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**Department of Defense  
Fiscal Year (FY) 2011 Budget Estimates**

**February 2010**



**Research, Development, Test and Evaluation, Defense-Wide**

**Volume 3B**

**Office of the Secretary of Defense (OSD)**

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 FY 2011 President's Budget  
 Exhibit R-1 FY 2011 Base and Overseas Contingency Operations (OCO) Request  
 (Dollars in Thousands)

Appropriation: 0400D Research, Development, Test & Eval, DW

Date: 21 Jan 2010

Line No	Program Element Number	Item	Act	FY 2009 (Base & OCO)	FY 2010 Base & OCO Enacted	FY 2010 Supplemental Request	FY 2010 Total	FY 2011 Base	FY 2011 OCO	FY 2011 Total Request	Sec
3	0601111D8Z	Government/Industry Cosponsorship of University Research	01	4,254	4,761		4,761				U
4	0601114D8Z	Defense Experimental Program to Stimulate Competitive Research	01	14,259							U
5	0601120D8Z	National Defense Education Program	01	67,108	79,333		79,333	109,911		109,911	U
		Basic Research		85,621	84,094		84,094	109,911		109,911	
7	0602000D8Z	Joint Munitions Technology	02	14,820	18,808		18,808	22,448		22,448	U
8	0602228D8Z	Historically Black Colleges and Universities (HBCU) Science	02	4,527	66,553		66,553	15,067		15,067	U
9	0602234D8Z	Lincoln Laboratory Research Program	02	29,244	33,759		33,759	32,830		32,830	U
15	0602663D8Z	Joint Data Management Advanced Development	02					3,261		3,261	U
16	0602668D8Z	Cyber Security Research	02					10,000		10,000	U
17	0602670D8Z	Human, Social and Culture Behavior Modeling (HSCB) Applied Research	02	8,063	7,882		7,882	9,499		9,499	U
		Applied Research		56,654	127,002		127,002	93,105		93,105	
24	0603000D8Z	Joint Munitions Advanced Technology	03	9,176	13,534		13,534	20,556		20,556	U
25	0603121D8Z	SO/LIC Advanced Development	03	32,314	43,453		43,453	44,423		44,423	U

Exhibit R-1G: FY 2011 President's Budget (Published), as of January 21, 2010 at 13:40:42

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Appropriation: 0400D Research, Development, Test &amp; Eval, DW

Date: 21 Jan 2010

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26	0603122D8Z	Combating Terrorism Technology Support	03	114,990	117,153		117,153	85,299		85,299	U
29	0603200D8Z	Joint Advanced Concepts	03		3,878		3,878	6,808		6,808	U
30	0603225D8Z	Joint DoD-DoE Munitions Technology Development	03	21,678	23,088		23,088	22,700		22,700	U
35	0603618D8Z	Joint Electronic Advanced Technology	03	8,757	10,751		10,751	8,386		8,386	U
36	0603648D8Z	Joint Capability Technology Demonstrations	03	196,076	168,577		168,577	206,917		206,917	U
37	0603662D8Z	Networked Communications Capabilities	03	27,826	27,984		27,984	30,035		30,035	U
38	0603663D8Z	Joint Data Management Research	03		4,895		4,895	6,289		6,289	U
39	0603665D8Z	Biometrics Science and Technology	03	9,651	10,904		10,904	11,416		11,416	U
40	0603668D8Z	Cyber Security Advanced Research	03					10,000		10,000	U
41	0603670D8Z	Human, Social and Culture Behavior Modeling (HSCB) Advanced Development	03	8,443	10,395		10,395	11,510		11,510	U
42	0603680D8Z	Defense-Wide Manufacturing Science and Technology Program	03	17,142	23,546		23,546	18,916		18,916	U
43	0603711D8Z	Joint Robotics Program/ Autonomous Systems	03	8,385	11,020		11,020	9,943		9,943	U
46	0603716D8Z	Strategic Environmental Research Program	03	63,914	67,128		67,128	68,021		68,021	U
48	0603727D8Z	Joint Warfighting Program	03	10,244	11,045		11,045	10,966		10,966	U

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50	0603745D8Z	Synthetic Aperture Radar (SAR) Coherent Change Detection (CDD)	03	7,296	4,825		4,825				U
51	0603750D8Z	Advanced Concept Technology Demonstrations	03	1,169							U
52	0603755D8Z	High Performance Computing Modernization Program	03	209,164	235,486		235,486	200,986		200,986	U
59	0603781D8Z	Software Engineering Institute	03	29,056	31,044		31,044	30,910		30,910	U
61	0603826D8Z	Quick Reaction Special Projects	03	93,802	73,583		73,583	78,244		78,244	U
62	0603828D8Z	Joint Experimentation	03	100,253	105,936		105,936	111,946		111,946	U
63	0603832D8Z	DoD Modeling and Simulation Management Office	03	30,302	34,226		34,226	38,140		38,140	U
65	0603941D8Z	Test & Evaluation Science & Technology	03	90,467	94,960		94,960	97,642		97,642	U
66	0603942D8Z	Technology Transfer	03	6,033	13,558		13,558	23,310		23,310	U
		Advanced Technology Development (ATD)		1,096,138	1,140,969		1,140,969	1,153,363		1,153,363	
70	0603161D8Z	Nuclear and Conventional Physical Security Equipment RDT&E ADC&P	04	46,786	45,805		45,805	32,132		32,132	U
71	0603527D8Z	RETRACT LARCH	04	21,368	21,542		21,542	21,592		21,592	U
72	0603709D8Z	Joint Robotics Program	04	11,086	15,279		15,279	9,878		9,878	U
73	0603714D8Z	Advanced Sensor Applications Program	04	15,912	17,627		17,627	18,060		18,060	U

