. <i>FY 2009 Accomplishments:</i> FY 2009		0.960	0.780	0.550	0.000	0.550

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #6 FY10-11: Radar Computer and Software Refresh. Replace obsolete main radar computer for all RTS radars and refresh software to run on new hardware. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.650	1.705	0.000	1.705
Program #7 FY09-11: Radar Open System Architecture (ROSA) Refresh. Implement technology refresh in the RTS radars, replacing obsolete components.		0.860	0.500	0.350	0.000	0.350

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #8 FY09-11: MMW Limited Bandwidth (BW) Expansion Program. Upgrade MMW bandwidth to 4 Gigahertz (GHz). <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.549	0.360	0.400	0.000	0.400
Program #9		0.120	0.457	1.200	0.000	1.200

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>FY09-11: Telemetry (TM) Modernization Study. Replace outdated TM equipment with modern digital systems and enable remote operation.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #10</p> <p>FY10-11: Multiple Simultaneous Engagement (MSE) Flight Safety. Modernize and upgrade flight safety systems to accommodate customer requirements.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p>		0.000	0.325	0.500	0.000	0.500

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #11 FY11: Legacy Servo Upgrade Program. Replace and upgrade obsolete antenna servos and interlock systems at the RTS radars. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.000	0.500	0.000	0.500
Program #12 FY09: Mission Data Network (MDN) Modernization. Modernize and upgrade the high-speed intra-range data transfer system for mission critical operations. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010		0.040	0.000	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Program #13 FY10: Small Business Innovative Research/Small Business Technology Transfer Programs <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO				0.000	0.162	0.000	0.000	0.000
Accomplishments/Planned Programs Subtotals				8.243	8.669	8.805	0.000	8.805
C. Other Program Funding Summary (\$ in Millions)								
N/A								
D. Acquisition Strategy								
N/A								

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E. Performance Metrics

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

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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
984: <i>Major Developmental Testing Instrumentation</i>	34.332	35.473	25.935	0.000	25.935	26.336	26.808	26.699	26.473	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 Technical Test Center (RTTC), AL; and Aviation Technical Test Center (ATTC), 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 yr 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. The Advanced Multi-Spectral Sensor and Subsystem Test Capabilities (AMSSTC) develops the capability to test modern weapon systems and subsystems in the laboratory, in an open or closed loop scenario. Joint Warfighter Test and Training Capability (JWTTTC) is the development of an instrumented test area capable of creating Military Operations in Urban Terrain (MOUT) and maneuver training area for platoon size operations. 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). 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. 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 (MMS) is the development of a tracking system for weapons with low/flat trajectories and low radar cross sections. Common Range Integrated Instrumentation System (CRIIS) previously named the Enhanced Range Application Program (EnRAP) Integration project 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. 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 will upgrade or replace obsolete tracking and surveillance radars at EPG, White Sands Missile Range and Yuma Proving Ground with modern digital equipment. Common Range Integrated Instrumentation System (CRIIS) Objective Program provides precision location instrumentation which will significantly increase the T&E

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ranges' capability to meet the test instrumentation needs of the tri-service range users. Kineto Tracking Mounts (KTM) Recapitalization will refurbish the KTM fleet, rebuilding vans and trailers, replacing servo drive systems, and providing new auxiliary power system, camera and lens upgrades.						
<u>B. Accomplishments/Planned Program (\$ in Millions)</u>						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1 FY09-10: Digital Network Migration (DNM): Develop mobile assets for support of testing in remote areas and linking of instrumentation assets to the Test Support Network and Cox Range Control Center (CRCC). <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		6.110	3.696	0.000	0.000	0.000
Program #2 FY09-10: Quantitative Visualization (QV) for Test and Evaluation: Develop QV integration models to enable rapid conversion of test data into visual representations. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010		0.839	0.484	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #3 FY09-FY11: Fiber Optic Network II (FON II) - Aberdeen Test Center (ATC): Install 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. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		2.978	5.253	5.590	0.000	5.590
Program #4 FY09-FY11: Systems Test and Integration Laboratory (STIL): Develops 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.		5.360	1.508	4.000	0.000	4.000

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #5 FY09-FY11: Joint Warfighter Test and Training Capability (JWTTTC): Develop instrumented test area capable of creating mobile operations and maneuver training area for platoon size operations.		3.589	5.616	3.137	0.000	3.137
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #6		4.495	3.529	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>FY09-10: Mobile Multi-sensor Time Space Position Information (TSPI) System (MMTS)(formerly Hypervelocity Advanced TSPI System): Development of a tracking system for weapons with low/flat trajectories and low radar cross sections.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #7</p> <p>FY09: Advanced Multi-Spectral Sensor and Subsystem Test Capabilities (AMSSTC): Complete design, development and integration of advanced multi-spectral simulation, test and acceptance resource for both performance and production testing of Common Missile and other potential multi-mode guided missiles.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p>		2.964	0.000	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #8 FY09-FY11: Common Range Integrated Instrumentation System (CRIIS) previously known as EnRAP: The system is a life cycle replacement and technology improvement for the current Advanced Range Data System (ARDS) which is rapidly approaching the end of its life cycle. The capability will include the components to be mounted on the test platform and the components required for any necessary ground infrastructure. The system will support T&E associated with the cooperative collection of TSPI from dismounted soldiers, ground vehicles, low dynamic aircraft, and high dynamic aircraft. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		4.923	5.907	2.172	0.000	2.172
Program #9		2.357	3.614	3.733	0.000	3.733

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B. Accomplishments/Planned Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY09-FY11: ADMAS Product Improvement Program: Develops very small and low power pocket sized ADMAS systems. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Program #10 FY09-FY11: Advanced Ballistic Data Acquisition: Develops capabilities to test and generate safety releases for new systems. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base				0.428	1.248	1.481	0.000	1.481

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #11 FY09-FY11: Range Radar Replacement Program will upgrade or replace obsolete tracking and surveillance radars at EPG, WSMR and YPG with modern digital equipment. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.289	3.295	4.438	0.000	4.438
Program #12 FY10-FY11: KTM Recapitalization: This project will refurbish the KTM fleet, rebuilding vans and trailers, replacing servo drive systems, and providing new auxiliary power system, camera and lens upgrades. Four new KTM systems will also be added to meet workload demands. <i>FY 2009 Accomplishments:</i> FY 2009		0.000	0.356	1.384	0.000	1.384

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B. Accomplishments/Planned Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Program #13 FY10: Small Business Innovative Research/Small Business Technology Transfer Programs <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO				0.000	0.967	0.000	0.000	0.000
Accomplishments/Planned Programs Subtotals				34.332	35.473	25.935	0.000	25.935

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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 2011 Army								DATE: February 2010			
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 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
986: <i>Major Operational Test Instrumentation</i>	20.124	7.434	7.362	0.000	7.362	9.087	12.592	14.522	14.449	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. OT-TES Research, Development, Test and Evaluation (RDTE) develops performance enhancements and technology upgrades to the Command, Control and Communications (C3) Center, Communications Network, weapons system interfaces, dismounted-troop vest and peripherals, Global Positioning System (GPS), encryption components and integrates high-fidelity digital battlefield data collection and analysis tools. These tools will collect, store and analyze data from the digital battlefield. These improvements will enable OT-TES to measure and record accrued damage, levels of exposure, effects of countermeasures, evasive action, and instrument threat vehicles, while significantly reducing system intrusiveness and increase the safety of current instrumentation for both vehicle and dismounted instrumentation. Instrumentation does not presently exist to monitor, record, stress, and analyze the effects of the digital battlefield in realistic operational scenarios. This capability is required by the operational test community to integrate digital battlefield data collection and analysis tools into the Mobile Automated Instrumentation Suite (MAIS) as enhancements to the fielded MAIS system. These tools will collect, store and analyze data from this new dimension of digital battlefield warfare. The ability to fully stress the entire battlefield with numerous simulated entities presents opportunities for significant cost savings and greater realism than would otherwise be achievable. 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. Personnel and resource cuts have already been taken in the test community predicated upon data reduction/analysis streamlining provided by this capability. Operational Test Command (OTC) Analytic Simulation and Instrumentation Suite (OASIS) Enterprise Integration Solution (EIS) is the operational test environment for the Future Force. OASIS EIS provides the integrated environment required for testing of network centric systems in a realistic operational environment.

B. Accomplishments/Planned Program (\$ in Millions)

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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 Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Program #1</p> <p>FY09-FY11: OT-TES: Funds 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><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>		18.918	6.400	6.400	0.000	6.400
<p>Program #2</p> <p>FY09-FY11: Develop Operational Test Command (OTC) Analytic Simulation and Instrumentation Suite (OASIS) Enterprise Integration Solution (EIS).</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p>		1.206	0.826	0.962	0.000	0.962

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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 Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #3 FY10: Small Business Innovative Research/Small Business 10Technology Transfer Programs <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.208	0.000	0.000	0.000
Accomplishments/Planned Programs Subtotals		20.124	7.434	7.362	0.000	7.362

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
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 2011 Army **DATE:** February 2010

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>
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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	19.817	17.812	20.492	0.000	20.492	20.753	21.022	21.325	21.589	Continuing	Continuing
732: <i>ARROYO CENTER SPT</i>	19.817	17.812	20.492	0.000	20.492	20.753	21.022	21.325	21.589	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)

	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>
Previous President's Budget	20.272	16.305	16.600	0.000	16.600
Current President's Budget	19.817	17.812	20.492	0.000	20.492
Total Adjustments	-0.455	1.507	3.892	0.000	3.892
• Congressional General Reductions		-0.093			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		1.600			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.455	0.000			
• Adjustments to Budget Years	0.000	0.000	3.892	0.000	3.892

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Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Army		DATE: February 2010
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>	
<p><u>Change Summary Explanation</u></p> <p>Change Summary Explanation: Funding - For FY2010, Congressional increase for RAND ARROYO CENTER program adjustmentRAND Arroyo center, the Army's FFRDC, provides essential support to the Army's ongoing transformation, modernization, Contingency Operations, supply management and leader development through critical objective studies and analysis. The ability to conduct this wide ranging and diverse analysis rapidly and in depth requires preservation of key core competencies. This plus up stabilizes the core competencies and provides a solid platform from which the Arroyo Center can provide rapid, objective, and valuable analysis to help the Army overcome the diverse challenges it will face in the near and distant future. The Army increased funding to Arroyo center by \$3.892 million in FY11.</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army								DATE: February 2010				
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>				
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost	
732: <i>ARROYO CENTER SPT</i>	19.817	17.812	20.492	0.000	20.492	20.753	21.022	21.325	21.589	Continuing	Continuing	
Quantity of RDT&E Articles												
A. Mission Description and Budget Item Justification												
<p>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.</p>												
B. Accomplishments/Planned Program (\$ in Millions)												
						FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total		
Program #1 Research addressing manpower and training: 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. <i>FY 2009 Accomplishments:</i> FY 2009						5.712	4.921	5.777	0.000	5.777		

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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 Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2 Research addressing force development and technology: 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. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		5.189	3.362	3.807	0.000	3.807
Program #3		5.032	4.123	4.749	0.000	4.749

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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 Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Research addressing Army logistics: key issues for the Army, including supply chain management; fleet management and modernization; logistics force development; and infrastructure management.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #4</p> <p>Research addressing strategies, doctrine, and resources: 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><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p>		3.884	4.435	5.203	0.000	5.203

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010				
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 Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Program #5 Research addressing military health: 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. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO				0.000	0.757	0.956	0.000	0.956
Program #6 Small Business Innovative Research/Small Business Technology Transfer Program <i>FY 2009 Accomplishments:</i> FY 2009				0.000	0.214	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010				
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 Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2010 Plans:</i> FY 2010								
<i>FY 2011 Base Plans:</i> FY 2011 Base								
<i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Accomplishments/Planned Programs Subtotals				19.817	17.812	20.492	0.000	20.492
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 2011 Army										DATE: February 2010	
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>							
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	169.367	162.662	163.788	0.000	163.788	157.181	159.764	159.281	157.789	Continuing	Continuing
614: <i>ARMY KWAJALEIN ATOLL</i>	169.367	162.662	163.788	0.000	163.788	157.181	159.764	159.281	157.789	Continuing	Continuing
A. Mission Description and Budget Item Justification											
<p>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 missile systems and to provide space operations (surveillance and object identification) in support of U.S. Strategic Command and National Aeronautics and Space Administration (NASA) scientific and space programs. Programs supported include Army missile defense, Missile Defense Agency (MDA) demonstration/validation tests, Air Force and Navy Intercontinental Ballistic Missile (ICBM) development and operational tests, U.S. Space Surveillance Network, and NASA Space Transportation System (Shuttle) and orbital debris experiments. The technical element of USAKA/RTS is RTS, which 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; underwater acoustic impact location system; and data analysis/reduction hardware/software. USAKA/RTS is government-managed/contractor-operated (GMCO) and is therefore totally dependent upon its associated support contractors. Program provides funds for the contractors to accomplish installation operation and maintenance (O&M) 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 Army, Air Force, Navy and MDA have programs planned which have significant test and data gathering requirements at USAKA/RTS. Air Force programs launch from Vandenberg Air Force Base, CA, with complete data collection during late mid-course and terminal trajectory. MDA programs require range instrumentation to collect technical data in support of mid-course and terminal defense programs. This test data cannot be obtained except through the use of technical facilities available on and in the vicinity of USAKA/RTS. Program supports U.S. Strategic Command (STRATCOM) requirements for data collection on objects in space. 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. With the geographic location of RTS, MMW complements the tracking radars for national space capabilities. Program supports Army's Advanced Hypersonic Weapon-Technology Development program; Air Force's Minuteman III operational and developmental tests; MDA's Ground Based Mid-Course Missile Defense (GMD) tests, Flexible Target Family (FTF), Lower-tier Project Office (LTPO) and Family of Systems; NASA's Space Transportation System (STS), Small Expendable Deployer System and Orbital Debris Measurement Programs; and the Air Force Space and Missile Center's associated programs.</p>											

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Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Army	DATE: February 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 0605301A: <i>ARMY KWAJALEIN ATOLL</i>
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B. Program Change Summary (\$ in Millions)

	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>
Previous President's Budget	174.024	163.514	164.379	0.000	164.379
Current President's Budget	169.367	162.662	163.788	0.000	163.788
Total Adjustments	-4.657	-0.852	-0.591	0.000	-0.591
• Congressional General Reductions		-0.852			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-4.657	0.000			
• Adjustments to Budget Years	0.000	0.000	-0.591	0.000	-0.591

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army									DATE: February 2010		
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>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
614: <i>ARMY KWAJALEIN ATOLL</i>	169.367	162.662	163.788	0.000	163.788	157.181	159.764	159.281	157.789	Continuing	Continuing
Quantity of RDT&E Articles											
A. Mission Description and Budget Item Justification											
<p>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 missile systems and to provide space operations (surveillance and object identification) in support of U.S. Strategic Command and National Aeronautics and Space Administration (NASA) scientific and space programs. Programs supported include Army missile defense, Missile Defense Agency (MDA) demonstration/validation tests, Air Force and Navy Intercontinental Ballistic Missile (ICBM) development and operational tests, U.S. Space Surveillance Network, and NASA Space Transportation System (Shuttle) and orbital debris experiments. The technical element of USAKA/RTS is RTS, which 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; underwater acoustic impact location system; and data analysis/reduction hardware/software. USAKA/RTS is government-managed/contractor-operated (GMCO) and is therefore totally dependent upon its associated support contractors. Program provides funds for the contractors to accomplish installation operation and maintenance (O&M) 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 Army, Air Force, Navy and MDA have programs planned which have significant test and data gathering requirements at USAKA/RTS. Air Force programs launch from Vandenberg Air Force Base, CA, with complete data collection during late mid-course and terminal trajectory. MDA programs require range instrumentation to collect technical data in support of mid-course and terminal defense programs. This test data cannot be obtained except through the use of technical facilities available on and in the vicinity of USAKA/RTS. Program supports U.S. Strategic Command (STRATCOM) requirements for data collection on objects in space. 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. With the geographic location of RTS, MMW complements the tracking radars for national space capabilities. Program supports Army's Advanced Hypersonic Weapon-Technology Development program; Air Force's Minuteman III operational and developmental tests; MDA's Ground Based Mid-Course Missile Defense (GMD) tests, Flexible Target Family (FTF), Lower-tier Project Office (LTPO) and Family of Systems; NASA's Space Transportation System (STS), Small Expendable Deployer System and Orbital Debris Measurement Programs; and the Air Force Space and Missile Center's associated programs.</p>											
B. Accomplishments/Planned Program (\$ in Millions)											

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army			DATE: February 2010			
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 Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #3 Procure petroleum, oils and lubricants (POL). <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		26.850	22.739	20.213	0.000	20.213
Program #4 Procure other mission services. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		4.788	3.917	2.153	0.000	2.153

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army			DATE: February 2010			
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 Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #5 Provide air and sea transportation (cargo to and from continental United States). <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		5.307	4.802	4.532	0.000	4.532
Program #6 Provide funding for Kwajalein Cable System (KCS) fiber optic cable for annual service contract. Initial Operational Capability begins second quarter fiscal year 2010. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base		0.000	7.416	10.958	0.000	10.958

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army			DATE: February 2010			
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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #7 Continue to support Army, MDA, NASA and Air Force developmental and operational missile testing. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		50.441	47.744	49.017	0.000	49.017
Program #8 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. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010		57.408	50.700	52.070	0.000	52.070

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B. Accomplishments/Planned Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Program #9 Provide for RTS Distributed Operations (distributed operations of the Range sensors from Continental U.S.). <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO				7.400	3.892	4.925	0.000	4.925
Program #10 Small Business Innovative Research/Small Business Technology Transfer Programs <i>FY 2009 Accomplishments:</i> FY 2009				0.000	4.555	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Accomplishments/Planned Programs Subtotals		169.367	162.662	163.788	0.000	163.788
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 2011 Army **DATE:** February 2010

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 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	33.178	26.407	17.704	0.000	17.704	29.576	28.193	26.492	24.851	Continuing	Continuing
308: <i>Concepts Experimentation</i>	5.741	3.084	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
312: <i>Army/Joint Experimentation</i>	10.158	11.698	5.907	0.000	5.907	9.581	8.586	7.815	5.951	Continuing	Continuing
317: <i>CURRENT FORCE CAPABILITY GAPS</i>	15.396	9.643	9.770	0.000	9.770	18.093	17.693	16.747	16.955	Continuing	Continuing
33B: <i>SOLDIER-CENTERED ANALYSES FOR THE FUTURE FORCE</i>	1.883	1.982	2.027	0.000	2.027	1.902	1.914	1.930	1.945	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 and FY 2011, RDT&E funding specifically enables the World Class Blue Force (subject matter experts overseeing and coordinating experiments efforts from 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 (formerly Asymmetric Warfare Division) develops immediate capability solutions in support of the CSA prioritized Current Force capability gaps (i.e. Force Protection, Networked Battle Command, Logistics and Medical in 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 POR or sustain in theater. CONOPS, DOTMLPF-C 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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B. Program Change Summary (\$ in Millions)

	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>
Previous President's Budget	33.918	23.456	22.885	0.000	22.885
Current President's Budget	33.178	26.407	17.704	0.000	17.704
Total Adjustments	-0.740	2.951	-5.181	0.000	-5.181
• Congressional General Reductions		0.000			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		2.951			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.740	0.000			
• Adjustments to Budget Years	0.000	0.000	-5.181	0.000	-5.181

Change Summary Explanation

Change Summary Explanation: Funding - FY 2011: Reduction due to funding being realigned to higher priority Army programs (-5,181).