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74	0603851D8Z	Environmental Security Technical Certification Program	04	36,616	40,780		40,780	30,419		30,419	U
99	0603920D8Z	Humanitarian Demining	04	13,993	14,568		14,568	14,735		14,735	U
100	0603923D8Z	Coalition Warfare	04	12,482	13,773		13,773	13,786		13,786	U
101	0604016D8Z	Department of Defense Corrosion Program	04	18,387	22,107		22,107	4,802		4,802	U
102	0604400D8Z	Department of Defense (DoD) Unmanned Aircraft System (UAS) Common Development	04		60,792		60,792	49,292		49,292	U
103	0604648D8Z	Joint Capability Technology Demonstrations	04	10,829	10,988		10,988				U
104	0604670D8Z	Human, Social and Culture Behavior Modeling (HSCB) Research and Engineering	04	5,392	6,950		6,950	7,459		7,459	U
105	0604787D8Z	Joint Systems Integration Command (JSIC)	04	18,083	19,585		19,585	19,413		19,413	U
106	0604828D8Z	Joint FIRES Integration and Interoperability Team	04	15,446	16,835		16,835	16,637		16,637	U
111	0605017D8Z	Reduction Of Total Ownership Cost	04	23,113	24,447		24,447	20,310		20,310	U
112	0303191D8Z	Joint Electromagnetic Technology (JET) Program	04	4,653	6,298		6,298	4,027		4,027	U
		Advanced Component Development & Prot		254,146	337,376		337,376	262,542		262,542	
113	0604051D8Z	Defense Acquisition Challenge Program (DACP)	05	26,979	28,629		28,629	24,344		24,344	U

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114	0604161D8Z	Nuclear and Conventional Physical Security Equipment RDT&E SDD	05	4,106	7,566		7,566	7,973		7,973	U
115	0604165D8Z	Prompt Global Strike Capability Development	05	69,636	165,563		165,563	239,861		239,861	U
117	0604709D8Z	Joint Robotics Program	05	5,420	5,086		5,086	4,155		4,155	U
119	0604771D8Z	Joint Tactical Information Distribution System (JTIDS)	05	19,873	20,466		20,466	20,954		20,954	U
125	0605027D8Z	OUSD(C) IT Development Initiatives	05		4,961		4,961	5,000		5,000	U
126	0605140D8Z	Trusted Foundry	05	39,464	50,808		50,808	35,512		35,512	U
127	0605648D8Z	Defense Acquisition Executive (DAE) Pilot Program	05	5,392	4,232		4,232				U
130	0807708D8Z	Wounded Ill and Injured Senior Oversight Committee (WII-SOC) Staff Office	05	15,645	1,596		1,596	1,590		1,590	U
		System Development and Demonstration		186,515	288,907		288,907	339,389		339,389	
131	0603757D8Z	Training Transformation (T2)	06	54,380							U
132	0604774D8Z	Defense Readiness Reporting System (DRRS)	06	11,300	15,247		15,247	5,113		5,113	U
133	0604875D8Z	Joint Systems Architecture Development	06	18,027	11,248		11,248	8,052		8,052	U
134	0604940D8Z	Central Test and Evaluation Investment Development (CTEIP)	06	143,612	160,959		160,959	162,286		162,286	U

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135	0604942D8Z	Assessments and Evaluations	06					2,500		2,500	U
136	0604943D8Z	Thermal Vicar	06	9,452	11,352		11,352	8,851		8,851	U
137	0605100D8Z	Joint Mission Environment Test Capability (JMETC)	06	8,286	9,379		9,379	10,287		10,287	U
138	0605104D8Z	Technical Studies, Support and Analysis	06	34,073	44,398		44,398	49,282		49,282	U
139	0605110D8Z	USD(A&T)--Critical Technology Support	06	4,151	4,874		4,874	4,743		4,743	U
140	0605117D8Z	Foreign Material Acquisition and Exploitation	06	62,348	94,152		94,152	95,520		95,520	U
142	0605128D8Z	Classified Program USD(P)	06	99,622	94,864		94,864				U
143	0605130D8Z	Foreign Comparative Testing	06	32,050	34,771		34,771	32,755		32,755	U
144	0605142D8Z	Systems Engineering	06					29,824		29,824	U
145	0605161D8Z	Nuclear Matters-Physical Security	06	4,331	6,422		6,422	6,264		6,264	U
146	0605170D8Z	Support to Networks and Information Integration	06	13,707	14,796		14,796	15,091		15,091	U
147	0605200D8Z	General Support to USD (Intelligence)	06	16,361	5,840		5,840	6,227		6,227	U
152	0605502D8Z	Small Business Innovative Research	06	52,812							U
155	0605790D8Z	Small Business Innovation Research (SBIR)/ Small Business Technology Transfer (S	06	5,568	4,645		4,645	2,189		2,189	U

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156	0605798D8Z	Defense Technology Analysis	06	9,503	11,710		11,710	13,858		13,858	U
157	0605799D8Z	Force Transformation Directorate	06	21,421	23,787		23,787	19,701		19,701	U
160	0605804D8Z	Development Test and Evaluation	06	22,208	23,322	6,438	29,760	18,688		18,688	U
163	0606100D8Z	Budget and Program Assessments	06	5,453	5,881		5,881	6,099		6,099	U
164	0606301D8Z	Aviation Safety Technologies	06		7,936		7,936	10,900		10,900	U
168	0303166D8Z	Support to Information Operations (IO) Capabilities	06	32,801	30,376		30,376	31,500		31,500	U
169	0303169D8Z	Information Technology Rapid Acquisition	06	4,517	4,630		4,630	5,135		5,135	U
171	0305193D8Z	Intelligence Support to Information Operations (IO)	06	17,493	20,481		20,481	21,272		21,272	U
173	0305400D8Z	Warfighting and Intelligence-Related Support	06	824	823		823	845		845	U
174	0804767D8Z	COCOM Exercise Engagement and Training Transformation (CE2T2)	06		40,375		40,375	92,253		92,253	U
		RDT&E Management Support		684,300	682,268	6,438	688,706	659,235		659,235	
183	0607828D8Z	Joint Integration and Interoperability	07	45,795	45,840		45,840	44,139		44,139	U
201	0303140D8Z	Information Systems Security Program	07	13,041	14,955		14,955	14,077		14,077	U

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209	0303260D8Z	Joint Military Deception Initiative	07		934		934	1,161		1,161	U
214	0305103D8Z	Cyber Security Initiative	07	992	985		985	501		501	U
217	0305125D8Z	Critical Infrastructure Protection (CIP)	07	15,594	16,590		16,590	10,486		10,486	U
221	0305186D8Z	Policy R&D Programs	07	8,870	6,892		6,892	9,136		9,136	U
223	0305199D8Z	Net Centricity	07	12,277	1,467		1,467	29,831		29,831	U
234	0305387D8Z	Homeland Defense Technology Transfer Program	07		2,939		2,939	2,988		2,988	U
235	0305600D8Z	International Intelligence Technology Assessment, Advancement and Integration	07		1,378		1,378	1,416		1,416	U
248	0909999D8Z	Financing for Cancelled Account Adjustments	07	4,455							U
249	1001018D8Z	NATO AGS	07	22,471	68,923		68,923	93,885		93,885	U
		Operational Systems Development		123,495	160,903		160,903	207,620		207,620	
Total Research, Development, Test & Eval, DW				2,486,869	2,821,519	6,438	2,827,957	2,825,165		2,825,165	

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105	04	0604787D8Z	Joint Systems Integration Command.....	Volume 3 - 137
106	04	0604828D8Z	Joint Fires Integration & Interoperability.....	Volume 3 - 159
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***Budget Activity 06: RDT&E Management Support***

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***Budget Activity 07: Operational Systems Development***

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b>			<b>R-1 ITEM NOMENCLATURE</b>								
0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>			PE 0603161D8Z: <i>Nuclear &amp; Conventional Phy Sec Equip</i>								
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	46.786	45.805	32.132	0.000	32.132	38.390	37.777	36.584	39.106	Continuing	Continuing
P162: <i>Nuclear &amp; Con Phys Sec Equip</i>	46.786	45.805	32.132	0.000	32.132	38.390	37.777	36.584	39.106	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

The purpose of this program is the advanced engineering development of conventional and nuclear physical security equipment (PSE) systems for all DoD components. This program supports the protection of tactical, fixed, and nuclear weapons systems, DoD personnel and DoD facilities. The funds are used to provide PSE RDT&E for continuing and evolving individual Service and joint PSE requirements that provide capability in the areas of force protection and tactical security equipment; robotic security systems integration; waterside security systems; explosive detection equipment; locks, safes and vaults; commercial-off-the-shelf (COTS) testing; and nuclear weapons security. Many RDT&E efforts arising from this PE will transition to PE 0604161D8Z for system demonstration and validation. The PSE program is organized so that representatives from the Army, Navy, Air Force, and Defense Threat Reduction Agency (DTRA) monitor, direct and prioritize potential and existing PSE programs through the auspices of the Physical Security Equipment Action Group (PSEAG) and the Security Policy Verification Committee (SPVC). With few exceptions, each Service sponsors RDT&E efforts for technologies and programs that have multi-Service application. This program element supports: 1) the Army's PSE RDT&E efforts in the areas of Interior and Exterior Detection, Security Lighting, Security Barriers and Security Display Units; 2) the Air Force's PSE RDT&E efforts in the areas of Exterior Detection/Surveillance, Entry Control, Delay/Denial, Tactical Systems and Airborne Intrusion; 3) the Navy's PSE RDT&E efforts in the areas of Waterside Security, Explosive Detection, and improved technology for Locks, Safes and Vaults; and 4) DTRA's PSE RDT&E efforts that enhance the security of Navy and Air Force nuclear assets. This PE also funds Force Protection Commercial-Off-The-Shelf (FP COTS) evaluation and testing, which has received additional focus since the 1996 Khobar Towers terrorist bombing incident. The FP COTS testing applies to all available technologies that are considered effective for DoD physical security use.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2011 Office of Secretary Of Defense	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603161D8Z: <i>Nuclear &amp; Conventional Phy Sec Equip</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	38.300	36.019	0.000	0.000	0.000
Current President's Budget	46.786	45.805	32.132	0.000	32.132
Total Adjustments	8.486	9.786	32.132	0.000	32.132
• Congressional General Reductions		0.000			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		10.160			
• Congressional Directed Transfers		0.000			
• Reprogrammings	-2.206	0.000			
• SBIR/STTR Transfer	-0.810	0.000			
• Congressional Add	11.400	0.000	0.000	0.000	0.000
• Other Program Adjustments	0.102	-0.374	32.132	0.000	32.132