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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
308: <i>Concepts Experimentation</i>	5.741	3.084	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											
<p>Note Not applicable for this item.</p> <p>A. Mission Description and Budget Item Justification Gunfire Detection System for Unmanned Aerial Vehicles: Radiance Technologies Inc. has developed a wide angle weapons detection sensor that can detect, classify and locate a variety of weapon fires including Rocket Propelled Grenades (RPGs), MANPADS, small arms, mortars, tanks and artillery. This Weapons Watch (WW) Technology can process these events in near real time (less than a second) and disseminate the information over existing command and control channels immediately. This sensor, detecting from a variety of airborne platforms can cue other sensors or weapon systems to positively identify and neutralize the hostile weapon system. The basic sensor technology has been demonstrated as part of the Overwatch ACTD and has also been deployed to support current operations. At less than 30 pounds, it has flown on both manned and unmanned aircraft proving its ability to accurately detect at extended ranges while on the move. The Army Aviation Center is ready to integrate this technology on both manned and unmanned aircraft to provide both enhanced targeting and aircrew survivability. In concert with AMRDEC- Huntsville), PM UAV (Huntsville) and the Directorate of Combat Developments (Ft. Rucker), Radiance Technologies will provide simulation software and WW hardware to the USAAVNC for testing and certification through the Aviation Technical Test Center (AATTC). Radiance will employ aviation experts from both the Wiregrass area and Huntsville to develop the techniques, tactics and procedures to fully employ the capabilities of this system. Arabic Language Training Program: This is a language tool that is interactive multimedia and mission focused. In this case the mission is to respond and report to an Improvised Explosive Devices (IED) event. This is the third in a series of language learning modules developed under the Tactical Language Online (TALON) platform developed by Little Planet Learning. The first was titled "Find a Suspect" and the second "Conduct a Census." Learning module topics throughout this ongoing project have been selected through a process of identifying language learning requirements by Army Military Intelligence (MI) Human Intelligence (HUMINT) operators. Feedback from the field is that these mission focused learning modules are of great benefit for HUMINT linguists. Automated Communications Support System for Warfighters, Intelligence Community, Linguist, and Analyst: 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 correctly among over 100 languages. 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 within the Intelligence Community to include NSA. Moving Vehicle Face Recognition Surveillance System: This proof of concept is a facial recognition using a moving vehicle mounted camera as the capture device. Current facial recognition technology is limited a full frontal capture of the face, and is thus limited to ideal conditions. This experiment extends 2D to 3D Normalization of a face captured at less than ideal angles and incorporates the capture by the camera from a moving vehicle. This is an extremely important capability to develop in</p>											

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order to exploit the "face in the crowd" concept of facial capture/recognition. 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 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 five languages: Spanish, French, Pashtu, Modern Standard Arabic, and Persian Farsi. The FY 2010 project calls for the same courseware delivered in the following seven languages: Arabic-Iraqi, Indonesian, Korean, Portuguese-Brazilian, Russian, Swahili, and Tagalog.

B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1 Gunfire Detection System for Unmanned Aerial Vehicles (Congressional Add) <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO	0.800	0.000	0.000	0.000	0.000
Program #2 Arabic Language Training Program (Congressional Add) <i>FY 2009 Accomplishments:</i> FY 2009	0.956	0.000	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #3 Automated Communication Support System for Warfighters, Intelligence Community, Linguist, and Analyst (Congressional Add) <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		1.593	1.492	0.000	0.000	0.000
Program #4 Moving Vehicle BAT Face Recognition Surveillance System (Congressional Add)		1.196	0.000	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2009 Accomplishments:</i> FY 2009								
<i>FY 2010 Plans:</i> FY 2010								
<i>FY 2011 Base Plans:</i> FY 2011 Base								
<i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Program #5 Technology for Rapid Foreign Language Acquisitions for Specialized Military and Intelligence Purposes (Congressional Add)				1.196	1.592	0.000	0.000	0.000
<i>FY 2009 Accomplishments:</i> FY 2009								
<i>FY 2010 Plans:</i> FY 2010								
<i>FY 2011 Base Plans:</i> FY 2011 Base								
<i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Accomplishments/Planned Programs Subtotals				5.741	3.084	0.000	0.000	0.000

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<u>C. Other Program Funding Summary (\$ in Millions)</u> N/A		
<u>D. Acquisition Strategy</u> N/A		
<u>E. Performance Metrics</u> 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 2011 Army								DATE: February 2010			
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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
312: <i>Army/Joint Experimentation</i>	10.158	11.698	5.907	0.000	5.907	9.581	8.586	7.815	5.951	Continuing	Continuing
Quantity of RDT&E Articles											
Note Not applicable for this item.											
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 and FY 2011, RDT&E funding specifically enables the World Class Blue Force (subject matter experts overseeing and coordinating experiments efforts from the 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.											
B. Accomplishments/Planned Program (\$ in Millions)											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1 Experimentation - World Class Blue Force Analysts <i>FY 2009 Accomplishments:</i> FY 2009							3.376	3.136	3.524	0.000	3.524

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2 Experimentation - 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 DOTMLPF requirements and DOTMLPF solutions; and 4) acceleration and integration of capabilities for current force BCTs. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	2.403	2.383	0.000	2.383
Program #3		0.423	0.000	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #5 Experimentation - Subordinate Command Experiments designed to address Future Modular Force operational maneuver from strategic distances and intra-theater operational maneuver when capabilities are degraded or absent. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		1.044	0.000	0.000	0.000	0.000
Program #6 Experimentation - Support Brigade Experiments designed to provide situational awareness and enables situation understanding to all echelons in all conditions conducting complex and urban terrain and multinational operations.		3.915	0.000	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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 Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #7 Capstone Integration - 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. Experiment 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). <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010		0.000	5.832	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010				
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 Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Program #8 Small Business Innovative Research/Small Business Technology Transfer Programs <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO				0.000	0.327	0.000	0.000	0.000
Accomplishments/Planned Programs Subtotals				10.158	11.698	5.907	0.000	5.907
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 2011 Army		DATE: February 2010
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>

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 2011 Army								DATE: February 2010			
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>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
317: <i>CURRENT FORCE CAPABILITY GAPS</i>	15.396	9.643	9.770	0.000	9.770	18.093	17.693	16.747	16.955	Continuing	Continuing
Quantity of RDT&E Articles											
Note Not applicable for this item.											
A. Mission Description and Budget Item Justification Army Capabilities Integration Center (ARCIC), Accelerated Capabilities Division (ACD) (formerly Asymmetric Warfare Division) develops immediate capability solutions in support of the Chief of Staff of the Army prioritized Current Force capability gaps (i.e. Force Protection, Networked Battle Command, Logistics and Medical in Counter-Insurgency and Soldier Protection). ACD conducts concept of operations and Doctrine, Organization, Training, Materiel, Leaders, Personnel, Facilities (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 or sustain in theater. Concept of operations, 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.											
B. Accomplishments/Planned Program (\$ in Millions)											
						FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	
Program #1 Improvised Explosive Device (IED) Integrated Concept Development Team <i>FY 2009 Accomplishments:</i> FY 2009						5.893	3.653	4.935	0.000	4.935	

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010				
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 Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Program #4 Demo/Assess Electronic Warfare - Base Expeditionary Target and Surveillance System Combined (BETSS-C) <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO				2.003	1.550	1.038	0.000	1.038
Program #5				1.200	0.744	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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 Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Demo/Assess Information Operations <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #6 Demo/Assess Command and Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR)- Joint Integration and Non-Lethal Fires <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		2.800	1.735	2.420	0.000	2.420

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army			DATE: February 2010			
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>				
<u>B. Accomplishments/Planned Program (\$ in Millions)</u>						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #7 Small Business Innovative Research/Small Business Technology Transfer Programs <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.222	0.000	0.000	0.000
Accomplishments/Planned Programs Subtotals		15.396	9.643	9.770	0.000	9.770
<u>C. Other Program Funding Summary (\$ in Millions)</u> N/A						
<u>D. Acquisition Strategy</u> N/A						
<u>E. Performance Metrics</u> 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 2011 Army								DATE: February 2010			
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>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
33B: <i>SOLDIER-CENTERED ANALYSES FOR THE FUTURE FORCE</i>	1.883	1.982	2.027	0.000	2.027	1.902	1.914	1.930	1.945	Continuing	Continuing
Quantity of RDT&E Articles											
<u>A. Mission Description and Budget Item Justification</u>											
<p>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 Army Transformation. 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).</p>											
<u>B. Accomplishments/Planned Program (\$ in Millions)</u>											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1 Manpower and Personnel Integration (MANPRINT) - Provide dedicated modeling and analysis cell for early and accurate MANPRINT estimates to Army Materiel Command (AMC), 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. In FY09, applied cross domain MANPRINT risk (i.e. manpower, personnel, training, systems engineering, safety) tradeoff tools to the user, acquisition and test & evaluation (T&E) communities for more cost effective risk mitigation. <i>FY 2009 Accomplishments:</i> FY 2009							1.163	0.000	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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>				
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #4 MANPRINT Manpower, Personnel and Training (MPT). Provide MANPRINT MPT force requirements determination support to TRADOC on selected systems. In FY09, developed approaches to providing MPT input to tailored and rapid acquisition. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.720	0.000	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army			DATE: February 2010			
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>				
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #7 FY10: Small Business Innovative Research/Small Business Technology Transfer Program		0.000	0.056	0.000	0.000	0.000
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Accomplishments/Planned Programs Subtotals		1.883	1.982	2.027	0.000	2.027
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 2011 Army										DATE: February 2010	
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>							
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	356.720	352.845	393.937	0.000	393.937	363.893	370.526	370.192	368.148	Continuing	Continuing
F30: <i>ARMY TEST RANGES & FACILITIES</i>	356.720	352.845	393.937	0.000	393.937	363.893	370.526	370.192	368.148	Continuing	Continuing
A. Mission Description and Budget Item Justification											
<p>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 Aviation Technical Test Center (ATTC), Fort Rucker, Alabama; and Redstone Technical Test Center (RTTC), Redstone Arsenal, Alabama. Test planning and safety verification at Headquarters, U.S. Army Developmental Test Command (DTC), Aberdeen Proving Ground, Maryland is also supported by this program element. This project finances the overhead (institutional) test operating costs 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 Long War Against Terrorism, 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 Systems, Missiles, Rockets, Directed Energy Weapons, Network Centric and Command, Control, and Communication. Specific systems supported in FY08 with continued support in FY09 include: Future Combat Systems (FCS), other weapon systems such as: 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; Future Combat Systems (FCS) Manned Ground 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); Aerial Common Sensor (ACS); Non Line-of-Sight Launch System (NLOS-LS); Body Armor; High Mobility Multipurpose Wheeled Vehicle</p>											

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Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Army **DATE:** February 2010

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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(HMMWV); Aviation Transformation (AH-64 Block III, Recon Helicopter, UH-60M Upgrade, 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 Vehicle, Micro Air Vehicle, Raven B, Extended Range Multi-Purpose, Hunter) , and Unmanned Ground Vehicles (Rabbit, DOK-ING MV-4, MARCBot, PackBot, SWORDS, Talon, Autonomous Navigation System, FCS Class I and IV). 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)

	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>
Previous President's Budget	346.431	354.693	323.792	0.000	323.792
Current President's Budget	356.720	352.845	393.937	0.000	393.937
Total Adjustments	10.289	-1.848	70.145	0.000	70.145
• Congressional General Reductions		-1.848			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.990	0.000			
• SBIR/STTR Transfer	-5.815	0.000			
• Adjustments to Budget Years	0.000	0.000	70.145	0.000	70.145
• OMNIBUS Reprogramming	15.114	0.000	0.000	0.000	0.000

Change Summary Explanation

FY11 - \$70,145 increase Reqs Adj, EE DOR Test and Evaluation (RL02, RL07) Decisions; \$75,400 - 5,255 = 70,145, \$5,255 reduction - Funds for HELSTF infracture, Transfer to AF to support the Joint Base Elmendorf-Richardson

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army								DATE: February 2010			
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>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
F30: <i>ARMY TEST RANGES & FACILITIES</i>	356.720	352.845	393.937	0.000	393.937	363.893	370.526	370.192	368.148	Continuing	Continuing
Quantity of RDT&E Articles											

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 and Fort Rucker, Alabama. Test planning and safety verification at Headquarters, U.S. Army Developmental Test Command (DTC), Aberdeen Proving Ground, Maryland is also supported by this program element. This project finances the overhead (institutional) test operating costs 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 up-arming 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 Systems, Missiles, Rockets, Directed Energy Weapons, Network Centric and Command, Control, and Communication. Specific systems supported in FY09 with continued support in FY10 include: Personnel protective equipment (including Body Armor), Army Brigade Combat Team Modernization (ABCTM) spin-out early infantry brigade combat team units sets, up-arming vehicle ballistic protection on route clearance vehicles, Family of Medium Tactical Vehicles Long Term Armor Strategy (FMTV LTAS), and Joint Light Tactical Vehicle (JLTV); Stryker upgrades; armor gun shields for tactical vehicles; reactive and active armor; Personnel Screening Systems; the Mine Resistant Ambush Protected (MRAP)Vehicles; Counter-Rocket Artillery Mortar (C-RAM); High Mobility Artillery Rocket System (HIMARS); Guided Multiple Launch Rocket System (GMLRS) Unitary Rocket; Unattended Ground Sensors; Intelligence Surveillance and Reconnaissance (ISR); Counter Remote Control IED (RCIED) Electronic Warfare (CREW); Warfighter Information Network Tactical (WIN-T); Distributed Common Ground System - Army (DCGS-A); Aerial Common Sensor (ACS); Non Line-of-Sight Launch System (NLOS-LS); High Mobility Multipurpose Wheeled

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army			DATE: February 2010			
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>				
<p>Vehicle (HMMWV); Aviation Transformation (AH-64 Block III, Recon Helicopter, UH-60M Upgrade, 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 Vehicle, Micro Air Vehicle, Extended Range Multi-Purpose, Hunter) , and Unmanned Ground Vehicles (Rabbit, DOK-ING MV-4, MARCBot, PackBot, Talon). Direct costs are borne by materiel developers in accordance with DoD Directive 3200.11 and DoD Financial Management Regulation 7000.14R.</p>						
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1		121.237	120.000	133.317	0.000	133.317
<p>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><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
Program #2		142.001	142.000	155.000	0.000	155.000

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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 0605601A: <i>ARMY TEST RANGES AND FACILITIES</i>	PROJECT F30: <i>ARMY TEST RANGES & FACILITIES</i>				
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>T&E Civilian Pay. 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><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #3</p> <p>Contractor Pay. 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.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p>		78.368	76.000	80.000	0.000	80.000

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #4 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. For FY09 through FY10 funding will be focused on improving test and evaluation capabilities for distributed test operations, joint and Army network centric testing. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		15.114	4.343	24.808	0.000	24.808
Program #5		0.000	0.740	0.812	0.000	0.812

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>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><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #6 Small Business Innovative Research/Small Business Technology Transfer Programs</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p>		0.000	9.762	0.000	0.000	0.000

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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 0605601A: <i>ARMY TEST RANGES AND FACILITIES</i>	PROJECT F30: <i>ARMY TEST RANGES & FACILITIES</i>
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B. Accomplishments/Planned Program (\$ in Millions)	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 OCO Plans:</i> FY 2011 OCO					
Accomplishments/Planned Programs Subtotals	356.720	352.845	393.937	0.000	393.937

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 2011 Army **DATE:** February 2010

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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	84.905	84.389	59.040	0.000	59.040	60.426	58.503	58.329	57.797	Continuing	Continuing
628: <i>Developmental Test Technology & Sustainment</i>	57.782	54.449	37.024	0.000	37.024	37.905	35.606	35.507	35.196	Continuing	Continuing
62B: <i>OPERATIONAL TESTING INSTRUMENTATION DEVELOPMENT</i>	1.993	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
62C: <i>MODELING AND SIMULATION INSTRUMENTATION</i>	25.130	29.940	22.016	0.000	22.016	22.521	22.897	22.822	22.601	Continuing	Continuing

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 Missile Range (WSMR), New Mexico; Electronic Proving Ground (EPG), Fort Huachuca, Arizona; Yuma Proving Grounds (YPG), Arizona (including the Cold Regions Test Center (CRTC), Fort Greely, Alaska and the Tropics Regions Test Center, at various locations); Redstone Test Center (RTC), Redstone Arsenal and FT Rucker, Alabama; and 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 the Army Transformation as well as Joint Vision 2020 initiatives. 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, Future Combat Systems (FCS) spin offs, Terminal High Altitude Area Defense (THAAD), Patriot Advanced Capability Phase 3 (PAC 3), Mobile Gun System (MGS), Warfighter Information Network - Tactical (WIN-T), Joint Tactical Radio System (JTRS), Net Enabled Command Capability (NECC), and the Army Battle Command System (ABCS) with includes Force XXI Battle Command Brigade and Below (FBCB2)/Blue Force Tracking (BFT). This Program Element develops and sustains developmental and operational test capabilities that provide key support to the Army's Transformation. In addition this Program Element supports Overseas Contingency Operations by providing

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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 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>
Previous President's Budget	80.705	72.911	59.326	0.000	59.326
Current President's Budget	84.905	84.389	59.040	0.000	59.040
Total Adjustments	4.200	11.478	-0.286	0.000	-0.286
• Congressional General Reductions		-0.442			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		11.920			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-2.139	0.000			
• Adjustments to Budget Years	6.339	0.000	-0.286	0.000	-0.286

Change Summary Explanation

FY10 Congressionally directed increases.

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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
628: <i>Developmental Test Technology & Sustainment</i>	57.782	54.449	37.024	0.000	37.024	37.905	35.606	35.507	35.196	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 Missile Range (WSMR), New Mexico; Electronic Proving Ground (EPG), Fort Huachuca, Arizona; 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 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 Transformation. 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 and in direct support of all Army Transformation Elements. A series of projects refurbishes and improves Kineto Tracking Mounts and Range Radars at multiple test ranges used for aircraft, missile and air drop tests. In addition, a common field data collection instrument will be customized to collect a wide variety of performance data for various test commodities. Another key element within this program is building the Army's network-centric test capability. This capability recognizes advances in network-centric warfare and enabling technologies for Mobile Ad Hoc Networking (MANET). In addition, DoD guidance (CJCSI 6212) mandates the certification of joint C4ISR-equipped systems as net-ready in accordance with the four pillars of Net-Ready Key Performance Parameters (NR-KPP) to enhance Interoperability and Information Assurance from a networked, system of system perspective. This capability will ensure that platforms are tested as nodes on the network while executing critical mission threads from end-to-end according to the Army's network model (platforms and sensors, applications, services, transport, and standards). A network of Distributed Test Control Centers (DTCCs), each connected to the Defense Research and Engineering Network (DREN), has been installed at each Army test range to bring all of the Army's test capabilities to bear on the complex challenge of system-of-systems testing. This technology investment follows Office of Secretary of Defense guidance for Test and Evaluation test architectures and test and training range interoperability.

B. Accomplishments/Planned Program (\$ in Millions)

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1 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). <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		6.012	4.478	4.957	0.000	4.957
Program #2 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 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		49.370	37.156	28.815	0.000	28.815

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>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. Updates the frequency surveillance capability at YPG to ensure a clean radio frequency (RF) environment for testing. Recapitalizes the Antenna test range to continue measuring communication equipment performance. Upgrades Kineto Tracking Mounts at WSMR and YPG.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
Program #3		0.000	0.000	2.600	0.000	2.600
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						

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>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.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #4</p> <p>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; accreditation of ATEC Test Integration Network (ATIN) infrastructure to allow distributed, systems-of-systems testing; 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 ("Acquisition and Management of Test Technology Assets") for development and implementation of common platforms, interfaces, and processes</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p>		0.000	0.638	0.652	0.000	0.652

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #5 Congressional Adds: The current Light Detection and Ranging (LIDAR) systems do not provide the full range of aerosol cloud characterization capability necessary to address the Chemical/Biological test requirements. Dugway M&S software is being developed to provide an understanding of how threat clouds affect systems under test such as detectors and shelters as they evolve on the battlefield and in urban environments driven by meteorology and terrain. The purpose of this project is to build one or more LIDAR referee systems to develop elastic backscatter LIDAR calibration procedures and models, and to merge multiple LIDAR and other referee system data with atmospheric dispersion and LIDAR models, to generate the best possible aerosol cloud characterization and tracking, and to extrapolate test results to realistic battlefield scenarios <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base		2.400	0.000	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
<p>Program #6</p> <p>Congressional Adds: 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 powerstorage 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 analyzing chemical aerosol simulat 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.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>		0.000	10.960	0.000	0.000	0.000
Program #7		0.000	1.217	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Funding for the Small Business Innovative Research/Small Business Technology Transfer Programs						
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Accomplishments/Planned Programs Subtotals		57.782	54.449	37.024	0.000	37.024
C. Other Program Funding Summary (\$ in Millions) N/A						
D. Acquisition Strategy N/A						
E. Performance Metrics Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.						