**Change Summary Explanation**

Reprogramming was used to accommodate the maturation of PSE developmental items from advanced engineering development (BA 4) to system development and demonstration (BA 5). PE 0604161D8Z identifies the offset.

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603161D8Z: <i>Nuclear &amp; Conventional Phy Sec Equip</i>				<b>PROJECT</b> P162: <i>Nuclear &amp; Con Phys Sec Equip</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
P162: <i>Nuclear &amp; Con Phys Sec Equip</i>	46.786	45.805	32.132	0.000	32.132	38.390	37.777	36.584	39.106	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

The purpose of this program is the advanced engineering development of conventional and nuclear physical security equipment (PSE) systems for all DoD components. This program supports the protection of tactical, fixed, and nuclear weapons systems, DoD personnel and DoD facilities. The funds are used to provide PSE RDT&E for continuing and evolving individual Service and joint PSE requirements that provide capability in the areas of force protection and tactical security equipment; robotic security systems integration; waterside security systems; explosive detection equipment; locks, safes and vaults; commercial-off-the-shelf (COTS) testing; and nuclear weapons security. Many RDT&E efforts arising from this PE will transition to PE 604161D8Z for system demonstration and validation. The PSE program is organized so that representatives from the Army, Navy, Air Force, and Defense Threat Reduction Agency (DTRA) monitor, direct and prioritize potential and existing PSE programs through the auspices of the Physical Security Equipment Action Group (PSEAG) and the Security Policy Verification Committee (SPVC). With few exceptions, each Service sponsors RDT&E efforts for technologies and programs that have multi-Service application. This program element supports: 1) the Army's PSE RDT&E efforts in the areas of Interior and Exterior Detection, Security Lighting, Security Barriers and Security Display Units; 2) the Air Force's PSE RDT&E efforts in the areas of Exterior Detection/Surveillance, Entry Control, Delay/Denial, Tactical Systems and Airborne Intrusion; 3) the Navy's PSE RDT&E efforts in the areas of Waterside Security, Explosive Detection, and improved technology for Locks, Safes and Vaults; and 4) DTRA's PSE RDT&E efforts that enhance the security of Navy and Air Force nuclear assets. This PE also funds Force Protection Commercial-Off-The-Shelf (FP COTS) evaluation and testing, which has received additional focus since the 1996 Khobar Towers terrorist bombing incident. The FP COTS testing applies to all available technologies that are considered effective for DoD physical security use.

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

	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Force Protection / Tactical Security Equipment (FP/TSE) <i>FY 2009 Accomplishments:</i> - JFPASS completed initial site surveys at three locations, and completed OD-1 Setup at Eglin Site C3	15.545	18.462	14.422	0.000	14.422

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603161D8Z: <i>Nuclear &amp; Conventional Phy Sec Equip</i>	<b>PROJECT</b> P162: <i>Nuclear &amp; Con Phys Sec Equip</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul style="list-style-type: none"> <li>- DIAC TTX was executed to address the lack of interoperability between the Services access control systems and the requirement for a rapid, interoperable, secure, electronic authentication and data exchange architecture for installation access systems.</li> <li>- DIAC Working Group executed multiple functional and technical meetings that discussed the planning and execution of a concept demonstration that would link local access control systems at DoD installation with an authoritative source system via "middleware" to verify an individual's identity and authenticate credentials.</li> <li>- Combat Developer completed draft Capability Development Document (CDD) for TVSS</li> <li>- Drafted use cases for future CCDE-to-IBDC2 ICD</li> <li>- Issued SEIWG-ICD-0101A based on comments received after publishing SEIWG-ICD-0101</li> <li>- Completed drafts of Holistic Joint Force Protection Architecture views: OV-2, OV-3, OV-5, and OV-6c's</li> <li>- Wrote and Released 1st draft of JGS ICD, Published 2009 TV-1</li> <li>- JFPASS JCTD Transition IPT was completed</li> <li>- AIE began Increment II</li> <li>- Developed a Trip Wire Sensor.</li> <li>- Initiated development of an improved active infrared detection system.</li> <li>- Completed LKMD Increment I PQT2.</li> <li>- Approve Milestone Decision C for full rate production (FRP) of the LKMD Increment I.</li> <li>- Continued spiral development of the Aircraft Self-Protection System (ASPSS).</li> <li>- Continued spiral development of the Tactical Automated Security System (TASS).</li> <li>- Continued spirial development of automated base access control systems.</li> <li>- Continued to manage, develop, evaluate, and test Detection/Assessment/Delay/Denial products.</li> <li>- Continued to manage sensor and assessment product developments and tests.</li> <li>- Continued to research technological advances within industry; at DARPA; DoD, DoE, and University Labs; etc., that have PSE utility.</li> <li>- Continued to prepare operational systems improvement plans; developed technology roadmaps, and updated system architecture.</li> </ul>					

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603161D8Z: <i>Nuclear &amp; Conventional Phy Sec Equip</i>	<b>PROJECT</b> P162: <i>Nuclear &amp; Con Phys Sec Equip</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul style="list-style-type: none"> <li>- Executed a congressional add that continues the development of the Intelligent Design Exploration effort.</li> <li>- Executed</li> </ul> <p><i>FY 2010 Plans:</i></p> <ul style="list-style-type: none"> <li>- JFPASS develop DoDAF architectures, CONOPS, and TTPs, an initial set of hardware, software, and project documentation as an Interim Capability for Extended Use (EU) at the demonstration installation, and Operational Utility Assessments.</li> <li>- JFPASS OD-1 Execution at Eglin Site C3, Site Work at Spangdahlem, Vindicator Risk Mitigation at Andover UK, and TD-2 Setup at Spandahlem.</li> <li>- IDC2COP - provide support to JFPASS at Spangdahlem</li> <li>- IDC2COP - UL/UC2 and ACES FD and Tactical C2 Integrated Operation Capability</li> <li>- IDC2COP - Network Enhancement and Interoperability</li> <li>- IDC2COP - Evaluation of TTP and Cabilities across the Services</li> <li>- DIAC conduct an effective evaluation of the local access control system to connect and transfer/ receive data from an authoritative source system via middleware.</li> <li>- DIAC communicate the demonstration purpose and ultimate goals to all participants, installation stakeholders and observers.</li> <li>- DIAC provide a proof of concept for standardizing an interoperable, automated installation access control process.</li> <li>- Report findings of the demonstration to the DIAC WG</li> <li>- DIAC plans to assist the Services in making a final decision on a common "middleware" that is interoperable for access control.</li> <li>- TVSS Development of the Information Support Plan, and Determine missions, critical tasks and purposes highlighted in selected concepts that must be accomplished in order to achieve the desired characteristics and capabilities</li> <li>- Update the SEIWG-005</li> <li>- Continue development and publish 1st release of holistic architecture</li> </ul>					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense				<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0603161D8Z: <i>Nuclear &amp; Conventional Phy Sec Equip</i>		<b>PROJECT</b> P162: <i>Nuclear &amp; Con Phys Sec Equip</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<ul style="list-style-type: none"> <li>- Continue to prepare operational systems improvement plans; develop technology roadmaps, and update system architecture.</li> <li>- Continue to test, develop, and integrate equipment to improve security robotic integration capability.</li> </ul>								
<p>Waterside Security System (WSS)</p> <p><i>FY 2009 Accomplishments:</i></p> <ul style="list-style-type: none"> <li>- Continued to develop integrated anti-swimmer defense and detection capability.</li> <li>- Continued to improve algorithms that provide target analysis of waterborne threat.</li> <li>- Continued the development of a passive sonar with enhanced diver detection classification and localization (DCL) and engagement capability.</li> <li>- Shore Line Monitoring System (SLiMS) - Further developed a high frequency perimeter security radar system for application as a sophisticated detection, classification, and alert virtual fence and demonstrate concept (Red Stone Arsenal).</li> <li>- Target Echo Analysis - Acquire and analyze anechoic pool data for radiated noise from divers and create an algorithm to locate that noise from within the active sonar data 'between the pings.</li> <li>- Sonar Augmentation: develop passive based diver classification algorithm</li> <li>- Continuous Wave Diver Response</li> <li>- All Weather Surveillance System</li> <li>- Continued to manage, develop, evaluate, and test Detection/Assessment/Delay/Denial products.</li> <li>- Continued to manage sensor and assessment product developments and tests.</li> <li>- Continued to research technological advances within industry; at DARPA; DoD, DoE, and University Labs; etc., that have PSE utility.</li> <li>- Continued to prepare operational systems improvement plans; develop technology roadmaps, and update system architecture.</li> <li>- Continued to test, develop, and integrate equipment to improve security and access to facilities.</li> </ul>				2.939	1.550	1.435	0.000	1.435