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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
62B: <i>OPERATIONAL TESTING INSTRUMENTATION DEVELOPMENT</i>	1.993	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											
<u>A. Mission Description and Budget Item Justification</u>											
<p>This project provides for the technical development, enhancement, upgrade and maintenance of essential non-major instrumentation related technology programs. The various projects will achieve cost effective data collection, data reduction, data analysis, telemetry, and processing capability in support of robust and credible operational tests as required by the Department of Defense (DOD) and Congress. The increased sophistication of the Army's new weapons as well as communication and control systems demands new instrumentation's ability to capture test data non-intrusively. The data must be collected at high rates and in massive volumes. After the essential data is collected, it must be reduced to the essential elements necessary for effective evaluation. As the Army's digitization and transformation of the battlefield continues, this development effort allows Army Test and Evaluation Command's Operational Test Command (OTC) to modernize and develop its non-major instrumentation to be more robust, reliable and less intrusive in terms of integrating automated instrumentation during operational tests. The goal is to expand data collection, reduction, and analysis of the collected data and test control capability, while reducing future operational test costs. This project supports multiple instrumentation development efforts leading to improved command and control, increased mobility, expanded remote data collection from various tactical sites. In many instances instrumentation must have a transmission capability to central receiving, control, and evaluation stations at various test directorates, and the capability to support Real-Time Casualty Assessments which measures simulated attrition of forces during simulated battlefield engagements. OTC's test directorates are located at Fort Hood, TX, Fort Bragg, NC, Fort Bliss, TX, Fort Huachuca, AZ, and Fort Sill, OK. These programs support Operation Iraqi Freedom (OIF), Operation Enduring Freedom (OEF), and the Current to Future transition path of the Transformation Campaign Plan. Beginning FY 2008 funding from PE Number 0605602A Project 62B for modeling, simulation, and instrumentation development and the subsequent sustainment of all systems are identified under the PE line 0605602A Project 62C.</p>											
<u>B. Accomplishments/Planned Program (\$ in Millions)</u>											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1 Small Business Innovative Research/Small Business Technology Transfer Programs							0.077	0.000	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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 62B: <i>OPERATIONAL TESTING INSTRUMENTATION DEVELOPMENT</i>				
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2 FY09 Planned Program: ExCIS, Performance Instrumentation Systems, Time Space Position Information (TSPI) and Telemetry Systems, Network Control Systems and Data Management, and Imaging System technology categories: Network Instrumentation Test Systems, Family of Digital Data Collectors Test Bed, IEW Test Operations Capability, Mobile Surveillance & Target Acquisition Radar, Multimedia Data Transfer System, Alternative Power Source for Future Combat System (FCS), ExCIS FSA, GPS Modernization, High Speed Data Recording System, Command Audio/Video Modernization, OT-TES Support, Quick Look Instrumentation Workstation, Secure Wide Band Satellite Common Link, and Digital Asset Management System. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010		1.916	0.000	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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 62B: <i>OPERATIONAL TESTING INSTRUMENTATION DEVELOPMENT</i>				
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Accomplishments/Planned Programs Subtotals		1.993	0.000	0.000	0.000	0.000
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 2011 Army								DATE: February 2010			
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>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
62C: <i>MODELING AND SIMULATION INSTRUMENTATION</i>	25.130	29.940	22.016	0.000	22.016	22.521	22.897	22.822	22.601	Continuing	Continuing
Quantity of RDT&E Articles											
<u>A. Mission Description and Budget Item Justification</u>											
<p>Funding in this program element develops, enhances, and sustains the Army Test and Evaluation Command's (ATEC) on- going and future technology projects related to all Modeling, Simulation and Instrumentation (MS&I) systems necessary to test Future Combat System (FCS) spin-offs and Future Force technology areas as outlined in Acquisition and Management of Test Technology Assets per ATEC Regulation 70-15, Table 1, 22 Mar 06, in the Domains and Contents of Instrumentation, Networks and Test Control, Simulation and Stimulation, and Data Management Systems. Execution of Major Programs will consist of Operational Test Tactical Engagements System (OT-TES); Test Technology Execution Center (TTEC) for M&S capability sustainment, enhancement, and integration capability; Intelligence Modeling and Simulation for Evaluation (IMASE) sustainment and development; Extensible C4I Instrumentation Systems-Fire Support Application (ExCIS-FSA) sustainment and development; Battle Command Network Integration and Simulation (BCNIS) [formerly OneSAF/CES - STORM Integration (Battle Command Systems Environment)]; Fuel Cell Systems; Operational Test Command (OTC) Analytic, Simulation and Instrumentation Suite (OASIS) Integration and Management; and execution of many non-major instrumentation projects such as GPS Modernization, Automated Rigging Kits, High Speed Data Recording systems, but not limited to, that support T&E five domains. Some systems consist of modeling and simulation to enhance the realistic operational environments by simulating supporting units and threat. The non-intrusive systems collect data from the Systems Under Test (SUT) in harsh field conditions while platforms are moving and operating without impacting the SUT. All OT Technology Systems must be mobile, to the extent possible, to be used at all test locations. The systems are required for systems of systems level operational testing such as Mine Resistant Ambush Protective (MRAP) vehicles, Future Combat Systems (FCS) spin-offs, Army Battle Command System (ABCS), Terminal High Altitude Area Defense (THAAD), Patriot Advanced Capability Phase 3 (PAC3), Warfight Information Network-Tactical (WIN-T), Joint Tactical Radio System (JTRS), Net Enhanced Command Capability (NECC), and others.</p>											
<u>B. Accomplishments/Planned Program (\$ in Millions)</u>											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1							23.930	0.000	0.000	0.000	0.000
<p>FY09 Accomplished 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: Sustainment</p>											

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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 Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>and Operations of all OTC Technology, Modeling and Simulation Systems, OT-TES, ExCIS FSA, GPS Modernization, IMASE, Airborne Position Location System Paratrooper Unit Production, Secure Wide-Band Satellite Common Link, Intelligence Electronic Warfare (IEW) Test Operation Capability, Next Generation Command Control Communications & Intelligent Engineering & Evaluation System (NG CEES), TTEC for M&S Capability, Sustainment, Enhancement, and Integration, OASIS Integration, Family of Digital Collection Test Bed, and STORM (Simulation Test Operational Rehearsal Model). OTC Technology Base Support, etc.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #2</p> <p>Funds 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, Brigade Combat Team, 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><i>FY 2009 Accomplishments:</i> FY 2009</p>		0.000	3.235	2.144	0.000	2.144

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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 Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #3 Small Business Innovative Research/Small Business Technology Transfer Programs. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.030	0.000	0.000	0.000
Program #4 Congressional increases for HQ Operational Test Command ADATD to develop Mobile Optical Tracking System (MOTS). MOTS is a tracking system that will provide the Time Space Position Information (TSPI) required to analyze the end game of engagements by systems such as Counter Rocket Artillery Mortar Systems.		1.200	0.960	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army			DATE: February 2010			
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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #5 FY10 and 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 FY10-15. The programs to be executed that will fall under the ATEC's domain categories shown above but are not limited to: OT-TES sustainment and minor upgrades, TTEC Operations for M&S sustainment, upgrade, and integration of system of systems, OTC Technology Base Support, ExCIS FSA, IMASE ISSS & ISGT, BCNIS, Geometric Advanced Video Enhanced Locations System (GAVELS), Mobile Optical Tracking Systems, Automated Rigging Kit Tool, GPS Modernization, High-speed Digital Recording System, OASIS Integration, etc. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010		0.000	25.715	19.872	0.000	19.872

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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 Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Accomplishments/Planned Programs Subtotals		25.130	29.940	22.016	0.000	22.016
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 2011 Army										DATE: February 2010	
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>							
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	40.037	44.782	41.812	0.000	41.812	42.273	43.123	42.633	42.780	Continuing	Continuing
675: <i>Army Survivability Analysis & Evaluation Support</i>	40.037	44.782	41.812	0.000	41.812	42.273	43.123	42.633	42.780	Continuing	Continuing
Note Per Charito the PB 11 Lock for FY10 is \$44782 vice the \$45398 that appeared when funds were imported.											
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 BCT based organization. Specific survivability analysis products include assessments of systems such as MRAP, Stryker, Future Combat System and associated spin-out systems, 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											

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Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Army	DATE: February 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 0605604A: <i>Survivability/Lethality Analysis</i>
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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 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 EW systems to U.S. Army Electronic Warfare (EW) systems. Without the survivability products funded by this project, ATEC would not have a technically credible account of survivability issues at milestone decision points and systems could be fielded with unknown vulnerabilities leading to unnecessary US casualties. PMs would make design choices that failed to properly optimize survivability, TRADOC would generate requirements that were not technically credible, and the Army studies process would rest on an inaccurate and inconsistent basis.

B. Program Change Summary (\$ in Millions)

	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>
Previous President's Budget	40.929	45.016	42.357	0.000	42.357
Current President's Budget	40.037	44.782	41.812	0.000	41.812
Total Adjustments	-0.892	-0.234	-0.545	0.000	-0.545
• Congressional General Reductions		-0.234			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.892	0.000			
• Adjustments to Budget Years	0.000	0.000	-0.545	0.000	-0.545

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army								DATE: February 2010			
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 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
675: <i>Army Survivability Analysis & Evaluation Support</i>	40.037	44.782	41.812	0.000	41.812	42.273	43.123	42.633	42.780	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 BCT based organization. Specific survivability analysis products include assessments of systems such as MRAP, Stryker, Increment 1 Brigade Combat Team and associated spin-out systems, 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

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army	DATE: February 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 0605604A: <i>Survivability/Lethality Analysis</i>	PROJECT 675: <i>Army Survivability Analysis & Evaluation Support</i>
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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 other systems. In conjunction with PMs and Army intelligence agencies, analyzes technical vulnerabilities of foreign weapons, network related systems, and intelligence EW systems to U.S. Army Electronic Warfare (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 Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1 Conduct integrated survivability, lethality, vulnerability analyses for developmental aviation, ground, soldier and munition systems including JCA, MRAP, Stryker, GSS, Excalibur, and IMS. Completed ballistic survivability/vulnerability analysis for MRAP T&E, GMLRS Unitary IOT&E and Excalibur LFT&E SET-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, SLAD's 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. FY10-FY11 plans include conducting engineering and crew casualty analyses for MRAP ATV, JLTV and PIM LFT&E test events. In FY09 SLAD conducted LF testing and ballistic survivability/vulnerability analyses for JCA. SLAD analyses are being finalized for the DOT&E report. In FY11 SLAD will conduct LB Apache Block III LFT&E test events and conduct HWIL investigations on LB Apache Block III. SLAD will conduct EW vulnerability assessments for IMS, Excalibur and JAGM. SLAD will conduct ballistic survivability/lethality analysis for Excalibur, JAGM, GMLRS Alternate Warhead Program (AWP) and Excalibur Increment 1b. SLAD will provide ballistic and non-ballistic survivability/vulnerability/lethality analysis support to new	18.771	20.566	20.095	0.000	20.095

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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 Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Army carbine program and provide technical data required by ATEC for the Systems Evaluation Report. Provide ballistic survivability/vulnerability analysis support to Army studies. CONTINUED BELOW...</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #2</p> <p>...CONTINUED FROM BLOCK ABOVE. This effort provides 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. Methodology enhancements for simulation of new emerging technologies and system-of-systems operational constructs will be performed as required. SLAD's survivability based functional analysis and functional decomposition contributed to the development of the system-of-systems specification. Additional vulnerability analysis of MGV platforms were conducted in FY09 and the data will contribute to two scheduled program milestones; the FCS SoSPDR; and provided guidance to Increment 1 Brigade Combat Teams for engineering design and networking. Planning and execution of congressionally mandated LFT&E programs will be performed in conjunction with ATEC and OSD DOT&E including armor coupon testing. Further analysis and LFTE activities will continue in FY10-11. Ballistic vulnerability analysis</p>		0.000	0.000	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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 Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>of the Increment 3 Brigade Combat Team will be conducted in support of planned CDRs, LFT&E activities, and initial qualification tests. Network analysis efforts will also continue during this time frame. Findings and recommendations for survivability enhancements will be disseminated to appropriate Army stakeholders.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #3</p> <p>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. Priority testing and analyses will be conducted from FY10-11 including EW/IA modeling, JTRS waveforms and hardware, WIN-T increment 2 and 3, ACS, DGCS-A, Increment 1 Brigade Combat Team, and software blocking. Modeling and simulation tools will be developed as required. Also from FY10-11 this project will continue to analyze the evolving EW threat to GPS as integrated into Army weapons. Capabilities will be developed to simulate and evaluate mobile ad-hoc networks which are critical to future Army mobile networks and during FY10-11 they will be used to analyze Army networks and enhance their survivability. This will include vulnerability analyses of tactical internet components to radio frequency directed energy weapons (RFDEW).</p>		14.205	14.898	14.700	0.000	14.700

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010				
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 Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>System-of-Systems Common Operating Environment (SoSCOE) assessments are also conducted. FY09 included conducting EW/IA assessments on JTRS. SLAD collaborated with developer to implement mitigations based on SLAD findings. FY10-11 IA testing and Increment 1 & 2 Brigade Combat Team will be conducted.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>								
<p>Program #4</p> <p>Conduct integrated survivability, lethality, vulnerability analyses for developmental air and missile defense systems, pre-planned product improvements of current systems, and recently fielded systems. These systems include the Ballistic Missile Defense System (BMDS), Terminal High Altitude Air Defense (THAAD), PATRIOT, Surface-Launched Advanced Medium Range Air-to-Air Missile (SLAMRAAM), Joint Land Attack Cruise Missile Defense Elevated Netted Sensor System (JLENS), and Sentinel. FY 10 - 11 plans include providing the OTA with BMDS CNO assessments, providing target simulator support to JLENS DT testing and countermeasure support of PATRIOT PDB-7 DT/OT testing. In FY09 SLAD conducted extensive modifications to the radar target jammer simulator in preparation for DT testing of the JLENS in FY10. Additionally in FY09 SLAD conducted technology upgrades on its signal receiver vans to analyze and evaluate multiple battlefield sensors simultaneously.</p>				5.500	6.106	5.517	0.000	5.517

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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 Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #5 System-of-systems survivability simulation (S4) - In FY09 SLAD extended S4 analytical capability by integrating engineering-level EW and CNO effects into the simulation; FY10 SLAD will demonstrate MUVES3 V/L service to S4; This capability will enable SLV analysis of the networked-enabled future force. In FY11 SLAD continue to improve capability to simulate IW and EW attacks on network-centric battle commands. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base		1.561	2.000	1.500	0.000	1.500

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #6 Small Business Innovative Research/Small Business Technology Transfer Programs		0.000	1.212	0.000	0.000	0.000
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Accomplishments/Planned Programs Subtotals		40.037	44.782	41.812	0.000	41.812
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 2011 Army **DATE:** February 2010

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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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	6.772	7.352	4.710	0.000	4.710	2.938	2.974	2.973	2.972	Continuing	Continuing
E97: <i>DOD HELSTF</i>	6.772	7.352	4.710	0.000	4.710	2.938	2.974	2.973	2.972	Continuing	Continuing

A. Mission Description and Budget Item Justification

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

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Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Army	DATE: February 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 0605605A: <i>DOD High Energy Laser Test Facility</i>
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B. Program Change Summary (\$ in Millions)

	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>
Previous President's Budget	6.813	2.891	2.937	0.000	2.937
Current President's Budget	6.772	7.352	4.710	0.000	4.710
Total Adjustments	-0.041	4.461	1.773	0.000	1.773
• Congressional General Reductions		-0.039			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		4.500			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.041	0.000			
• Adjustments to Budget Years	0.000	0.000	1.773	0.000	1.773

Change Summary Explanation

FY2010: Congressional add to support High Energy Laser Systems Test Facility
 FY2011: Adjustment to support High Energy Laser Systems Test Facility

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army								DATE: February 2010			
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>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
E97: <i>DOD HELSTF</i>	6.772	7.352	4.710	0.000	4.710	2.938	2.974	2.973	2.972	Continuing	Continuing
Quantity of RDT&E Articles											
A. Mission Description and Budget Item Justification											
<p>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.</p>											
B. Accomplishments/Planned Program (\$ in Millions)											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1							6.772	7.352	4.710	0.000	4.710
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											

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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>				
<u>B. Accomplishments/Planned Program (\$ in Millions)</u>						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>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><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
Accomplishments/Planned Programs Subtotals		6.772	7.352	4.710	0.000	4.710
<u>C. Other Program Funding Summary (\$ in Millions)</u>						
N/A						
<u>D. Acquisition Strategy</u>						
N/A						
<u>E. Performance Metrics</u>						
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 2011 Army **DATE:** February 2010

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 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	5.001	3.746	5.055	0.000	5.055	5.731	8.502	6.162	6.193	Continuing	Continuing
092: <i>AIRCRAFT CERTIFICATION</i>	5.001	3.746	5.055	0.000	5.055	5.731	8.502	6.162	6.193	Continuing	Continuing

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 Reconnaissance Helicopter; Light Utility Helicopter; Joint Cargo Aircraft; Extended Range/Multi Purpose (ER/MP) unmanned aircraft system (UAS); Aerial Common Sensors aircraft; 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 current 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 Logistics Commanders Group) and international airworthiness related activities mandated by treaty (e.g. Flight Into Nonsegregated 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 2011 Army	DATE: February 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 0605606A: <i>AIRCRAFT CERTIFICATION</i>
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B. Program Change Summary (\$ in Millions)

	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>
Previous President's Budget	5.037	3.766	5.128	0.000	5.128
Current President's Budget	5.001	3.746	5.055	0.000	5.055
Total Adjustments	-0.036	-0.020	-0.073	0.000	-0.073
• Congressional General Reductions		-0.020			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.036	0.000			
• Adjustments to Budget Years	0.000	0.000	-0.073	0.000	-0.073

Change Summary Explanation

Change Summary Explanation: Funds realigned to higher priority requirements.