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603161D8Z: <i>Nuclear &amp; Conventional Phy Sec Equip</i>	<b>PROJECT</b> P162: <i>Nuclear &amp; Con Phys Sec Equip</i>
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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 2009 Accomplishments:</i></p> <ul style="list-style-type: none"> <li>- Began Low Rate Initial Production (LRIP) of redesigned storage magazine doors.</li> <li>- Coordinated and supported the installation of redesigned storage magazine doors.</li> <li>- Advanced Container Security Device (ACSD) Project: Conducted Successful Concept Feasibility Study &amp; Technology Downselect and the project transitioned to the BA 5 PE.</li> <li>- Interactive Voice Response System (IVRS) Project: Developed voice menu and voice print biometric verification concept, NMCI integration and the project transitioned to the BA 5 PE.</li> <li>- Physical Security of Storage Magazine (PSSM) Project: Complete operational field test, issue design guidance packages.</li> <li>- Shipboard Security Systems (SSS) Project: Develop and test container pedestal.</li> <li>- Continued field support program.</li> <li>- Conducted forced and surreptitious entry testing of Protected Distribution System lockboxes and manhole cover locks.</li> <li>- Continued to develop ILD with biometrics/identity verification capability.</li> <li>- Continued to manage, develop, evaluate, and test Delay/Denial products.</li> <li>- Continued to research technological advances within industry; at DARPA; DoD, DoE, and University Labs; etc., that have PSE utility.</li> <li>- Continued to prepare operational systems improvement plans; develop technology roadmaps, and update system architecture.</li> <li>- Continued to test, develop, and integrate equipment to improve security of facilities.</li> </ul> <p><i>FY 2010 Plans:</i></p> <ul style="list-style-type: none"> <li>- Assess magazine structure vulnerability and upgrade the structure design.</li> <li>- PSSM: Transition to acquisition and field support.</li> <li>- Integrate ILDs with Class 5 vault doors.</li> <li>- SSS: Develop DDG 1000 Series Laptop Security Container</li> <li>- Weapons Tracking Seal (WTS): System Integration, Test and Evaluation</li> <li>- Continue to manage, develop, evaluate, and test Delay/Denial products.</li> </ul>					

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603161D8Z: <i>Nuclear &amp; Conventional Phy Sec Equip</i>	<b>PROJECT</b> P162: <i>Nuclear &amp; Con Phys Sec Equip</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul style="list-style-type: none"> <li>- Add a 3-D view to the JCATS after action review tools in order to better understand the JCATS simulation results.</li> <li>- Solve Virtual Presence Extended Detection communications concerns for a more robust extended detection system.</li> <li>- Conduct cost/benefit analysis of alternative designs for reinforced concrete panels.</li> <li>- Continue to adapt weapons intercept technology to provide protection of nuclear weapons facilities.</li> <li>- Continue to test and evaluate access denial systems.</li> <li>- Continue to manage, develop, evaluate, and test Detection/Assessment/Delay/Denial products.</li> <li>- Continue to manage sensor and assessment product developments and tests.</li> <li>- Continue to research technological advances within industry; at DARPA; DoD, DoE, and University Labs; etc., that have PSE utility.</li> <li>- Continue to prepare operational systems improvement plans; develop technology roadmaps, and update system architecture.</li> <li>- Continue to test, develop, and integrate equipment to improve security and access to facilities.</li> <li>- Execute the Congressional Add for Advanced Detection of Special Nuclear Materials.</li> </ul> <p><i>FY 2011 Base Plans:</i></p> <ul style="list-style-type: none"> <li>- Draft, execute, and promulgate a project charter defining roles, responsibilities, and courses of action with the participating organizations (e.g. code analysis performer).</li> <li>- Conduct V&amp;V of AVERT software (version 5.0) and modeling practices, to include evaluation of the codes ability to meet intended uses of AVERT software.</li> <li>- Analyze effects between different characteristics of AVERT software.</li> <li>- Develop and present final report/results briefing.</li> <li>- Make accreditation recommendations for accreditation authority consideration.</li> <li>- Procurement/lease of AVERT software license for Service, DTRA, OSD(NM) implementation.</li> <li>- Conduct 0%, 30%, 60%, 100%, and final design reviews, with DTRA and ATEC, to ensure compliance with guidance provided in the BODD.</li> <li>- Execution of a Secure Wireless Communications Table Top Exercise.</li> </ul>					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense				<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0603161D8Z: <i>Nuclear &amp; Conventional Phy Sec Equip</i>		<b>PROJECT</b> P162: <i>Nuclear &amp; Con Phys Sec Equip</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Accomplishments/Planned Programs Subtotals				46.786	45.805	32.132	0.000	32.132
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A								
<b>D. Acquisition Strategy</b> N/A								
<b>E. Performance Metrics</b> The program performance metrics are established/approved through the DoD Physical Security Equipment Action Group (PSEAG) and the Security Policy Verification Committee (SPVC). The cost, schedule and technical progress is reviewed at quarterly PSEAG and SPVC meetings. Performance variances are addressed and corrective action(s) is(are) implemented as necessary.								