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army								DATE: February 2010			
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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
092: <i>AIRCRAFT CERTIFICATION</i>	5.001	3.746	5.055	0.000	5.055	5.731	8.502	6.162	6.193	Continuing	Continuing
Quantity of RDT&E Articles											
Note Not applicable for this item.											
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 Reconnaissance Helicopter; Light Utility Helicopter; Joint Cargo Aircraft; Extended Range/Multi Purpose (ER/MP) unmanned aircraft system (UAS); Aerial Common Sensors aircraft; 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 Logistics Commanders Group) and international airworthiness related activities mandated by treaty (e.g. Flight Into Nonsegregated 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-2A, RDT&E Project Justification: PB 2011 Army			DATE: February 2010			
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>				
<u>B. Accomplishments/Planned Program (\$ in Millions)</u>						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1 FY09: 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, Armed Reconnaissance helicopter). <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.001	0.000	0.000	0.000	0.000
Program #2 FY10: 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, Armed Reconnaissance helicopter). <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010		0.000	0.001	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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 Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #3 FY11 Base: Continue to 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, Armed Reconnaissance helicopter). <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.000	0.001	0.000	0.001
Program #4 FY09: 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).		0.704	0.000	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #5		0.000	0.280	0.000	0.000	0.000
FY10: 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 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						

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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>	PROJECT 092: <i>AIRCRAFT CERTIFICATION</i>				
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #6 FY11 Base: Continue to 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 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.000	0.735	0.000	0.735
Program #7 FY09: Developed, implemented, and maintained Army Aeronautical Design Standards, airworthiness procedures and tools, and overarching Airworthiness qualification documentation. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010		2.342	0.000	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #8 FY10: Develop, implement, and maintain Army Aeronautical Design Standards, airworthiness procedures and tools, and overarching Airworthiness qualification documentation. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	2.571	0.000	0.000	0.000
Program #9 FY11 Base: Continue to develop, implement, and maintain Army Aeronautical Design Standards, airworthiness procedures and tools, and overarching Airworthiness qualification documentation. <i>FY 2009 Accomplishments:</i> FY 2009		0.000	0.000	2.656	0.000	2.656

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B. Accomplishments/Planned Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Program #10 FY09: 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). <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO				0.001	0.000	0.000	0.000	0.000
Program #11				0.000	0.001	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>FY10: 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 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #12</p> <p>FY11 Base: Continue to 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 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p>		0.000	0.000	0.001	0.000	0.001

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #13 FY09: Provided technical and airworthiness qualification for Commercial Derivative Aircraft through the Federal Aviation Administration. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.453	0.000	0.000	0.000	0.000
Program #14 FY10: Provide technical and airworthiness qualification for Commercial Derivative Aircraft through the Federal Aviation Administration. <i>FY 2009 Accomplishments:</i> FY 2009		0.000	0.505	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #15 FY11 Base: Continue to provide technical and airworthiness qualification for Commercial Derivative Aircraft through the Federal Aviation Administration. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.000	0.548	0.000	0.548
Program #16 FY09: 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		1.500	0.000	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Airworthiness Council, Joint Logistics 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><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #17</p> <p>FY10: 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 Logistics Commanders Group, Joint Council on Aging Aircraft, Joint Propulsion Coordinating Committee, NATO working groups, Global Air Traffic Management working groups).</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p>		0.000	0.376	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army			DATE: February 2010			
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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #18 FY11 Base: Continue to 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 Logistics Commanders Group, Joint Council on Aging Aircraft, Joint Propulsion Coordinating Committee, NATO working groups, Global Air Traffic Management working groups). <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.000	1.114	0.000	1.114
Program #19 FY10: Small Business Innovative Research/Small Business Technology Transfer Programs		0.000	0.012	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010				
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B. Accomplishments/Planned Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2009 Accomplishments:</i> FY 2009								
<i>FY 2010 Plans:</i> FY 2010								
<i>FY 2011 Base Plans:</i> FY 2011 Base								
<i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Accomplishments/Planned Programs Subtotals				5.001	3.746	5.055	0.000	5.055
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 2011 Army **DATE:** February 2010

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>								
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	8.120	8.347	7.185	0.000	7.185	7.312	7.452	7.441	7.394	Continuing	Continuing
128: <i>Meteorological Support to RDT&E Activities</i>	8.120	8.347	7.185	0.000	7.185	7.312	7.452	7.441	7.394	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 Command (ATEC). Meteorological support to research, development, test, and evaluation (RDT&E) activities provides standard and specialized weather forecasts and data for test reports to satisfy Army/Department of Defense RDT&E test requirements for modern weaponry, e.g., (1) unique atmospheric analysis and sampling to include atmospheric transmittance, extinction, optical scintillation, infrared temperature, aerosol/smoke cloud dispersion characteristics, ballistic meteorological measurements, snow characterization and crystal structure; (2) test event forecasting to include prediction of sound propagation for ballistic firing tests, specialized prediction of light levels and target to background measurements, and predictions for electro-optical testing and ballistic artillery/mortar firing; and (3) advisory and warning products such as go/no-go test recommendations for ballistic and atmospheric probe missiles, smoke/obscurant tests, hazard predictions for chemical agent munitions disposal, monitoring dispersion of simulant clouds for chemical/biological detector tests, simulated nuclear blasts, and weather warnings for test range safety. Provides technical support to Army Program Executive Officers (PEOs), Project Managers (PMs), and the Army test ranges and sites at: White Sands Missile Range (WSMR), New Mexico; Electronic Proving Ground (EPG), Fort Huachuca, Arizona; Dugway Proving Ground (DPG), Utah; Aberdeen Test Center (ATC), Aberdeen Proving Ground, Maryland; Redstone Technical Test Center (RTTC), Redstone Arsenal, Alabama; Yuma Proving Ground (YPG), Arizona (including the Cold Regions Test Center (CRTC), Fort Greely, AK); Fort Belvoir, Virginia; and Fort A.P. Hill, Virginia. This PE 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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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)

	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>
Previous President's Budget	8.262	8.391	7.257	0.000	7.257
Current President's Budget	8.120	8.347	7.185	0.000	7.185
Total Adjustments	-0.142	-0.044	-0.072	0.000	-0.072
• Congressional General Reductions		-0.044			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.142	0.000			
• Adjustments to Budget Years	0.000	0.000	-0.072	0.000	-0.072

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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
128: <i>Meteorological Support to RDT&E Activities</i>	8.120	8.347	7.185	0.000	7.185	7.312	7.452	7.441	7.394	Continuing	Continuing
Quantity of RDT&E Articles											
<u>A. Mission Description and Budget Item Justification</u>											
<p>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.</p>											
<u>B. Accomplishments/Planned Program (\$ in Millions)</u>											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1							2.670	3.276	2.548	0.000	2.548

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>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><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #2</p> <p>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. The 4DWX model computers at the test ranges are reaching the end of their life cycles and will be replaced during FY10 with a new system based on a single large computer to generate the model predictions for all the ranges. FY09 accomplishments include initial use of the DPG high performance computer (HPC) to generate ensemble weather, providing probabilistic forecasts by incorporating 30 separate model</p>		5.450	5.071	4.637	0.000	4.637

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B. Accomplishments/Planned Program (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>executions; improved land-surface and boundary layer parameterizations; new data acquisition systems; and improved lightning warning capability. 4DWX system enhancements planned in FY10-FY11 include continued 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. FY09 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. This instrumentation modernization will continue in FY10-FY11.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>					
Program #3 Small Business Innovative Research/Small Business Technology Transfer Programs <i>FY 2009 Accomplishments:</i> FY 2009	0.000	0.000	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2010 Plans:</i> FY 2010								
<i>FY 2011 Base Plans:</i> FY 2011 Base								
<i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Accomplishments/Planned Programs Subtotals				8.120	8.347	7.185	0.000	7.185
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 2011 Army **DATE:** February 2010

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 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	17.472	19.864	18.078	0.000	18.078	18.512	18.984	19.075	19.093	Continuing	Continuing
541: <i>MATERIEL SYS ANALYSIS</i>	17.472	19.864	18.078	0.000	18.078	18.512	18.984	19.075	19.093	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, 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 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

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Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Army	DATE: February 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 0605706A: <i>MATERIEL SYSTEMS ANALYSIS</i>
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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. Program Change Summary (\$ in Millions)

	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>
Previous President's Budget	16.971	19.969	18.385	0.000	18.385
Current President's Budget	17.472	19.864	18.078	0.000	18.078
Total Adjustments	0.501	-0.105	-0.307	0.000	-0.307
• Congressional General Reductions		-0.105			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.501	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Adjustments to Budget Years	0.000	0.000	-0.307	0.000	-0.307

Change Summary Explanation

Funds realigned to higher priority requirements.

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army **DATE:** February 2010

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 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
541: <i>MATERIEL SYS ANALYSIS</i>	17.472	19.864	18.078	0.000	18.078	18.512	18.984	19.075	19.093	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 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

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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>		
<p>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.</p>						
<u>B. Accomplishments/Planned Program (\$ in Millions)</u>						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Program #1</p> <p>These funds have been/will be used to conduct various materiel systems analysis efforts in support of senior Army decision makers. 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 and the Army Test and Evaluation Command. 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. In FY09, critical AMSAA analyses supported the following programs: Future Combat Systems Brigade Combat Team, Experimental Brigade Combat Team, Mine Resistant Ambush Protected System (MRAP) assessment, Joint Light Tactical Vehicle (JLTV), Joint Non-Lethal Weapons Program, Intelligent Munitions System, Stryker, and Future Force Warrior. AMSAA also initiated efforts to develop and modify system level methodologies, and M&S to include enhancements to Infantry Warrior Simulation, One Semi-Automated Force Survivability Suite (OneSAF), suppression methodology, and Network System of Systems modeling.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p>		17.472	0.000	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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 Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2 In FY10, critical AMSAA analyses will support the following programs: Stryker, Ground Combat Vehicle (GCV), JLTV, MRAP All-Terrain Vehicle (M-ATV), Army Modernization Spin-Off Systems, Ground Soldier System, Biometrics, Armed Aerial Scout, Sensor Fusion System, and Scorpion. Efforts will also focus on enhancements to power and energy (soldier and vehicle) methodology, Improvised Explosive Device modeling, target acquisition methodology, sensor fusion modeling, mechanical and electronic PoF modeling, vehicle performance methodology, Active Protection System performance, non-lethal weapons performance and effectiveness estimation methodology, and modeling operations in urban terrain. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base		0.000	19.307	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army			DATE: February 2010			
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 Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #3 In FY11, critical AMSAA analyses will continue to support Army Modernization programs and follow-on studies associated with the GCV, JLTV, Ground Soldier System, Biometrics, Armed Aerial Scout, and other current operations-related efforts. Efforts will also continue to focus on enhancements to models, methodologies, and M&S that are the foundation for accurate and timely analytical products and data. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.000	18.078	0.000	18.078
Program #4 FY10 - Small Business Innovative Research/Small Business Technology Transfer Programs <i>FY 2009 Accomplishments:</i> FY 2009		0.000	0.557	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010				
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 Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2010 Plans:</i> FY 2010								
<i>FY 2011 Base Plans:</i> FY 2011 Base								
<i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Accomplishments/Planned Programs Subtotals				17.472	19.864	18.078	0.000	18.078
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 2011 Army **DATE:** February 2010

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>
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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	3.908	5.403	5.460	0.000	5.460	5.459	5.494	7.078	7.141	Continuing	Continuing
C28: <i>ACQ/EXPLOIT THREAT ITEMS (MIP)</i>	3.908	5.403	5.460	0.000	5.460	5.459	5.494	7.078	7.141	Continuing	Continuing

A. Mission Description and Budget Item Justification

This is a continuing project for acquisition and exploitation of foreign materiel constituting potential advanced technology threats to U.S. systems. The primary aim of this project is to maximize the efficiency of research and development for force and materiel development by reducing the uncertainties concerning these threats. The project 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. Acquisitions and exploitations are executed according to an Army Foreign Materiel Review Board and with the approval of the Army, Director of Intelligence (G2).

B. Program Change Summary (\$ in Millions)

	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>
Previous President's Budget	3.519	5.432	5.489	0.000	5.489
Current President's Budget	3.908	5.403	5.460	0.000	5.460
Total Adjustments	0.389	-0.029	-0.029	0.000	-0.029
• Congressional General Reductions		-0.029			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Adjustments to Budget Years	0.000	0.000	-0.029	0.000	-0.029
• Other Adjustments 1	0.389	0.000	0.000	0.000	0.000

Change Summary Explanation

Change Summary Explanation: Funding - FY 2009: Congressional Overseas Contingency Operation effort for camouflage material and decoys (\$390 thousand).

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army								DATE: February 2010			
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>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
C28: <i>ACQ/EXPLOIT THREAT ITEMS (MIP)</i>	3.908	5.403	5.460	0.000	5.460	5.459	5.494	7.078	7.141	Continuing	Continuing
Quantity of RDT&E Articles											
<u>A. Mission Description and Budget Item Justification</u>											
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. 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.											
<u>B. Accomplishments/Planned Program (\$ in Millions)</u>											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1 Base: Acquire threat systems identified and prioritized in the Army Foreign Materiel Program (FMP) Five Year Plans. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base							1.235	1.932	1.853	0.000	1.853

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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 Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2 Base: Initiate, continue, or complete exploitation projects on ground systems of Army interest identified in the appropriate Army FMP Exploitation Programs. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		2.283	3.471	3.607	0.000	3.607
Program #3 FY 09 OCO: Acquire material of interest identified by the Army as threats to U.S. Soldiers and Systems. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010		0.130	0.000	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010				
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 Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 Base Plans:</i> FY 2011 Base								
<i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Program #4				0.260	0.000	0.000	0.000	0.000
FY 09 OCO: Initiate, continue, or complete exploitation projects on weapons of interest and threats to U.S. Forces.								
<i>FY 2009 Accomplishments:</i> FY 2009								
<i>FY 2010 Plans:</i> FY 2010								
<i>FY 2011 Base Plans:</i> FY 2011 Base								
<i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Accomplishments/Planned Programs Subtotals				3.908	5.403	5.460	0.000	5.460
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 2011 Army		DATE: February 2010
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>

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 2011 Army **DATE:** February 2010

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>
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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	76.231	77.471	68.191	0.000	68.191	69.558	71.093	71.127	70.879	Continuing	Continuing
001: <i>ATEC Joint Tests and Follow-On Test & Evaluations</i>	2.416	8.609	4.422	0.000	4.422	4.494	4.570	4.561	4.521	Continuing	Continuing
V02: <i>ATEC ACTIVITIES</i>	73.815	68.862	63.769	0.000	63.769	65.064	66.523	66.566	66.358	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)

	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>
Previous President's Budget	74.695	78.410	69.311	0.000	69.311
Current President's Budget	76.231	77.471	68.191	0.000	68.191
Total Adjustments	1.536	-0.939	-1.120	0.000	-1.120
• Congressional General Reductions		-0.939			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.464	0.000			
• Adjustments to Budget Years	2.000	0.000	-1.120	0.000	-1.120

Change Summary Explanation

FY 11 Funds realigned \$1.12 million to higher priority requirements.

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army								DATE: February 2010			
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 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
001: <i>ATEC Joint Tests and Follow-On Test & Evaluations</i>	2.416	8.609	4.422	0.000	4.422	4.494	4.570	4.561	4.521	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 Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1 Joint operational testing and evaluation. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010	0.685	2.853	0.978	0.000	0.978

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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>				
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2 Other-Special projects/Operational Test and Evaluation without Army Project Manager <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	1.859	0.833	0.000	0.833
Program #3 Multi-Service Operational Text and Evaluation/Follow-on testing and evaluations. <i>FY 2009 Accomplishments:</i> FY 2009		0.134	3.656	0.398	0.000	0.398

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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>				
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #4 Funding for Forward Operational Assessment Team Support <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		1.597	0.000	2.213	0.000	2.213
Program #5 Small Business Innovative Research/Small Business Technology Transfer Programs		0.000	0.241	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010				
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 Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2009 Accomplishments:</i> FY 2009								
<i>FY 2010 Plans:</i> FY 2010								
<i>FY 2011 Base Plans:</i> FY 2011 Base								
<i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Accomplishments/Planned Programs Subtotals				2.416	8.609	4.422	0.000	4.422
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 2011 Army								DATE: February 2010			
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>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
V02: <i>ATEC ACTIVITIES</i>	73.815	68.862	63.769	0.000	63.769	65.064	66.523	66.566	66.358	Continuing	Continuing
Quantity of RDT&E Articles											
A. Mission Description and Budget Item Justification											
<p>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 nine test directorates and one support activity located at Fort Hood, TX; Fort Bragg, NC; Fort Bliss, TX; Fort Sill, OK; 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).</p>											
B. Accomplishments/Planned Program (\$ in Millions)											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1 Operational costs including: civilian pay, support contracts, temporary duty, supplies and equipment for subordinate elements of the Operational Test Command. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base							52.401	49.523	48.880	0.000	48.880

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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 Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2 Operational costs for HQ ATEC includes: civilian pay, support contracts, temporary duty, supplies and equipment for non-AMHA (Army Management Headquarters Activity) HQ ATEC and TECOs. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		21.414	18.846	12.589	0.000	12.589
Program #3 Testing of Jammers. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010		0.000	0.000	2.300	0.000	2.300

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010				
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B. Accomplishments/Planned Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 Base Plans:</i> FY 2011 Base								
<i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Program #4 Small Business Innovative Research/Small Business Technology Transfer Programs.				0.000	0.493	0.000	0.000	0.000
<i>FY 2009 Accomplishments:</i> FY 2009								
<i>FY 2010 Plans:</i> FY 2010								
<i>FY 2011 Base Plans:</i> FY 2011 Base								
<i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Accomplishments/Planned Programs Subtotals				73.815	68.862	63.769	0.000	63.769
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 2011 Army		DATE: February 2010
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>

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 2011 Army **DATE:** February 2010

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 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	61.461	67.555	61.450	0.000	61.450	62.659	63.933	63.908	63.613	Continuing	Continuing
302: <i>Army Evaluation Center</i>	61.461	67.555	61.450	0.000	61.450	62.659	63.933	63.908	63.613	Continuing	Continuing

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 and force development. AEC is The Army's independent evaluator. AEC develops the evaluation strategy, designs technical and operational 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 senior leaders and the 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 contingency operations and other Global War on Terrorism (GWOT) 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, supplies, equipment, and support contractors. 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 2011 Army	DATE: February 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 0605716A: <i>Army Evaluation Center</i>
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B. Program Change Summary (\$ in Millions)

	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>
Previous President's Budget	63.173	66.309	62.313	0.000	62.313
Current President's Budget	61.461	67.555	61.450	0.000	61.450
Total Adjustments	-1.712	1.246	-0.863	0.000	-0.863
• Congressional General Reductions		-0.354			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		1.600			
• Congressional Directed Transfers		0.000			
• Reprogrammings	-1.157	0.000			
• SBIR/STTR Transfer	-0.555	0.000			
• Other Adjustments 1	0.000	0.000	-0.863	0.000	-0.863

Change Summary Explanation

FY09 Reprogramming from 665716.302 to 665712.V02.FY10 - \$1.6 million added to the ATEC funding line; the funds actually belong to TARDEC (Tire to Track Transformation System for Light Vehicles).

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army								DATE: February 2010			
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>				
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
302: <i>Army Evaluation Center</i>	61.461	67.555	61.450	0.000	61.450	62.659	63.933	63.908	63.613	Continuing	Continuing
Quantity of RDT&E Articles											
A. Mission Description and Budget Item Justification											
<p>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, supplies, equipment, and support contractors. This project does not finance test facility operations, test instrumentation or test equipment.</p>											
B. Accomplishments/Planned Program (\$ in Millions)											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1							57.401	61.268	57.855	0.000	57.855
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											

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010						
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 Program (\$ in Millions)										
<p>factors pertinent to the decision process, for programs such as Future Combat System (FCS), Mine resistant Ambush Protected Vehicle (MRAP), 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 programs across The Army). As the Army lead for Live Fire Test and Evaluation, plan and execute the Army Live Fire Test and Evaluation program for developmental systems such as the FCS. Prepare integrated System Evaluation Plans and conduct integrated technical and operational evaluations for all Army weapon systems. In support of contingency operations and the Global War on Terrorism (GWOT), 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 10-15.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Program #2</p> <p>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</p>						4.060	5.658	3.595	0.000	3.595

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>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 and other GWOT/LWOT related activities. 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.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
Program #3	Small Business Innovative Research/Small Business Technology Transfer Programs	0.000	0.629	0.000	0.000	0.000
<p><i>FY 2009 Accomplishments:</i> FY 2009</p>						

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010				
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B. Accomplishments/Planned Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2010 Plans:</i> FY 2010								
<i>FY 2011 Base Plans:</i> FY 2011 Base								
<i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Accomplishments/Planned Programs Subtotals				61.461	67.555	61.450	0.000	61.450
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 2011 Army **DATE:** February 2010

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 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	5.159	5.328	3.926	0.000	3.926	3.482	3.541	3.636	3.702	Continuing	Continuing
S02: <i>HQDA DECISION SUPPORT TOOLS & SERVICES</i>	1.091	1.670	0.483	0.000	0.483	0.000	0.000	0.000	0.000	Continuing	Continuing
S03: <i>Analysis M&S Tools and Services</i>	2.905	2.112	1.988	0.000	1.988	1.988	2.024	2.076	2.113	Continuing	Continuing
S05: <i>SIMULATION TECHNOLOGY (SIMTECH) PROGRAM</i>	1.163	1.546	1.455	0.000	1.455	1.494	1.517	1.560	1.589	Continuing	Continuing

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 and data environment for 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 within 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 M&S 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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Army	DATE: February 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 0605718A: <i>Army Modeling & Sim X-Cmd Collaboration & Integ</i>
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Synchronization occurs among the ARFORGEN 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, 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 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>
Previous President's Budget	5.308	5.357	3.947	0.000	3.947
Current President's Budget	5.159	5.328	3.926	0.000	3.926
Total Adjustments	-0.149	-0.029	-0.021	0.000	-0.021
• Congressional General Reductions		-0.029			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.149	0.000			
• Adjustments to Budget Years	0.000	0.000	-0.021	0.000	-0.021

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army								DATE: February 2010			
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>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
S02: <i>HQDA DECISION SUPPORT TOOLS & SERVICES</i>	1.091	1.670	0.483	0.000	0.483	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											
A. Mission Description and Budget Item Justification											
<p>The project "HQDA Decision Support Tools and Services" provides decision support tools and services for the Army staff and forward 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 and data environment for 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 within 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 process achieves 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.</p>											
B. Accomplishments/Planned Program (\$ in Millions)											
						FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	
Program #1						0.275	0.281	0.216	0.000	0.216	

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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 Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>FY09-11, Cross-Command Collaboration Effort (3CE). Funds will enable the expansion of 3CE across the entire Army (beyond its current limited use) to develop system-of-systems concepts, prototypes, and test and evaluation methodologies.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #2</p> <p>FY09-11, Enhanced ARFORGEN Synchronization Tool (AST). 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> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p>		0.256	0.262	0.267	0.000	0.267

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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 Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #3 FY09-10, Capability gaps identified by M&S CATs. FY09 funds will enable the Army to find M&S solutions to capability gaps in the areas of correlated terrain development--constructive simulations, standardization and performance exchange formats among M&S systems, UK-US battle command interoperability, M&S in an irregular warfare environment. FY10 funds will be applied to M&S in an irregular warfare environment <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.560	1.080	0.000	0.000	0.000
Program #4 Small Business Innovative Research/Small Business Technology Transfer Program		0.000	0.047	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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 Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Accomplishments/Planned Programs Subtotals		1.091	1.670	0.483	0.000	0.483
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-2A, RDT&E Project Justification: PB 2011 Army								DATE: February 2010			
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>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
S03: <i>Analysis M&S Tools and Services</i>	2.905	2.112	1.988	0.000	1.988	1.988	2.024	2.076	2.113	Continuing	Continuing
Quantity of RDT&E Articles											
<u>A. Mission Description and Budget Item Justification</u>											
<p>Under the project "Analysis M&S Tools and Services" the Army develops Modeling and Simulation (M&S) tools and services (e.g., hardware, software, infrastructure) for the Army's analysis community. The primary users of these tools and services are the Training and Doctrine Command Analysis Center (TRAC), the Army Materiel Systems Analysis Activity (AMSAA), and the Center for Army Analysis (CAA). Efforts focus on (1) development of analysis tools 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 tactical to 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).</p>											
<u>B. Accomplishments/Planned Program (\$ in Millions)</u>											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1 FY09-11, Funds will enable the Army to represent in simulation the emerging operational M&S concepts that will become an essential part of the Gobar Employment of the Force (GEF). <i>FY 2009 Accomplishments:</i> FY 2009							0.400	0.409	0.418	0.000	0.418

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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 Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2 FY09-11, Army modeling and simulation data strategy. Funds will enable the M&S community to collect, store and disseminate M&S data. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.400	0.409	0.418	0.000	0.418
Program #3 FY09-11, Capability gaps identified by M&S CATS. Funds will enable Army to find M&S solutions to capability gaps in irregular warfare, non-lethal technologies, social networks, cyberspace operations, battle command		2.105	1.235	1.152	0.000	1.152

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>systems, counter-insurgency operations, and other areas. FY09 funds focus heavily on irregular warfare, identified in the January 09 "Quadrennial Roles and Missions Review" as one of four primary roles of DoD.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #4 Small Business Innovative Research/Small Business Technology Transfer Program</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>		0.000	0.059	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010				
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B. Accomplishments/Planned Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Accomplishments/Planned Programs Subtotals				2.905	2.112	1.988	0.000	1.988
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 2011 Army								DATE: February 2010			
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>				
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
S05: <i>SIMULATION TECHNOLOGY (SIMTECH) PROGRAM</i>	1.163	1.546	1.455	0.000	1.455	1.494	1.517	1.560	1.589	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 catalyst for major M&SC3I-related technology breakthroughs in embedded simulation, collaboration, 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 Engineer Research and Development Center, 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 Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1 FY09-11, Mobility Common Operational Picture (MCOP) effort; geoBattlefield Management Language (geoBML); and integrated use of common geo-environmental, maneuver, and command and control behaviors across battle command systems. Funds will enable Army to improve commonality and consistency in the simulation results of an operations plan (OPLAN) during mission rehearsal. <i>FY 2009 Accomplishments:</i> FY 2009	0.500	0.511	0.522	0.000	0.522

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2 FY09-11, GIS-Enabled Modeling and Simulation Project (GEMS) (GIS = Geospatial Information & Services). Funds will increase interoperability of M&S and C4ISR systems with GEMs. (C4ISR = Command, Control, Communication, Computers, Intelligence, Surveillance, reconnaissance.) <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.400	0.409	0.418	0.000	0.418
Program #3		0.263	0.582	0.515	0.000	0.515

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY09-11, Improvement of the various components of M&S in accordance with priorities established by SIMTECH managers. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #4 Small Business Innovative Research/Small Business Technology Transfer Program <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.044	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010				
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B. Accomplishments/Planned Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Accomplishments/Planned Programs Subtotals				1.163	1.546	1.455	0.000	1.455
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 2011 Army **DATE:** February 2010

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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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	72.659	77.419	73.685	0.000	73.685	84.011	86.084	88.156	89.908	Continuing	Continuing
M02: <i>MED CMD SPT (NON-AMHA)</i>	24.363	22.543	20.615	0.000	20.615	21.069	21.604	22.141	22.675	Continuing	Continuing
M15: <i>ARI MGMT/ADM ACT</i>	1.806	2.004	1.977	0.000	1.977	5.424	5.508	5.545	5.542	Continuing	Continuing
M16: <i>STANDARDIZATION GROUPS</i>	4.910	5.143	5.135	0.000	5.135	5.233	5.348	5.337	5.327	Continuing	Continuing
M42: <i>ARDEC CMD/CTR Support</i>	6.158	6.950	7.184	0.000	7.184	8.370	8.577	8.684	8.740	Continuing	Continuing
M44: <i>CECOM CMD/CTR SPT</i>	4.147	4.909	4.954	0.000	4.954	5.746	5.884	5.852	5.909	Continuing	Continuing
M46: <i>AMCOM CMD/CTR SPT</i>	7.618	10.532	10.623	0.000	10.623	12.950	13.422	13.744	14.274	Continuing	Continuing
M47: <i>TACOM CMD/CTR SPT</i>	2.824	3.402	3.364	0.000	3.364	3.917	4.012	4.019	4.107	Continuing	Continuing
M53: <i>Developmental Test Command/ Ctr Spt</i>	11.523	11.696	9.466	0.000	9.466	9.658	9.835	9.815	9.741	Continuing	Continuing
M55: <i>Edgewood Chemical Biological Center (ECBC)</i>	5.840	6.496	6.601	0.000	6.601	7.455	7.615	8.625	9.183	Continuing	Continuing
M58: <i>SSCOM CMD/CTR SPT</i>	2.164	2.399	2.430	0.000	2.430	2.832	2.901	3.005	3.008	Continuing	Continuing
M76: <i>Armament Group Support</i>	1.306	1.345	1.336	0.000	1.336	1.357	1.378	1.389	1.402	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 2011 Army	DATE: February 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 0605801A: <i>Programwide Activities</i>
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B. Program Change Summary (\$ in Millions)

	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>
Previous President's Budget	73.504	77.823	77.099	0.000	77.099
Current President's Budget	72.659	77.419	73.685	0.000	73.685
Total Adjustments	-0.845	-0.404	-3.414	0.000	-3.414
• Congressional General Reductions		-0.404			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.845	0.000			
• Adjustments to Budget Years	0.000	0.000	-3.414	0.000	-3.414

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army								DATE: February 2010			
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 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
M02: <i>MED CMD SPT (NON-AMHA)</i>	24.363	22.543	20.615	0.000	20.615	21.069	21.604	22.141	22.675	Continuing	Continuing
Quantity of RDT&E Articles											
A. Mission Description and Budget Item Justification											
<p>This project provides funding for headquarters (HQ) activities that support the Medical Research, Development, Test, and Evaluation (RDTE) Program at the U.S. Army Medical Research and Materiel Command (USAMRMC), Fort Detrick, Maryland to: (1) perform planning, programming, and budgeting, (2) manage resources, and (3) ensure compliance with U.S. Food and Drug Administration (FDA), and other regulatory and safety requirements 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 U.S. Army Medical Research Acquisition Activity (USAMRAA) in support of the USAMRMC Medical RDTE Program. Additionally, the USAMRMC is implementing the Medical Research Information Technology System (MeRITS), an electronic data and document-handling system needed to standardize animal and human clinical trial documentation. 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.</p>											
B. Accomplishments/Planned Program (\$ in Millions)											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1 MeRITS: In FY09, continued fielding systems to achieve coverage of clinical trials for which the Army Surgeon General is the product sponsor, and implemented software upgrades, including a capability to electronically submit applications to the FDA for consideration of product licensure. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010							9.535	0.000	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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 Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2 MeRITS: In FY10, acquire and begin integrating a Commercially-Off-The-Shelf (COTS) software capability for handling Serious Adverse Effects and Electronic Data Capture. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	6.838	0.000	0.000	0.000
Program #3 MeRITS: 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.		0.000	0.000	1.640	0.000	1.640

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010				
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 Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>								
<p>Program #4</p> <p>Civilian Authorized Salaries and the Special Immunization Program (SIP): In FY09 and FY10, 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. In FY11, civilian authorizations will increase due to an administrative change and selected contractor positions will undergo review for in-sourcing.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p>				14.828	15.431	18.975	0.000	18.975

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010				
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 Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 Base Plans:</i> FY 2011 Base								
<i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Program #5 Small Business Innovative Research/Small Business Technology Transfer Programs				0.000	0.274	0.000	0.000	0.000
<i>FY 2009 Accomplishments:</i> FY 2009								
<i>FY 2010 Plans:</i> FY 2010								
<i>FY 2011 Base Plans:</i> FY 2011 Base								
<i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Accomplishments/Planned Programs Subtotals				24.363	22.543	20.615	0.000	20.615
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 2011 Army		DATE: February 2010
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>

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 2011 Army								DATE: February 2010			
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>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
M15: <i>ARI MGMT/ADM ACT</i>	1.806	2.004	1.977	0.000	1.977	5.424	5.508	5.545	5.542	Continuing	Continuing
Quantity of RDT&E Articles											
A. Mission Description and Budget Item Justification											
<p>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.</p>											
B. Accomplishments/Planned Program (\$ in Millions)											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1 Each fiscal year, 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. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base							1.806	1.996	1.977	0.000	1.977

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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>				
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2 Small Business Innovative Research/Small Business Technology Transfer Program		0.000	0.008	0.000	0.000	0.000
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Accomplishments/Planned Programs Subtotals		1.806	2.004	1.977	0.000	1.977
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 2011 Army								DATE: February 2010			
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 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
M16: <i>STANDARDIZATION GROUPS</i>	4.910	5.143	5.135	0.000	5.135	5.233	5.348	5.337	5.327	Continuing	Continuing
Quantity of RDT&E Articles											
A. Mission Description and Budget Item Justification											
<p>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.</p>											
B. Accomplishments/Planned Program (\$ in Millions)											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1 FY09: Provided continued operation of management and administrative functions at a level consistent with mission requirements and support needs at the nine International Technology Centers. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO							4.910	0.000	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army			DATE: February 2010			
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>				
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #2 FY10: Provide continued operation of management and administrative functions at a level consistent with mission requirements and support needs at the nine International Technology Centers. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	5.053	0.000	0.000	0.000
Program #3 FY10: Small Business Innovative Research/Small Business Technology Transfer Programs <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base		0.000	0.090	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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>				
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #4 FY11 Base: Provide continued operation of management and administrative functions at a level consistent with mission requirements and support needs at the nine International Technology Centers. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.000	5.135	0.000	5.135
Accomplishments/Planned Programs Subtotals		4.910	5.143	5.135	0.000	5.135
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 2011 Army								DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT			
2040: Research, Development, Test & Evaluation, Army BA 6: RDT&E Management Support				PE 0605801A: Programwide Activities				M42: ARDEC CMD/CTR Support			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
M42: ARDEC CMD/CTR Support	6.158	6.950	7.184	0.000	7.184	8.370	8.577	8.684	8.740	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 Program (\$ in Millions)											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1							6.158	0.000	0.000	0.000	0.000
FY09: Provided continued operation of management and administrative functions at a level consistent with mission requirements and support needs at ARDEC. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO											
Program #2							0.000	6.939	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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>				
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>FY10: Provide continued operation of management and administrative functions at a level consistent with mission requirements and support needs at ARDEC.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #3</p> <p>FY10: Small Business Innovative Research/Small Business Technology Transfer Programs</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>		0.000	0.011	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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>				
<u>B. Accomplishments/Planned Program (\$ in Millions)</u>						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #4 FY11 Base: Provide continued operation of management and administrative functions at a level consistent with mission requirements and support needs at ARDEC. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.000	7.184	0.000	7.184
Accomplishments/Planned Programs Subtotals		6.158	6.950	7.184	0.000	7.184
<u>C. Other Program Funding Summary (\$ in Millions)</u> N/A						
<u>D. Acquisition Strategy</u> N/A						
<u>E. Performance Metrics</u> 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 2011 Army								DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT			
2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>				PE 0605801A: <i>Programwide Activities</i>				M44: <i>CECOM CMD/CTR SPT</i>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
M44: <i>CECOM CMD/CTR SPT</i>	4.147	4.909	4.954	0.000	4.954	5.746	5.884	5.852	5.909	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 Program (\$ in Millions)											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1							4.147	0.000	0.000	0.000	0.000
FY09: Provided continued operation of management and administrative functions at a level consistent with mission requirements and support needs at CERDEC. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO											
Program #2							0.000	4.876	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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>				
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>FY10: Provide continued operation of management and administrative functions at a level consistent with mission requirements and support needs at CERDEC.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #3</p> <p>FY10: Small Business Innovative Research/Small Business Technology Transfer Programs</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>		0.000	0.033	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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>				
<u>B. Accomplishments/Planned Program (\$ in Millions)</u>						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #4 FY11 Base: Provide continued operation of management and administrative functions at a level consistent with mission requirements and support needs at CERDEC. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.000	4.954	0.000	4.954
Accomplishments/Planned Programs Subtotals		4.147	4.909	4.954	0.000	4.954
<u>C. Other Program Funding Summary (\$ in Millions)</u> N/A						
<u>D. Acquisition Strategy</u> N/A						
<u>E. Performance Metrics</u> 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 2011 Army								DATE: February 2010			
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>				
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
M46: <i>AMCOM CMD/CTR SPT</i>	7.618	10.532	10.623	0.000	10.623	12.950	13.422	13.744	14.274	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 Program (\$ in Millions)											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1							7.618	0.000	0.000	0.000	0.000
FY09: Provided continued operation of management and administrative functions at a level consistent with mission requirements and support needs at AMRDEC. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO											
Program #2							0.000	6.652	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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>				
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>FY10: Provide continued operation of management and administrative functions at a level consistent with mission requirements and support needs at AMRDEC.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #3</p> <p>FY10: Small Business Innovative Research/Small Business Technology Transfer Programs</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>		0.000	0.180	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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>				
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #4 FY11 Base: Provide continued operation of management and administrative functions at a level consistent with mission requirements and support needs at AMRDEC. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.000	6.923	0.000	6.923
Program #5 FY10: Anti-Tamper (AT) Program - 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. These funds will be used to maintain the core team of subject matter experts (SMEs) available for this mission and to conduct technical assessments of micro-electronic parts used in the board designs of the Army's weapon systems including the FCS. <i>FY 2009 Accomplishments:</i> FY 2009		0.000	3.700	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army			DATE: February 2010			
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>				
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #6 FY11 Base: AT Program - 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 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.000	3.700	0.000	3.700
Accomplishments/Planned Programs Subtotals		7.618	10.532	10.623	0.000	10.623

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
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>
<u>C. Other Program Funding Summary (\$ in Millions)</u> N/A		
<u>D. Acquisition Strategy</u> N/A		
<u>E. Performance Metrics</u> 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 2011 Army								DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT			
2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>				PE 0605801A: <i>Programwide Activities</i>				M47: <i>TACOM CMD/CTR SPT</i>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
M47: <i>TACOM CMD/CTR SPT</i>	2.824	3.402	3.364	0.000	3.364	3.917	4.012	4.019	4.107	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 Program (\$ in Millions)											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1							2.824	0.000	0.000	0.000	0.000
FY09: Provided continued operation of management and administrative functions at a level consistent with mission requirements and support needs at TARDEC. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO											
Program #2							0.000	3.397	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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>				
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY10: Provide continued operation of management and administrative functions at a level consistent with mission requirements and support needs at TARDEC. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #3 FY10: Small Business Innovative Research/Small Business Technology Transfer Programs <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.005	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010				
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>				
<u>B. Accomplishments/Planned Program (\$ in Millions)</u>								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #4 FY11 Base: Provide continued operation of management and administrative functions at a level consistent with mission requirements and support needs at TARDEC. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO				0.000	0.000	3.364	0.000	3.364
Accomplishments/Planned Programs Subtotals				2.824	3.402	3.364	0.000	3.364
<u>C. Other Program Funding Summary (\$ in Millions)</u>								
N/A								
<u>D. Acquisition Strategy</u>								
N/A								
<u>E. Performance Metrics</u>								
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 2011 Army								DATE: February 2010			
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 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
M53: <i>Developmental Test Command/Ctr Spt</i>	11.523	11.696	9.466	0.000	9.466	9.658	9.835	9.815	9.741	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 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 3202 tests, 8385 workyears, and a \$2.0 billion program.

B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1 Civilian labor and other support costs for DTC to provide technical direction and administer the assigned Army developmental test mission. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010	10.634	11.622	9.466	0.000	9.466

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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>				
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2 Contract costs required to technically direct and administer the assigned Army developmental test mission; i.e., ADPE/information and technology support for command-wide databases. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.786	0.000	0.000	0.000	0.000
Program #3 Small Business Innovative Research/Small Business Technology Transfer Programs <i>FY 2009 Accomplishments:</i> FY 2009		0.103	0.074	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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>				
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Accomplishments/Planned Programs Subtotals		11.523	11.696	9.466	0.000	9.466
C. Other Program Funding Summary (\$ in Millions) N/A						
D. Acquisition Strategy N/A						
E. Performance Metrics Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.						