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603161D8Z: <i>Nuclear &amp; Conventional Phy Sec Equip</i>	<b>PROJECT</b> P162: <i>Nuclear &amp; Con Phys Sec Equip</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			
US Army Force Protection/Tactical Security Equipment (FP/TSE)	MIPR	PM-FPS (USA) Ft. Belvoir, Virginia	4.625	6.800	Mar 2010	5.797	Mar 2011	0.000		5.797	Continuing	Continuing	Continuing
US Air Force Force Protection/Tactical Security Equipment (FP/TSE)	MIPR	642nd ELSS (USAF) Hanscom AFB, Massachusetts	4.625	7.000	Feb 2010	5.510	Feb 2011	0.000		5.510	Continuing	Continuing	Continuing
SPAWAR Force Protection/Tactical Security (FP/TSE)	MIPR	SPAWAR System Center San Diego, CA	0.750	3.110	Feb 2010	0.500	Feb 2011	0.000		0.500	Continuing	Continuing	Continuing
US Army Robotic Security Systems Integration (RSSI)	MIPR	PM-FPS (USA) Ft. Belvoir, Virginia	1.000	0.750	Dec 2009	0.700	Dec 2010	0.000		0.700	Continuing	Continuing	Continuing
US Air Force Robotic Security Systems Integration (RSSI)	MIPR	AFRL Tyndall AFB, FL	1.030	4.000	Feb 2010	1.000	Feb 2011	0.000		1.000	Continuing	Continuing	Continuing
Waterside Security	MIPR	NUWC Newport, Rhode Island	3.290	1.050	Jan 2010	1.025	Dec 2010	0.000		1.025	Continuing	Continuing	Continuing
Explosive Detection Equipment (EDE)	MIPR	NAVEODTECHDIV Indian Head, Maryland	2.500	1.500	Nov 2009	1.400	Nov 2010	0.000		1.400	Continuing	Continuing	Continuing
Locks, safes, and Vaults	MIPR	NFESC Port Hueneme, California	1.750	1.890	Jan 2010	1.745	Jan 2011	0.000		1.745	Continuing	Continuing	Continuing
	MIPR		9.700	12.014	Dec 2009	9.500	Dec 2010	0.000		9.500	Continuing	Continuing	Continuing

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603161D8Z: <i>Nuclear &amp; Conventional Phy Sec Equip</i>	<b>PROJECT</b> P162: <i>Nuclear &amp; Con Phys Sec Equip</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			
DTRA Nuclear Weapon Physical Security Programs		Defense Threat Reduction Agency (DTRA) Ft. Belvoir, Virginia											
<b>Subtotal</b>			29.270	38.114		27.177		0.000		27.177			

**Remarks**

**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			
COTS Testing	MIPR	642d ELSS Hanscom AFB, MA	1.250	1.200	Mar 2010	0.500	Mar 2011	0.000		0.500	Continuing	Continuing	Continuing
Explosive Detection Equipment (EDE)	MIPR	NAVEODTECHDIV Indian Head, MD	1.000	1.250	Mar 2010	1.000	Feb 2011	0.000		1.000	Continuing	Continuing	Continuing
Robotic COTS Testing	MIPR	PM-FPS Ft. Belvoir, VA	1.000	1.000	Feb 2010	0.500	Feb 2011	0.000		0.500	Continuing	Continuing	Continuing
<b>Subtotal</b>			3.250	3.450		2.000		0.000		2.000			

**Remarks**

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603161D8Z: <i>Nuclear &amp; Conventional Phy Sec Equip</i>	<b>PROJECT</b> P162: <i>Nuclear &amp; Con Phys Sec Equip</i>
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**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			
US Army Force Protection/Tactical Security Equipment (FP/TSE)	MIPR	PM-FPS Ft. Belvoir, VA	1.000	0.800	Jan 2010	0.700	Jan 2011	0.000		0.700	Continuing	Continuing	Continuing
Force Protection/Tactical Security Equipment	MIPR	642d ELSS Hanscom, AFB	1.150	0.800	Jan 2010	0.600	Jan 2011	0.000		0.600	Continuing	Continuing	Continuing
SPAWAR Force Protection/Tactical Security Equipment (FP/TSE)	MIPR	SPAWAR System Center San Diego, CA	0.250	0.350	Feb 2010	0.200	Feb 2011	0.000		0.200	Continuing	Continuing	Continuing
Robotic Security Systems Integration (RSSI)	MIPR	PM-FPS Ft. Belvoir, VA	0.322	0.836	Dec 2009	0.300	Dec 2010	0.000		0.300	Continuing	Continuing	Continuing
Waterside Security	MIPR	NAVSEA Port Hueneme, CA	0.600	0.500	Jan 2010	0.300	Jan 2011	0.000		0.300	Continuing	Continuing	Continuing
Locks, Seals, and Vaults	MIPR	NFESC Port Hueneme, CA	0.455	0.355	Mar 2010	0.355	Mar 2011	0.000		0.355	Continuing	Continuing	Continuing
Nuclear Weapons Physical Security	MIPR	SPAWAR Charleston, SC	0.400	0.600	Jan 2010	0.500	Jan 2011	0.000		0.500	Continuing	Continuing	Continuing
<b>Subtotal</b>			4.177	4.241		2.955		0.000		2.955			

**Remarks**

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**Exhibit R-4, RDT&E Schedule Profile: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603161D8Z: <i>Nuclear &amp; Conventional Phy Sec Equip</i>	<b>PROJECT</b> P162: <i>Nuclear &amp; Con Phys Sec Equip</i>
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ID	Task Name	09				10				11			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1	Execute FPED VII			▲									
2	Demonstrate NROWS Capability to detect and track multiple targets	▲											
3	Demonstrate NROWS detecting and tracking multiple targets under various scenerios												
4	Complete LKMD Product Qualification Testing												
5	Integrate remote weapon systems with robotic platforms. (IROWS)												
6	Leverage WSS efforts in support of SSBNs.												
7	Limited Production of Optimized door within the Magazine Access Denial Program.												
8	Weapons Tracking Seal system integration and test/evaluation												
9	Design Handheld THz Spectrometer.												
10	THz technologies system engineering and software development												
11	Fully integrate biometrics with the ILD.												
12	Model all nuclear weapons facilities using the AVERT Risk Management Tool.												
13	Continue testing and evaluation of COTS products												
14	Automated Installation Entry (AIE) Testbed												
15	Expanded Situational Awareness Capabilities												
16	JFPASS site setups, execution, and risk assessment												
17	IDC2COP Network Enhancement and Interoperability Assessment												
18	DIAC Proof of Concept and Evaluation of Systems Capabilities												
19	TVSS CDD, Tri-Fusion Demo, and Milestone B Documentation												