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army								DATE: February 2010			
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>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
M55: <i>Edgewood Chemical Biological Center (ECBC)</i>	5.840	6.496	6.601	0.000	6.601	7.455	7.615	8.625	9.183	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 Edgewood Chemical Biological Center (ECBC), Aberdeen Proving Ground, MD.											
B. Accomplishments/Planned Program (\$ in Millions)											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1							5.840	0.000	0.000	0.000	0.000
FY09: Provided continued operation of management and administrative functions at a level consistent with mission requirements and support needs at ECBC.											
<i>FY 2009 Accomplishments:</i> FY 2009											
<i>FY 2010 Plans:</i> FY 2010											
<i>FY 2011 Base Plans:</i> FY 2011 Base											
<i>FY 2011 OCO Plans:</i> FY 2011 OCO											

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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>				
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #2 FY10: Provide continued operation of management and administrative functions at a level consistent with mission requirements and support needs at ECBC. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	6.464	0.000	0.000	0.000
Program #3 FY10: Small Business Innovative Research/Small Business Technology Transfer Programs <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base		0.000	0.032	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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>				
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #4 FY11 Base: Provide continued operation of management and administrative functions at a level consistent with mission requirements and support needs at ECBC. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.000	6.601	0.000	6.601
Accomplishments/Planned Programs Subtotals		5.840	6.496	6.601	0.000	6.601
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 2011 Army								DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT			
2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>				PE 0605801A: <i>Programwide Activities</i>				M58: <i>SSCOM CMD/CTR SPT</i>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
M58: <i>SSCOM CMD/CTR SPT</i>	2.164	2.399	2.430	0.000	2.430	2.832	2.901	3.005	3.008	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 Natick Soldier Research, Development and Engineering Center (NSRDEC), Natick, MA.											
B. Accomplishments/Planned Program (\$ in Millions)											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1							2.164	0.000	0.000	0.000	0.000
FY09: Provided continued operation of management and administrative functions at a level consistent with mission requirements and support needs at NSRDEC. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO											
Program #2							0.000	2.396	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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>				
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY10: Provide continued operation of management and administrative functions at a level consistent with mission requirements and support needs at NSRDEC. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #3 FY10: Small Business Innovative Research/Small Business Technology Transfer Programs <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.003	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010				
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>				
<u>B. Accomplishments/Planned Program (\$ in Millions)</u>								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #4 FY11 Base: Provide continued operation of management and administrative functions at a level consistent with mission requirements and support needs at NSRDEC. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO				0.000	0.000	2.430	0.000	2.430
Accomplishments/Planned Programs Subtotals				2.164	2.399	2.430	0.000	2.430
<u>C. Other Program Funding Summary (\$ in Millions)</u>								
N/A								
<u>D. Acquisition Strategy</u>								
N/A								
<u>E. Performance Metrics</u>								
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 2011 Army								DATE: February 2010			
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>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
M76: <i>Armament Group Support</i>	1.306	1.345	1.336	0.000	1.336	1.357	1.378	1.389	1.402	Continuing	Continuing
Quantity of RDT&E Articles											
A. Mission Description and Budget Item Justification											
<p>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.</p>											
B. Accomplishments/Planned Program (\$ in Millions)											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1 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. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010							0.298	0.301	0.286	0.000	0.286

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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 Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2 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. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.970	1.044	1.050	0.000	1.050
Program #3 Small Business Innovative Research/Small Business Technology Transfer Programs <i>FY 2009 Accomplishments:</i> FY 2009		0.038	0.000	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010				
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 Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2010 Plans:</i> FY 2010								
<i>FY 2011 Base Plans:</i> FY 2011 Base								
<i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Accomplishments/Planned Programs Subtotals				1.306	1.345	1.336	0.000	1.336
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 2011 Army **DATE:** February 2010

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 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	44.051	51.351	48.309	0.000	48.309	51.878	51.975	53.139	55.710	Continuing	Continuing
720: <i>TECH INFO FUNC ACTV</i>	7.875	8.648	8.672	0.000	8.672	8.800	8.947	9.100	9.238	Continuing	Continuing
727: <i>TECH INFO ACTIVITIES</i>	9.328	8.986	7.750	0.000	7.750	10.272	10.239	9.884	10.065	Continuing	Continuing
729: <i>YOUTH SCIENCE ACTIV</i>	3.993	3.136	3.152	0.000	3.152	3.185	3.220	3.277	3.327	Continuing	Continuing
730: <i>PERS & TRNG ANALYS ACT</i>	2.003	2.056	1.828	0.000	1.828	2.237	2.228	2.172	2.208	Continuing	Continuing
731: <i>ARMY HIGH PERFORMANCE COMPUTING CENTERS (AHPCC)</i>	7.413	7.645	7.688	0.000	7.688	7.829	7.985	9.130	10.268	Continuing	Continuing
733: <i>ACQUISITION TECH ACT</i>	8.190	17.130	15.933	0.000	15.933	15.445	15.274	14.623	14.597	Continuing	Continuing
737: <i>KNOWLEDGE MANAGEMENT FUSION</i>	1.595	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
C16: <i>FAST</i>	2.505	2.566	2.219	0.000	2.219	2.818	2.794	3.695	4.729	Continuing	Continuing
C18: <i>BAST</i>	1.149	1.184	1.067	0.000	1.067	1.292	1.288	1.258	1.278	Continuing	Continuing

A. Mission Description and Budget Item Justification

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

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Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Army	DATE: February 2010
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(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 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>
Previous President's Budget	44.359	51.620	52.433	0.000	52.433
Current President's Budget	44.051	51.351	48.309	0.000	48.309
Total Adjustments	-0.308	-0.269	-4.124	0.000	-4.124
• Congressional General Reductions		-0.269			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.793	0.000			
• SBIR/STTR Transfer	-1.101	0.000			
• Adjustments to Budget Years	0.000	0.000	-4.124	0.000	-4.124

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army **DATE:** February 2010

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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
720: <i>TECH INFO FUNC ACTV</i>	7.875	8.648	8.672	0.000	8.672	8.800	8.947	9.100	9.238	Continuing	Continuing
Quantity of RDT&E Articles											

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 Innovative Research (SBIR) and Small Business Technology Transfer Program (STTR) in accordance with the Small Business Research and Development Enhancement Act of 1992. 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 Army Research Laboratory (ARL), Adelphi, MD.

B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1 Provide Army funding support for Federal Laboratory Consortium as required by Public Law 104-113. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010	0.224	0.226	0.245	0.000	0.245

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B. Accomplishments/Planned Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Program #2 Provide administrative and contractual support for the Army Science Board. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO				1.508	2.007	2.106	0.000	2.106
Program #3 Provide administrative support for the Army's SBIR and STTR programs. <i>FY 2009 Accomplishments:</i> FY 2009				1.265	1.164	1.250	0.000	1.250

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #4 Provide funding for patent fees and patent legal expenses for AMC commands and laboratories. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		1.113	1.136	0.910	0.000	0.910
Program #5 Provide funding for S&T Strategic Planning and Support.		0.199	0.268	0.383	0.000	0.383

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #6 Provide funding for the Army Science Conference. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.536	0.492	0.500	0.000	0.500
Program #7		3.030	3.128	3.278	0.000	3.278

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Administer S&T database computer engineering support contract and support RDECOM databases S&T management support. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #8 Small Business Innovative Research/Small Business Technology Transfer Programs <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.227	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Accomplishments/Planned Programs Subtotals				7.875	8.648	8.672	0.000	8.672
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 2011 Army **DATE:** February 2010

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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
727: <i>TECH INFO ACTIVITIES</i>	9.328	8.986	7.750	0.000	7.750	10.272	10.239	9.884	10.065	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 Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1 Conduct and support S&T program portfolio assessments and analysis. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base	2.085	1.820	1.600	0.000	1.600

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2 Support Army S&T strategic planning, analysis, and prioritization. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		3.642	3.423	3.010	0.000	3.010
Program #3 Provide funding and support for Army Science and Technology Master Plan development and publication. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010		1.104	1.096	0.950	0.000	0.950

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #4 Provide funding and support for Army Acquisition Program Technology Readiness Assessments for Program Milestone Decisions. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		1.997	1.903	1.700	0.000	1.700
Program #5 Provide Army support to Director, Defense Research and Engineering Executive Staff for DoD-wide Science and Technology oversight. <i>FY 2009 Accomplishments:</i> FY 2009		0.500	0.492	0.490	0.000	0.490

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B. Accomplishments/Planned Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Program #6 Small Business Innovative Research/Small Business Technology Transfer Programs <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO				0.000	0.252	0.000	0.000	0.000
Accomplishments/Planned Programs Subtotals				9.328	8.986	7.750	0.000	7.750

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
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>
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 2011 Army								DATE: February 2010			
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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
729: <i>YOUTH SCIENCE ACTIV</i>	3.993	3.136	3.152	0.000	3.152	3.185	3.220	3.277	3.327	Continuing	Continuing
Quantity of RDT&E Articles											
<u>A. Mission Description and Budget Item Justification</u>											
<p>This project supports science activities that encourage middle/high school and college youths annually to develop an interest in and pursue higher education and employment in the science, math, and engineering fields. These activities are consolidated within the Army Educational Outreach Program (AEOP) that links and networks appropriate components to derive the best synergies to "present the Army" to a larger pool of technical talent and to provide students with Army-unique practical experiences at Army laboratories, centers, and institutes to fill future Army Science and Technology workforce needs. AEOP increases interest and involvement of students and teachers across the nation in science, math, and engineering 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. The joint Army/Navy Washington regional area Science and Engineering Apprenticeship Program (SEAP) is included in the overall effort. 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. 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, 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, and Space and Missile Defense Command (SMDC), Huntsville, AL.</p>											
<u>B. Accomplishments/Planned Program (\$ in Millions)</u>											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1							1.993	1.633	1.742	0.000	1.742
<p>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 Uninitiates' Introduction to Engineering (UNITE) Program.</p>											

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2 Sponsor joint Army/Navy Washington Regional Area SEAP and increase Army Laboratory/Research, Development, and Engineering Center (RDEC) sponsorship of students.		0.472	0.238	0.233	0.000	0.233
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #3		0.553	0.316	0.315	0.000	0.315

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Conduct West Point cadet research internship program to enhance cadet training through field experience within Army research labs and centers.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #4</p> <p>Support Army Educational Outreach Program (AEOP) to enhance Science, Mathematics, and Engineering education through student experiences in Army labs and academic partner institutions.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p>		0.975	0.861	0.862	0.000	0.862

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #5 Small Business Innovative Research/Small Business Technology Transfer Programs		0.000	0.088	0.000	0.000	0.000
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Accomplishments/Planned Programs Subtotals		3.993	3.136	3.152	0.000	3.152
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 2011 Army								DATE: February 2010			
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>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
730: <i>PERS & TRNG ANALYS ACT</i>	2.003	2.056	1.828	0.000	1.828	2.237	2.228	2.172	2.208	Continuing	Continuing
Quantity of RDT&E Articles											
A. Mission Description and Budget Item Justification											
<p>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 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.</p>											
B. Accomplishments/Planned Program (\$ in Millions)											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1 In FY09, analyzed the effectiveness of innovative training methodologies, principles, and best practices; and assessed refined selection measures and their effect on Soldier and officer retention. In FY10, validate and assess selection tools and methods for job assignments; and identify and assess novel training content that impacts Soldier preparedness. In FY11, studies and analyses will be based on critical issues identified by TRADOC, ASA(M&RA), the Army Deputy Chief of Staff, G-1, and the HRC. <i>FY 2009 Accomplishments:</i> FY 2009							2.003	2.008	1.828	0.000	1.828

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010				
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>				
B. Accomplishments/Planned Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Program #2 Small Business Innovative Research/Small Business Technology Transfer Programs <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO				0.000	0.048	0.000	0.000	0.000
Accomplishments/Planned Programs Subtotals				2.003	2.056	1.828	0.000	1.828

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
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 2011 Army								DATE: February 2010				
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>				
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost	
731: <i>ARMY HIGH PERFORMANCE COMPUTING CENTERS (AHPCC)</i>	7.413	7.645	7.688	0.000	7.688	7.829	7.985	9.130	10.268	Continuing	Continuing	
Quantity of RDT&E Articles												
<u>A. Mission Description and Budget Item Justification</u>												
<p>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 (AHPCC) 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.</p>												
<u>B. Accomplishments/Planned Program (\$ in Millions)</u>												
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	
Program #1 Sustain the high performance computing environment and infrastructure in support of the US Army Research Laboratory DoD Supercomputing Resource Center (DSRC). <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010							3.821	4.161	4.271	0.000	4.271	

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010				
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 Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Program #2 Sustain the high performance computing environment and infrastructure in support of the US Army Tank and Automotive Research Development and Engineering Center (TARDEC). <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO				2.296	2.128	2.172	0.000	2.172
Program #3 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 2009 Accomplishments:</i> FY 2009				1.296	1.248	1.245	0.000	1.245

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010				
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B. Accomplishments/Planned Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Program #4 Small Business Innovative Research/Small Business Technology Transfer Programs <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO				0.000	0.108	0.000	0.000	0.000
Accomplishments/Planned Programs Subtotals				7.413	7.645	7.688	0.000	7.688

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
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>
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 2011 Army								DATE: February 2010			
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>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
733: <i>ACQUISITION TECH ACT</i>	8.190	17.130	15.933	0.000	15.933	15.445	15.274	14.623	14.597	Continuing	Continuing
Quantity of RDT&E Articles											
A. Mission Description and Budget Item Justification											
<p>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.</p>											
B. Accomplishments/Planned Program (\$ in Millions)											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1 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. <i>FY 2009 Accomplishments:</i> FY 2009							7.268	7.304	7.041	0.000	7.041

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010				
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 Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Program #2 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. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO				0.000	4.414	4.004	0.000	4.004
Program #3				0.000	4.932	4.888	0.000	4.888

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Geospatial Acquisition Support Office (GASO). 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><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #4</p> <p>Conduct analysis and evaluation of new information technologies, concepts, and applications of integrated management activities to meet the dynamic Army acquisition technology requirements.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p>		0.922	0.000	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010				
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 Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 Base Plans:</i> FY 2011 Base								
<i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Program #5 Small Business Innovative Research/Small Business Technology Transfer Programs				0.000	0.480	0.000	0.000	0.000
<i>FY 2009 Accomplishments:</i> FY 2009								
<i>FY 2010 Plans:</i> FY 2010								
<i>FY 2011 Base Plans:</i> FY 2011 Base								
<i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Accomplishments/Planned Programs Subtotals				8.190	17.130	15.933	0.000	15.933
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 2011 Army		DATE: February 2010
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>

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 2011 Army								DATE: February 2010			
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 737: <i>KNOWLEDGE MANAGEMENT FUSION</i>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
<i>737: KNOWLEDGE MANAGEMENT FUSION</i>	1.595	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											
<u>A. Mission Description and Budget Item Justification</u> Congressional Interest Item funding.											
<u>B. Accomplishments/Planned Program (\$ in Millions)</u>											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1 Knowledge, Tech Sharing Program. This effort supported the continued development and deployment of an enterprise-wide knowledge information system to support RDECOM assets. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO							1.595	0.000	0.000	0.000	0.000
Accomplishments/Planned Programs Subtotals							1.595	0.000	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
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 737: <i>KNOWLEDGE MANAGEMENT FUSION</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 2011 Army									DATE: February 2010		
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>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
C16: <i>FAST</i>	2.505	2.566	2.219	0.000	2.219	2.818	2.794	3.695	4.729	Continuing	Continuing
Quantity of RDT&E Articles											
A. Mission Description and Budget Item Justification											
<p>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.</p>											
B. Accomplishments/Planned Program (\$ in Millions)											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1 Respond 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. <i>FY 2009 Accomplishments:</i> FY 2009							2.505	2.505	2.219	0.000	2.219

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army					DATE: February 2010
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B. Accomplishments/Planned Program (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO					
Program #2 Small Business Innovative Research/Small Business Technology Transfer Programs <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO	0.000	0.061	0.000	0.000	0.000
Accomplishments/Planned Programs Subtotals	2.505	2.566	2.219	0.000	2.219

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
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>
<u>C. Other Program Funding Summary (\$ in Millions)</u> N/A		
<u>D. Acquisition Strategy</u> N/A		
<u>E. Performance Metrics</u> 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 2011 Army									DATE: February 2010		
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>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
C18: <i>BAST</i>	1.149	1.184	1.067	0.000	1.067	1.292	1.288	1.258	1.278	Continuing	Continuing
Quantity of RDT&E Articles											
A. Mission Description and Budget Item Justification											
<p>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 (ARL), Research Triangle Park, NC.</p>											
B. Accomplishments/Planned Program (\$ in Millions)											
						FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	
Program #1 Provide studies and conducts periodic meetings to help identify, assess, and recommend emerging opportunities in science and technology fields applicable to the US Army. Topics for FY09, selected according to Army Science and Technology (S&T) strategy, is "Protection Materials." In FY10, continue study on "Protection Materials." In FY11, these topics will again be selected according to Army Science and Technology (S&T) strategy and senior leader initiatives. <i>FY 2009 Accomplishments:</i> FY 2009						1.149	1.151	1.067	0.000	1.067	

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010				
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B. Accomplishments/Planned Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Program #2 Small Business Innovative Research/Small Business Technology Transfer Programs <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO				0.000	0.033	0.000	0.000	0.000
Accomplishments/Planned Programs Subtotals				1.149	1.184	1.067	0.000	1.067

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
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>
<u>C. Other Program Funding Summary (\$ in Millions)</u> N/A		
<u>D. Acquisition Strategy</u> N/A		
<u>E. Performance Metrics</u> 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 2011 Army **DATE:** February 2010

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 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	44.326	72.851	53.338	0.000	53.338	46.509	46.102	45.114	45.679	Continuing	Continuing
296: <i>Close Combat Technology</i>	1.105	7.715	7.330	0.000	7.330	3.875	4.279	4.472	4.432	Continuing	Continuing
297: <i>Mun Survivability & Log</i>	5.674	8.675	8.281	0.000	8.281	8.986	8.896	8.681	8.797	Continuing	Continuing
857: <i>DOD EXPLOSIVES SAFETY STANDARDS</i>	1.596	1.655	1.736	0.000	1.736	2.314	2.298	2.253	2.288	Continuing	Continuing
858: <i>ARMY EXPLOSIVES SAFETY MANAGEMENT PROGRAM</i>	0.449	0.467	0.619	0.000	0.619	0.714	0.597	0.689	0.681	Continuing	Continuing
859: <i>LIFE CYCLE PILOT PROCESS</i>	27.750	32.731	4.546	0.000	4.546	5.118	5.052	4.849	4.903	Continuing	Continuing
862: <i>Indirect Fire and Fuze Technology</i>	2.111	3.080	12.350	0.000	12.350	3.725	4.128	3.726	3.790	Continuing	Continuing
F21: <i>Direct Fire Technology and NATO Ammo Evaluation</i>	0.989	3.026	3.489	0.000	3.489	3.874	3.033	2.976	3.050	Continuing	Continuing
F24: <i>CONVENTIONAL MUNITIONS DEMIL</i>	4.652	15.502	14.987	0.000	14.987	17.903	17.819	17.468	17.738	Continuing	Continuing

A. Mission Description and Budget Item Justification

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

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Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Army	DATE: February 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>
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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 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>
Previous President's Budget	47.898	45.053	41.901	0.000	41.901
Current President's Budget	44.326	72.851	53.338	0.000	53.338
Total Adjustments	-3.572	27.798	11.437	0.000	11.437
• Congressional General Reductions		-0.382			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		28.180			
• Congressional Directed Transfers		0.000			
• Reprogrammings	-2.230	0.000			
• SBIR/STTR Transfer	-1.342	0.000			
• Adjustments to Budget Years	0.000	0.000	11.437	0.000	11.437

Change Summary Explanation

Change Summary Explanation:FY 2010: Funds increased by \$28.180 million in 12 seperate Congressional adds to support various technology investigations. FY 2011: Funds increased (\$11.4 million) to support various technology investigations.

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army								DATE: February 2010			
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>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
296: <i>Close Combat Technology</i>	1.105	7.715	7.330	0.000	7.330	3.875	4.279	4.472	4.432	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 Program (\$ in Millions)											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1							0.000	0.000	0.800	0.000	0.800
Demolition Shape Charge Improvement											
<i>FY 2009 Accomplishments:</i>											
FY 2009											
<i>FY 2010 Plans:</i>											
FY 2010											
<i>FY 2011 Base Plans:</i>											
FY 2011 Base											
<i>FY 2011 OCO Plans:</i>											
FY 2011 OCO											
Program #2							0.000	0.972	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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 Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Mitigation of Naphthalene <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #3 Heavy Metal in Green Illuminants <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.175	0.209	0.143	0.000	0.143

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #4 Yellow Dye alternatives <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.486	0.000	0.000	0.000
Program #5 Nanoparticles for Pyro Items <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.380	0.729	0.500	0.000	0.500

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army			DATE: February 2010			
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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #6 Safer, More stable hand held signals and simulators <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.280	0.729	0.000	0.000	0.000
Program #7 Multifunction Pyro Simulators <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.270	0.000	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #8 M796 Impulse Cartridge variability and tolerance reduction <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.972	0.000	0.000	0.000
Program #9 M206 Infrared Countermeasure Flare trajectory improvement <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	1.458	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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 Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #10 M211 Infrared Countermeasure Flare material dispersion improvement <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	1.458	0.000	0.000	0.000
Program #11 Aircraft Countermeasure Flare reliability modeling for Apache and Chinook <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.486	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010				
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT				
2040: Research, Development, Test & Evaluation, Army BA 6: RDT&E Management Support	PE 0605805A: Munitions Standardization, Effectiveness and Safety	296: Close Combat Technology				
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #12 Demolition Initiator Packaging <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.000	0.875	0.000	0.875
Program #13 M10 Universal Destructor Capability Enhancement <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.000	0.900	0.000	0.900

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #14 Advanced Incendary Grenade <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.000	0.975	0.000	0.975
Program #15 Fixed wing countermeasure flare enhancement <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.000	3.137	0.000	3.137

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army			DATE: February 2010			
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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #16 Small Business Innovative Research/Small Business Technology Transfer Programs <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.216	0.000	0.000	0.000
Accomplishments/Planned Programs Subtotals		1.105	7.715	7.330	0.000	7.330
C. Other Program Funding Summary (\$ in Millions) N/A						
D. Acquisition Strategy N/A						
E. Performance Metrics Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.						

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army								DATE: February 2010				
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>					
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost	
297: <i>Mun Survivability & Log</i>	5.674	8.675	8.281	0.000	8.281	8.986	8.896	8.681	8.797	Continuing	Continuing	
Quantity of RDT&E Articles												
A. Mission Description and Budget Item Justification												
<p>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, 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.</p>												
B. Accomplishments/Planned Program (\$ in Millions)												
						FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total		
Program #1 Investigate and evaluate the use of inkjet printing for improving the quality and readability of marking ammo containers. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base						0.000	0.116	0.031	0.000	0.031		

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2 Demonstrate a device that when added to an ammo container will identify whether the container is empty or full improving soldier safety and reducing ammunition lost on the battlefield. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.120	0.040	0.000	0.040
Program #3 Develop an alloy from commercially available metals that when applied to munitions containers utilizing techniques such as brazing/soldering/welding will maintain container structural integrity, but will also yield when exposed to a predetermined temperature thus allowing the container to vent when subjected to unplanned thermal stimuli. <i>FY 2009 Accomplishments:</i> FY 2009		0.270	0.285	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO					
Program #4 Demonstrate plastic seals for rectangular ammunition containers that are less expensive and corrosion-free, and that provide improved security compared to currently fielded containers. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO	0.000	0.000	0.096	0.000	0.096
Program #5	0.000	0.000	0.190	0.000	0.190

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Demonstrate a low cost, extruded, High Density Polyethylene (HDPE) ammunition container that is lighter in weight, requires no painting, is corrosion-free, and has built in shock absorbing features to reduce internal dunnage.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #6</p> <p>Demonstrate innovative stacking mechanisms for current metal ammunition containers that will reduce the cost and improve the stability of unitized load configurations.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p>		0.000	0.000	0.075	0.000	0.075

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #7 Conduct testing and analysis to develop a standard specification for pressure sensitive adhesive labels used for ammunition packaging to ensure production quality and vendor availability. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.000	0.068	0.000	0.068
Program #8 Demonstrate IM technology solutions integrated into legacy ammunition items to reduce the reaction of these munitions to unplanned stimuli. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010		1.802	2.880	2.487	0.000	2.487

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #9 Manage technology integration efforts to meet IM requirements, develop improved IM test capability, update and maintain IM compliance status and IM technology databases, and support the updating of the PEO Ammunition IM Strategic Plan. Conduct reviews of munitions in development and production to determine if they meet a DoD 5000.1 requirement to withstand unplanned stimuli. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.332	0.655	0.675	0.000	0.675
Program #10 Conduct analysis to determine standardized characteristics for next generation ammunition packaging (sizes, common interface features, unitization) and assess the life-cycle logistics impact of this concept.		0.200	0.381	0.150	0.000	0.150

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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 Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #11 Demonstrate lower cost ammunition container closing mechanisms for current and next generation packaging that are easy to operate and re-use and that can be handled, opened, and closed with automated handling equipment. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.067	0.045	0.000	0.045
Program #12		0.000	0.675	0.310	0.000	0.310

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Demonstrate a standardized interlocking mechanism that will be integrated into next generation ammunition containers to permit the securing of these containers to others surrounding them in a palletized configuration. This will reduce or eliminate the additional layers of packaging and banding material required for current palletized ammunition and reduce the time currently required to palletize and secure ammunition containers for transport.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #13</p> <p>Demonstrate Joint Modular Intermodal Container compatible unitization technology for next generation ammunition packaging that facilitates the rapid configuration, reconfiguration, and transport of ammunition.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p>		0.000	0.000	0.080	0.000	0.080

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #14 Demonstrate prototype standard sized next generation cylindrical and rectangular ammunition packaging that includes integrated interlocking mechanisms and automation friendly closing mechanisms. This next generation packaging will permit easy reconfiguration and re-use while being nestable, unit friendly, and survivable. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.000	0.508	0.000	0.508
Program #15 Demonstrate temperature responsive materials that can be used to indicate highest and lowest temperature exposures and passive (battery free) visibly interpreted shock indicators that when applied to ammunition and/or packaging will provide end users and ammunition management personnel a low cost means of determining if ordnance has become unsafe or degraded due to environmental conditions or rough handling.		0.094	0.265	0.215	0.000	0.215

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #16 Demonstrate a sensor system, integrated with an ammunition item, that will monitor environmental exposure and predict failure of electronic components based on developed predictive mathematical failure models. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.149	0.293	0.235	0.000	0.235
Program #17		0.000	0.280	0.227	0.000	0.227

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Determine a degradation pattern/rate for small caliber ammunition after exposure to different environmental conditions in order to develop a condition indicator to predict the reliability of small caliber tracer and incendiary ammunition. The ability to predict ammunition reliability will improve stockpile readiness and warfighter operational effectiveness.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #18</p> <p>Demonstrate a low cost go/no-go, sensor that indicates if a munition containing White Phosphorous (WP) has seen an environment that could cause the WP to melt and resettle in the round. This sensor has the potential to increase the safety of mortar units while also reducing inspection costs.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p>		0.000	0.168	0.075	0.000	0.075

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B. Accomplishments/Planned Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Program #19 Develop a plan supported by a Business Case Analysis (BCA) to implement a Condition Based Management (CBM) approach to the ammunition stockpile. The BCA will provide a complete understanding of the potential benefits of a relevant CBM ammo plan to include the cost of implementation, annual costs of monitoring ammo condition and the cost saving in having this information available for stockpile management decisions. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO				0.000	0.316	0.200	0.000	0.200
Program #20 Analyze fielded ammunition and determine components that are most likely to fail due to exposure to environmental conditions and what causes them to fail (such as exposure to environmental extremes and shock)				0.000	0.368	0.205	0.000	0.205

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #21 Identify and demonstrate sensors that detect conditions that cause ammunition failures and integrate these sensors with specific fielded ammunition items		0.000	0.000	0.483	0.000	0.483
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #22		0.060	0.091	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Demonstrate standard sized inter-modal shipping modules for ammunition. The modules will automatically interlock with each other, top to bottom, and cargo platforms to form a stable, palletized, mixed-supply class configured load. They are automation friendly and rapidly re-configurable to meet changing user needs.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>								
<p>Program #23</p> <p>Demonstrate an ammunition storage planning tool that would be used to optimize storage at depots and provide recommendations based on the trade-offs between re-warehousing, or simply adding more igloos. Use of this tool will lead to more efficient storage density in igloos resulting in better management and manpower savings.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p>				0.000	0.480	0.500	0.000	0.500

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #24 Demonstrate a software tool to plan Forward Operating Bases (FOB) and adjust Ammunition Storage Area footprint as stockage levels change for improved soldier safety and FOB survivability. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.669	0.782	0.600	0.000	0.600
Program #25 Demonstrate a Forward Ammunition Resupply System, including robotic handling and/or soldier lifting enhancements and related ammunition tool kit upgrades, designed to improve soldier productivity and safety while unpacking and handling current ammunition.		1.842	0.000	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #26 Determine whether surface acoustic wave (SAW) enabled passive RFID tags mounted at the ammunition item or pallet level can be effectively utilized with ordnance for inventory, tracking, locating, or security purposes. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.036	0.000	0.000	0.000	0.000
Program #27		0.000	0.170	0.305	0.000	0.305

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Demonstrate automated data collection software that will collect prognostic/diagnostic data from ammunition health monitoring sensors and port it to the Munitions History Program database for analysis and reference. Assess the feasibility of integrating information from existing ammunition databases with the goal of developing a comprehensive strategic view of asset status that facilitates condition based maintenance for ammunition.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #28</p> <p>Develop concepts for an International Standards Organization-container based capability to retrograde ammo returned from deployed combat units. The system will include the capability to inspect, reconfigure and recertify ammunition in ready to fire configuration at the weapon systems.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p>		0.189	0.000	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #29 Conduct an analysis to determine the costs and potential benefits of implementing Item Unique Identification (IUID) for ammunition. Tagging/marketing technology, implementation costs, operational resource (personnel and equipment) requirements, operational costs and accrued supply chain benefits data will be assessed and incorporated into a dynamic interactive model. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.040	0.000	0.000	0.000
Program #30 Demonstrate the feasibility of incorporating solar reflective coatings into the powder coating used to protect ammunition packaging. Solar reflective coatings have the potential to reduce heat generation inside ammunition containers thereby protecting the ammunition and extending its life.		0.000	0.000	0.175	0.000	0.175

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #31 Investigate and demonstrate tool-less tie-down equipment and rapidly emplaced packaging solutions to improve ammunition retrograde operations		0.000	0.000	0.306	0.000	0.306
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #32		0.031	0.000	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Demonstrate hazard classification certified packaging configurations for ammunition retrograde that use materials organic to the OCONUS facilities charged with the retrograde in order to provide a way to avoid the high costs for specialized transportation, detention and storage, or OCONUS demilitarization.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #33 Small Business Innovative Research/Small Business Technology Transfer Programs</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p>		0.000	0.243	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Accomplishments/Planned Programs Subtotals		5.674	8.675	8.281	0.000	8.281
C. Other Program Funding Summary (\$ in Millions)						
N/A						
D. Acquisition Strategy						
N/A						
E. Performance Metrics						
Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.						

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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
857: <i>DOD EXPLOSIVES SAFETY STANDARDS</i>	1.596	1.655	1.736	0.000	1.736	2.314	2.298	2.253	2.288	Continuing	Continuing
Quantity of RDT&E Articles											
A. Mission Description and Budget Item Justification											
<p>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.</p>											
B. Accomplishments/Planned Program (\$ in Millions)											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1 Develop improved tri-service design procedures and improved computer codes for explosion-resistant structures. Initiate preparation of revised tri-service manual TM-51300. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base							0.305	0.306	0.340	0.000	0.340

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2 Collect and analyze airblast/fragment/thermal data for revising DoD, NATO hazard classification. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.238	0.240	0.266	0.000	0.266
Program #3 Develop improved explosives and munitions tests and characterization data. Specifically, develop improved gap tests for rocket motors. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010		0.320	0.322	0.344	0.000	0.344

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #4 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. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.215	0.218	0.230	0.000	0.230
Program #5 Conduct other hazards analyses and expand/automate explosives safety databases. Develop improved Explosives Safety Mishap Analysis Module with links to accident reports. <i>FY 2009 Accomplishments:</i> FY 2009		0.253	0.255	0.270	0.000	0.270

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B. Accomplishments/Planned Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2009 Accomplishments:</i> FY 2009								
<i>FY 2010 Plans:</i> FY 2010								
<i>FY 2011 Base Plans:</i> FY 2011 Base								
<i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Accomplishments/Planned Programs Subtotals				1.596	1.655	1.736	0.000	1.736
C. Other Program Funding Summary (\$ in Millions) N/A								
D. Acquisition Strategy N/A								
E. Performance Metrics Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.								

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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
858: <i>ARMY EXPLOSIVES SAFETY MANAGEMENT PROGRAM</i>	0.449	0.467	0.619	0.000	0.619	0.714	0.597	0.689	0.681	Continuing	Continuing
Quantity of RDT&E Articles											
<u>A. Mission Description and Budget Item Justification</u>											
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.											
<u>B. Accomplishments/Planned Program (\$ in Millions)</u>											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1 Development of risk based explosives safety criteria that will aid commanders and safety personnel in the transition from regulation to risk management. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO							0.105	0.123	0.143	0.000	0.143

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #2 Develop enhanced protective structure designs that improve the survivability of Army personnel, facilities, and equipment. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.164	0.150	0.223	0.000	0.223
Program #3 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. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base		0.180	0.181	0.253	0.000	0.253

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #4 Small Business Innovative Research/Small Business Technology Transfer Programs		0.000	0.013	0.000	0.000	0.000
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Accomplishments/Planned Programs Subtotals		0.449	0.467	0.619	0.000	0.619
C. Other Program Funding Summary (\$ in Millions) N/A						
D. Acquisition Strategy N/A						
E. Performance Metrics Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.						

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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
859: <i>LIFE CYCLE PILOT PROCESS</i>	27.750	32.731	4.546	0.000	4.546	5.118	5.052	4.849	4.903	Continuing	Continuing
Quantity of RDT&E Articles											
A. Mission Description and Budget Item Justification											
<p>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.</p>											
B. Accomplishments/Planned Program (\$ in Millions)											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1 Developed concept designs and plans to transfer life cycle pilot process technology into the supplier base. Review and analyze legacy manufacturing processing for opportunities to integrate new manufacturing technology and lean manufacturing processes to reduce costs. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base							0.600	0.658	0.675	0.000	0.675

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2 Developed potential manufacturing solutions for several Single Point Failures (SPF). Initiated projects to resolve several more SPFs. Initiated transition of manufacturing process for RD 1333 lead azide to industry. Continue development of manufacturing technology and processes for SPFs. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		2.441	3.107	3.196	0.000	3.196
Program #3 Investigated potential technologies to transform key manufacturing processes in the NTIB. Continue investigations, develop and document manufacturing technology for transition to the NTIB. <i>FY 2009 Accomplishments:</i> FY 2009		0.600	0.658	0.675	0.000	0.675

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #4 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. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		3.188	1.600	0.000	0.000	0.000
Program #5		2.590	3.000	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>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><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>								
<p>Program #6</p> <p>Establish a focal point with the Defense Materials Technology Center to investigate innovative technology to support the needs of the munitions industrial base in metals manufacturing.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p>				2.989	2.000	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #7 Completed facility design for production of atomized magnesium within the National Technology and Industrial Base (NTIB). Build a pilot scale reactor. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.797	1.600	0.000	0.000	0.000
Program #8 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. <i>FY 2009 Accomplishments:</i> FY 2009		3.985	4.880	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #9 Develop streamline business processes and foster integration across the Joint Munitions and Lethality Ammunition Enterprise to more efficiently and effectively support warfighter needs. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		1.594	1.600	0.000	0.000	0.000
Program #10 Established capability to incorporate new technology solutions for rapid spiral development of select Joint Munitions and Lethality Program Management (PM) programs to support warfighter needs. Utilized strategy		2.391	0.000	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>of leveraging program requirements and resources with non traditional supplier technologies. Provided small non-traditional businesses collaboration opportunities with the PM's on their technologies effectiveness and performance.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #11</p> <p>Develop and transition an information center for advanced manufacturing process knowledge and technology. It will support cost effective production of components at small to medium sized sub-tier suppliers.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p>		0.996	0.000	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #12 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. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		3.985	5.000	0.000	0.000	0.000
Program #13 Establish capability to produce nanodiamonds within National Technology and Industrial Base (NTIB). Assess the effectiveness of incorporating nanodiamonds in prototype parts. <i>FY 2009 Accomplishments:</i> FY 2009		1.594	1.600	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Program #14 Investigate the feasibility of adapting conventional battery manufacturing processing and technology to thermal batteries used in guided munitions. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO				0.000	2.400	0.000	0.000	0.000
Program #15 Evaluate and demonstrate fiber composite technologies for sensor applications and munitions health monitoring. Design energy harvesting solution for wireless sensors. Develop and prove concept prototype.				0.000	1.500	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #16 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. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	1.400	0.000	0.000	0.000
Program #17		0.000	1.600	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>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> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #18</p> <p>Small Business Innovative Research / Small Business Technology Transfer Programs</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>		0.000	0.128	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Accomplishments/Planned Programs Subtotals				27.750	32.731	4.546	0.000	4.546
C. Other Program Funding Summary (\$ in Millions) N/A								
D. Acquisition Strategy N/A								
E. Performance Metrics Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.								

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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
862: <i>Indirect Fire and Fuze Technology</i>	2.111	3.080	12.350	0.000	12.350	3.725	4.128	3.726	3.790	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 30 mm 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 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 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 Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1 Block Upgrades: Successfully demonstrated Zig-Zag safety design for Common Mortar training fuze for 60, 81, and 120mm mortars, and forwarded the design to PM CAS to qualify the design. 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	2.111	2.117	2.083	0.000	2.083

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B. Accomplishments/Planned Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>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 selected a final design to transition to PM CAS for final qualification testing. Risk Mitigation: Evaluating improvements to stockpiled training and war reserve fuzes to enhance capabilities and/or address deficiencies. Evaluating second source for Digital Signal Processor for the M734A1 fuze, evaluate new battery and electronics sources for current inventory fuzes. Evaluating storage reliability of current artillery batteries/determine possible solutions to battery electrolyte storage instabilities.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>								
<p>Program #2</p> <p>Indirect Fire: Initiate formulations design, propellants manufacturing, producibility assessments, propellants manufacturing and Stability Study. Initiate the procurement of parts/materials, load mortar and improve ARDEC pilot controls, explosive train design and IM Testing. Finite element analyses, computational fluid dynamics modeling, strength of design testing. Ballistic testing including firing tables, safety, reliability and performance testing will be conducted.</p>				0.000	0.877	0.971	0.000	0.971

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #3 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 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. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010		0.000	0.000	9.296	0.000	9.296

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010				
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 Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Program #4 Small Business Innovative Research/Small Business Technology Transfer Program <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO				0.000	0.086	0.000	0.000	0.000
Accomplishments/Planned Programs Subtotals				2.111	3.080	12.350	0.000	12.350
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 2011 Army		DATE: February 2010
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>

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 2011 Army									DATE: February 2010		
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>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
<i>F21: Direct Fire Technology and NATO Ammo Evaluation</i>	0.989	3.026	3.489	0.000	3.489	3.874	3.033	2.976	3.050	Continuing	Continuing
Quantity of RDT&E Articles											
<u>A. Mission Description and Budget Item Justification</u>											
<p>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 2010 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 rifle, 40mm grenade and medium caliber cannon ammunition effectiveness, accuracy and general improvements. Improvements in target practice technology such as spotter technology will be incorporated into training ammunition.</p>											
<u>B. Accomplishments/Planned Program (\$ in Millions)</u>											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1							0.011	0.000	0.000	0.000	0.000
40mm High/Low Velocity Standardization											
<i>FY 2009 Accomplishments:</i>											
FY 2009											
<i>FY 2010 Plans:</i>											
FY 2010											
<i>FY 2011 Base Plans:</i>											
FY 2011 Base											

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2 30mm Assessment Team <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.025	0.000	0.000	0.000	0.000
Program #3 Maintain standardization of qualified designs <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010		0.000	0.000	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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 Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #4 New Ammo design qualification & NATO Nominated Weapon Evaluation <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.000	0.000	0.000	0.000
Program #5 NARTC Equipment Purchases <i>FY 2009 Accomplishments:</i> FY 2009		0.017	0.000	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #6 Staff, Equip, Maintain NARTC <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.440	0.150	0.150	0.000	0.150
Program #7 Improve Hard Target Performance		0.325	0.000	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #8 40 mm Low Velocity Testing		0.054	0.000	0.000	0.000	0.000
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #9		0.000	0.000	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Optimize Manufacturing Process <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #10 Small Caliber Ammunition Standardization Efforts <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.117	0.606	0.329	0.000	0.329

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #11 40mm Non-dud Producing Training Cartridge <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.670	1.010	0.000	1.010
Program #12 M433 Warhead Improvement <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.315	0.750	0.000	0.750

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #13 Target Practice Spotter Technology Insertion <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.500	0.500	0.000	0.500
Program #14 Improved M789 Lethality <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.700	0.750	0.000	0.750

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #15 Small Business Innovative Research/Small Business Technology Transfer Programs <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.085	0.000	0.000	0.000
Accomplishments/Planned Programs Subtotals		0.989	3.026	3.489	0.000	3.489
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 2011 Army								DATE: February 2010			
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 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
F24: <i>CONVENTIONAL MUNITIONS DEMIL</i>	4.652	15.502	14.987	0.000	14.987	17.903	17.819	17.468	17.738	Continuing	Continuing
Quantity of RDT&E Articles											
<u>A. Mission Description and Budget Item Justification</u>											
<p>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 recovery/recycle/recycling (R3) equipment, and processes to reduce the extremely large demil stockpile. Beginning in FY10, the Conventional Munitions Demil Project and F24 will incorporate 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. 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 (ESTCP), the Strategic Environmental Research and Development Program (SERDP) 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.</p>											
<u>B. Accomplishments/Planned Program (\$ in Millions)</u>											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1							1.620	6.487	8.514	0.000	8.514
<p>Advanced Destruction: This effort focuses on destruction of munitions. In FY09, Plasma Ordnance Demilitarization System (PODS) prove-out testing was completed. Mobile Plasma Treatment System (MPTS) technical support continued. CryoPlasma Demil System (CPDS) equipment procurement was completed, along with sub-system testing. In FY10, PODS Pollution Abatement System upgrade will be fabricated and installed. MPTS technical supervision and support will be completed. CPDS fabrication will continue. Initiate fabrication</p>											

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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 Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>of demil design for White Phosphorous Felt Wedges. Continue support of the Ammonium Pechlorate (AP) Destruction project's design phase. In FY11, initiate development of a process for Bull Pup Liquid Fuel Motors. Initiate the design of the Acid Hydrolysis Processing Plant.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #2</p> <p>Resource Recovery and Recycling (R3): This effort focuses on enhancing existing methods of munitions R3. In FY09, Magnesium Recovery equipment was installed and prove-out testing began on the large-scale pilot plant. In FY10, prove-out testing will be completed. Magnesium Recovery demonstration and validation will be conducted. Munitions Residue Inspection System (MRIS) will transition machine vision for 105MM and will be initiated. In FY10, initiate the design of a high pressure water washout system. The Nitro-Guanidine (NQ) recovery pilot process design will be initiated and fabrication will be completed. In FY11, NQ installation and prove-out will be conducted.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p>		2.681	5.100	4.100	0.000	4.100

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #3</p> <p>Advanced Removal: This effort develops technology to remove propellant and energetics. In FY09 Ultrasonic Removal pilot plant operations were completed and design of a prototype facility initiated. Investigated available Insensitive Munitions (IM) demil technology. The autoclave process was optimized via computer modeling and simulation. In FY10, initiate the development and fabrication of a technique for the milling of multiple missiles, Flexible Milling of Rocket Motors. In FY11, will demonstrate propellant removal technology on missiles utilizing auguring techniques.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>		0.351	1.554	1.001	0.000	1.001

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #4 Advanced Waste Stream Treatment: This effort focuses on handling waste streams from munitions items. In FY10, this effort will demonstrate thermal treatment oven liner technology. Initiate the feasibility of utilizing emissions monitoring technology during open detonation. In FY11, down select and validate emissions monitoring technology. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	1.059	1.372	0.000	1.372
Program #5 Advanced Munitions Disassembly: In FY10, Cryofracture final prove-out and demonstration/validation testing was conducted. In FY11, initiate the demil concept design of Cryofracture adaptation to Demil of Rockeye Munitions. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010		0.000	0.867	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Program #6 Small Business Innovative Research / Small Business Technology Transfer Programs <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO				0.000	0.435	0.000	0.000	0.000
Accomplishments/Planned Programs Subtotals				4.652	15.502	14.987	0.000	14.987
C. Other Program Funding Summary (\$ in Millions)								
N/A								
D. Acquisition Strategy								
N/A								

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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 2011 Army **DATE:** February 2010

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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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	9.966	5.165	3.195	0.000	3.195	6.310	6.005	5.334	5.427	Continuing	Continuing
031: <i>Environmentally Sustainable Acquisition/Logistics</i>	3.521	3.658	2.301	0.000	2.301	4.605	4.383	3.885	3.944	Continuing	Continuing
06E: <i>ENVIRONMENTAL RESTORATION TECH SUPPORT</i>	5.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
06H: <i>UNEXPLODED ORDNANCE CLEARANCE TECHNOLOGY SUPPORT</i>	1.178	1.233	0.852	0.000	0.852	1.705	1.622	1.449	1.483	Continuing	Continuing
06I: <i>POLLUTION PREVENTION TECH SUPPORT</i>	0.267	0.274	0.042	0.000	0.042	0.000	0.000	0.000	0.000	Continuing	Continuing

A. Mission Description and Budget Item Justification

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

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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 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>
Previous President's Budget	5.110	5.191	5.042	0.000	5.042
Current President's Budget	9.966	5.165	3.195	0.000	3.195
Total Adjustments	4.856	-0.026	-1.847	0.000	-1.847
• Congressional General Reductions		-0.026			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.144	0.000			
• Adjustments to Budget Years	5.000	0.000	-1.847	0.000	-1.847

Change Summary Explanation

Congressional increase \$5.0 million to project 06E Environmental Restoration Tech Support in FY09. FY11 funds realigned to higher priority requirements.

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army								DATE: February 2010			
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 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
031: <i>Environmentally Sustainable Acquisition/Logistics</i>	3.521	3.658	2.301	0.000	2.301	4.605	4.383	3.885	3.944	Continuing	Continuing
Quantity of RDT&E Articles											
A. Mission Description and Budget Item Justification											
<p>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 and Environment [ASA(I&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.</p>											
B. Accomplishments/Planned Program (\$ in Millions)											
						FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	
Program #1						1.813	0.000	0.000	0.000	0.000	
<p>In FY09: 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</p>											

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Corrosion Program. Analyzed impending legal statutes impacting production, operation and support of weapon systems. Supported implementation of Executive Order 13423 and the associated Army goals for Toxic Chemical Reduction, development of the draft Defense Federal Acquisition Regulation Supplement (DFARS) clause that would restrict the use of hexavalent chromium on all defense contracts, and review of draft Executive Order 13514. Assessed readiness impacts to weapon systems resulting from EQ impacts in capabilities of industrial base and garrisons to support production levels, training and operational tempo and maintenance activities. Provided Army acquisition community representation in Office of Secretary of Defense (OSD) and Department of the Army (DA) committees addressing environmental legislation and rulemaking.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #2</p> <p>In FY10: Provide support to PEOs/PMs to integrate EQ considerations and, to a much lesser extent, some safety and OH considerations into systems engineering activities. This includes fulfillment of National Environmental Policy Act requirements, definition of EQ technology needs to meet operational requirements, participation in development of test plans and protocols, oversight of 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.</p>		0.000	1.831	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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 Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Provide technology management and technical support to logistics initiatives including the EQ aspects of the Army Corrosion Program and the DoD Corrosion Program. Analyze impending legal statutes impacting production, operation and support of weapon systems. Support 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 anticipated DFARS clause restricting the use of hexavalent chromium on all defense contracts. Assess readiness impacts to weapon systems resulting from EQ impacts in capabilities of industrial base and garrisons to support production levels, training and operational tempo and maintenance activities. Provide Army acquisition community representation in OSD and DA committees addressing environmental legislation and rulemaking.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #3</p> <p>In FY11: Will provide support to PEOs/PMs to integrate EQ considerations into systems engineering activities. This will include fulfillment of National Environmental Policy Act requirements, definition of EQ technology needs to meet operational requirements, analysis of technical data to support implementation decisions, and assessment and revision of contractual and operational requirements for successful technology integration, operation and support. Will analyze impending legal statutes impacting production, operation and support of</p>		0.000	0.000	1.455	0.000	1.455

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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 Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>weapon systems. 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 select OSD and DA committees addressing environmental legislation and rulemaking.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #4</p> <p>In FY09: 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 Environmental Quality Technology (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</p>		1.098	0.000	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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</i> <i>Mgmt Support</i>	PROJECT 031: <i>Environmentally Sustainable Acquisition/</i> <i>Logistics</i>				
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>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><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
Program #5	<p>In FY10: Provide system acquisition support to the Army's ETTC and coordination of EQ-related systems' needs for expanded RDT&E efforts. Perform program management and oversight of technology integration efforts by Army Life Cycle Management Commands and PEO/PM environmental integrated process teams for new design, new procurement and fielded weapon systems. Provide technology management, technical support, and representation of the AMC voting member of the Army EQT program. This includes coordination of RDT&E BA-1 and BA-2 requirements among members of the EQT Pollution Prevention Technology Team, coordination of RDTE BA-3 and BA-4 technology evaluations and operational requirements in support of weapon system</p>	0.000	1.109	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>platform integration, management and oversight for developing test plans, oversight of testing activities, and technical data analysis of test results to support weapon systems engineering decision making. Participate in performance and cost/risk assessments in support of ASA(I&E) program objectives. 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; 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><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #6</p> <p>In FY11: 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.</p>		0.000	0.000	0.701	0.000	0.701

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010				
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B. Accomplishments/Planned Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>This will include 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. Will 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; Zero Footprint Camp to reduce the fuel and water logistics burden in Overseas Contingency Operations.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>								
<p>Program #7</p> <p>In FY09: 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</p>				0.610	0.000	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
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. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #8 In FY10: Oversee Army efforts to manage the use/elimination of ozone-depleting substances, greenhouse gases, and hazardous and toxic materials on Army weapon systems. Manage and oversee the Army's reserve of ozone-depleting substances that contains the Army's strategic supplies of Halon used for explosion and fire suppression systems and R-22 used in fielded environmental control units. Coordinate with PEOs/PMs to affect system replacement and retrofit to eliminate ozone depleting substances while minimizing greenhouse gases, obtain approval to require use of Halon in new contracts, and assist garrison commanders to assure recovery and deposit of excess Halon and R-22 into the reserve. Participate in Federal government and multi-national forums discussing use and replacement of ozone depleting substances and greenhouse gases, justifying mission critical applications, and addressing international importation and use regulations/restrictions. Significant effort supports		0.000	0.616	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT				
2040: <i>Research, Development, Test & Evaluation, Army</i> BA 6: <i>RDT&E Management Support</i>	PE 0605857A: <i>Environmental Quality Technology Mgmt Support</i>	031: <i>Environmentally Sustainable Acquisition/ Logistics</i>				
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
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. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #9 In FY11: 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 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. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010		0.000	0.000	0.145	0.000	0.145

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010				
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 Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 Base Plans:</i> FY 2011 Base								
<i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Program #10 Small Business Innovation Research/Small Business Technology Transfer Programs (SBIR/STTR)				0.000	0.102	0.000	0.000	0.000
<i>FY 2009 Accomplishments:</i> FY 2009								
<i>FY 2010 Plans:</i> FY 2010								
<i>FY 2011 Base Plans:</i> FY 2011 Base								
<i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Accomplishments/Planned Programs Subtotals				3.521	3.658	2.301	0.000	2.301
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 2011 Army		DATE: February 2010
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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 2011 Army								DATE: February 2010			
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 06E: <i>ENVIRONMENTAL RESTORATION TECH SUPPORT</i>				
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
06E: <i>ENVIRONMENTAL RESTORATION TECH SUPPORT</i>	5.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											
A. Mission Description and Budget Item Justification											
This project will support the technical integration and transfer of environmental quality technology at RDT&E demonstration sites. These funds will be used to support the technical integration of capabilities, processes, test sets, etc. at the demonstration site until the receiving organization can assume responsibility for operate those capabilities, processes, test sets, etc.											
B. Accomplishments/Planned Program (\$ in Millions)											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1 Technical integration of capabilities, processes, test sets at the demonstation site <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO							5.000	0.000	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010				
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</i> <i>Mgmt Support</i>		PROJECT 06E: <i>ENVIRONMENTAL RESTORATION TECH</i> <i>SUPPORT</i>				
B. Accomplishments/Planned Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Accomplishments/Planned Programs Subtotals				5.000	0.000	0.000	0.000	0.000
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-3, RDT&E Project Cost Analysis: PB 2011 Army **DATE:** February 2010

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 06E: <i>ENVIRONMENTAL RESTORATION TECH SUPPORT</i>
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Product Development (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
New R3 Line	C	Nothing entered for Activity and Location. Location could not be determined.	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Subtotal			0.000	0.000		0.000		0.000		0.000			0.000

Remarks

Support (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
New R3 Line	C	Nothing entered for Activity and Location. Location could not be determined.	0.000	0.000		0.000		0.000		0.000	0	0	0
Subtotal			0.000	0.000		0.000		0.000		0.000	0.000	0.000	0.000

Remarks

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Army										DATE: February 2010			
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</i> <i>Mgmt Support</i>				PROJECT 06E: <i>ENVIRONMENTAL RESTORATION TECH</i> <i>SUPPORT</i>					

Test and Evaluation (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
New R3 Line	C	Nothing entered for Activity and Location. Location could not be determined.	0.000	0.000		0.000		0.000		0.000	0	0	0
Subtotal			0.000	0.000		0.000		0.000		0.000	0.000	0.000	0.000

Remarks

Management Services (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
New R3 Line	C	Nothing entered for Activity and Location. Location could not be determined.	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Subtotal			0.000	0.000		0.000		0.000		0.000			0.000

Remarks

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Army **DATE:** February 2010

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 06E: <i>ENVIRONMENTAL RESTORATION TECH SUPPORT</i>
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	Total Prior Years Cost	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000	0.000	0.000	0.000			0.000

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army								DATE: February 2010			
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>				
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
06H: <i>UNEXPLODED ORDNANCE CLEARANCE TECHNOLOGY SUPPORT</i>	1.178	1.233	0.852	0.000	0.852	1.705	1.622	1.449	1.483	Continuing	Continuing
Quantity of RDT&E Articles											
<u>A. Mission Description and Budget Item Justification</u>											
<p>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).</p>											
<u>B. Accomplishments/Planned Program (\$ in Millions)</u>											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1 Conduct feasibility test for Rapid Chemical Degradation of Munitions in Soil, Groundwater, Discarded and Stockpiled munitions. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010							0.140	0.000	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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</i> <i>Mgmt Support</i>	PROJECT 06H: <i>UNEXPLODED ORDNANCE CLEARANCE</i> <i>TECHNOLOGY SUPPORT</i>				
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2 Coordinate/collect/analyze UXO RDT&E information via conferences, seminars, and workshops. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.355	0.471	0.286	0.000	0.286
Program #3 Generate an annual UXO Clearance Report focused on UXO RDT&E efforts for countermines, explosive ordnance disposal, UXO remediation, humanitarian demining, and active range clearance. <i>FY 2009 Accomplishments:</i> FY 2009		0.196	0.225	0.156	0.000	0.156

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #4 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. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.311	0.313	0.280	0.000	0.280
Program #5 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		0.176	0.193	0.130	0.000	0.130

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>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 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #6 Small Business Innovative Research/Small Business Technology Transfer Programs</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p>		0.000	0.031	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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</i> <i>Mgmt Support</i>	PROJECT 06H: <i>UNEXPLODED ORDNANCE CLEARANCE</i> <i>TECHNOLOGY SUPPORT</i>				
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Accomplishments/Planned Programs Subtotals		1.178	1.233	0.852	0.000	0.852
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 2011 Army								DATE: February 2010			
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>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
06I: <i>POLLUTION PREVENTION TECH SUPPORT</i>	0.267	0.274	0.042	0.000	0.042	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											
<u>A. Mission Description and Budget Item Justification</u>											
<p>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 projects 0603779A, Environmental Quality Technology Dem/Val (E21), and 0603804A, Logistics and Engineer Equipment - Adv Dev (K42), which together serve to transition advanced technologies developed under 0603728A, Environmental Quality Technology Demonstrations (025). 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 RDECOM.</p>											
<u>B. Accomplishments/Planned Program (\$ in Millions)</u>											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1							0.267	0.000	0.000	0.000	0.000
In FY09: Managed and oversaw demonstration/validation of reformulated surface coating materials. <i>FY 2009 Accomplishments:</i> FY 2009											

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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>		
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2 In FY10: Manage and oversee qualification of reformulated surface coating materials. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.266	0.000	0.000	0.000
Program #3 In FY11 Base: Will manage and oversee implementation of reformulated surface coating materials.		0.000	0.000	0.042	0.000	0.042

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010				
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>				
B. Accomplishments/Planned Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2009 Accomplishments:</i> FY 2009								
<i>FY 2010 Plans:</i> FY 2010								
<i>FY 2011 Base Plans:</i> FY 2011 Base								
<i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Program #4 Small Business Innovation Research/Small Business Technology Transfer				0.000	0.008	0.000	0.000	0.000
<i>FY 2009 Accomplishments:</i> FY 2009								
<i>FY 2010 Plans:</i> FY 2010								
<i>FY 2011 Base Plans:</i> FY 2011 Base								
<i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Accomplishments/Planned Programs Subtotals				0.267	0.274	0.042	0.000	0.042

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
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</i> <i>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.		

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Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Army **DATE:** February 2010

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>								
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	15.586	15.784	16.154	0.000	16.154	16.482	16.924	17.315	17.718	Continuing	Continuing
M65: <i>Army Test and Evaluation Command (ATEC)</i>	15.586	15.784	16.154	0.000	16.154	16.482	16.924	17.315	17.718	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)

	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>
Previous President's Budget	15.613	15.866	16.443	0.000	16.443
Current President's Budget	15.586	15.784	16.154	0.000	16.154
Total Adjustments	-0.027	-0.082	-0.289	0.000	-0.289
• Congressional General Reductions		-0.082			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.027	0.000			
• Adjustments to Budget Years	0.000	0.000	-0.289	0.000	-0.289

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army									DATE: February 2010		
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>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
M65: <i>Army Test and Evaluation Command (ATEC)</i>	15.586	15.784	16.154	0.000	16.154	16.482	16.924	17.315	17.718	Continuing	Continuing
Quantity of RDT&E Articles											
<u>A. Mission Description and Budget Item Justification</u>											
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.											
<u>B. Accomplishments/Planned Program (\$ in Millions)</u>											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1 Civilian labor and other support required to manage and administer the Army test and evaluation mission at ATEC. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base							15.586	15.784	16.154	0.000	16.154

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
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>				
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2 Small Business Innovative Research/Small Business Technology Transfer Programs		0.000	0.000	0.000	0.000	0.000
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Accomplishments/Planned Programs Subtotals		15.586	15.784	16.154	0.000	16.154
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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