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**Exhibit R-4A, RDT&E Schedule Details:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603161D8Z: <i>Nuclear &amp; Conventional Phy Sec Equip</i>	<b>PROJECT</b> P162: <i>Nuclear &amp; Con Phys Sec Equip</i>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
THZ technologies system engineering and software development	1	2010	4	2011
Weapons Tracking Seal system integration and test/evaluation	1	2010	4	2011
Design Handheld THz Spectrometer	1	2009	3	2009
Fully integrate biometrics with the ILD	1	2009	4	2009
Continue testing and evaluation of COTS products	1	2009	4	2011
Automated Installation Entry (AIE) Testbed	1	2010	4	2011
Expanded Situational Awareness Capabilities	1	2010	4	2011
IDC2COP Network Enhancement and Interoperability Assessment	2	2010	3	2011
DIAC Proof of Concept and Evaluation of Systems Capabilities	2	2010	4	2010
Limited Production of Optimized door within the Magazine Access Denial program	1	2009	3	2010
Leverage WSS efforts in support of SSBNs	1	2009	4	2011
Execute FPED VII	3	2009	3	2009
Complete LKMD Product Qualification Testing	1	2009	2	2010
LKMD Full Rate Production Decision (Milestone C)	1	2010	3	2010
JFPASS site setups, execution, and risk assessment	2	2010	3	2011
Model all nuclear weapon facilities using the AVERT Risk Management Tool	1	2009	2	2010
Integrate remote weapon systems with robotic platforms IROWS	1	2009	3	2011
Demonstrate NROWS Capability to detect and track multiple targets	1	2009	1	2009

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**Exhibit R-4A, RDT&E Schedule Details:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603161D8Z: <i>Nuclear &amp; Conventional Phy Sec Equip</i>	<b>PROJECT</b> P162: <i>Nuclear &amp; Con Phys Sec Equip</i>
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Event	Start		End	
	Quarter	Year	Quarter	Year
Demonstrate NROWS detecting and tracking multiple targets under various scenerios	1	2009	2	2009
TVSS CDD, Tri-Fusion Demo, and Milestone B Documentation	2	2010	2	2011

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603527D8Z: <i>Retract Larch</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	21.368	21.542	21.592	0.000	21.592	22.180	22.962	23.284	23.613	Continuing	Continuing
P527: <i>Retract Larch</i>	21.368	21.542	21.592	0.000	21.592	22.180	22.962	23.284	23.613	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

This program is reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress. For further information, please contact the Director of Special Programs, OUSD(AT&L)/DSP.

**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	22.819	21.542	0.000	0.000	0.000
Current President's Budget	21.368	21.542	21.592	0.000	21.592
Total Adjustments	-1.451	0.000	21.592	0.000	21.592
• Congressional General Reductions		0.000			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	-0.894	0.000			
• SBIR/STTR Transfer	-0.511	0.000			
• Other Adjustments	-0.046	0.000	21.592	0.000	21.592

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603527D8Z: <i>Retract Larch</i>	<b>PROJECT</b> P527: <i>Retract Larch</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
<i>P527: Retract Larch</i>	21.368	21.542	21.592	0.000	21.592	22.180	22.962	23.284	23.613	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

This program is reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress. For further information, please contact the Director of Special Programs, OUSD(AT&L)/DSP.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Retarct Larch	21.368	21.542	21.592	0.000	21.592
Not applicable. Information Classified					
<i>FY 2009 Accomplishments:</i> Not applicable. Information Classified					
<i>FY 2010 Plans:</i> Not applicable. Information Classified					
<i>FY 2011 Base Plans:</i> Not applicable. Information					
Accomplishments/Planned Programs Subtotals	21.368	21.542	21.592	0.000	21.592

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b>	<b>R-1 ITEM NOMENCLATURE</b>	<b>PROJECT</b>
0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	PE 0603527D8Z: <i>Retract Larch</i>	P527: <i>Retract Larch</i>

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

N/A

**D. Acquisition Strategy**

Not Applicable

**E. Performance Metrics**

Not Applicable

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603709D8Z: <i>Joint Robotics 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	11.086	15.279	9.878	0.000	9.878	12.175	12.392	11.675	11.299	Continuing	Continuing
P709: <i>Joint Robotics Program</i>	11.086	15.279	9.878	0.000	9.878	12.175	12.392	11.675	11.299	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

(U) This Program Element (PE) was established in response to Congressional guidance to consolidate DoD robotic programs on unmanned ground systems and related robotic technologies in order to increase the focus of the robotic programs on operational requirements. Technologies in the PE support the continued development of technologies beyond Budget Activity 3 (PE 0603711D8Z) for technology transition and transformation to close warfighter requirement capability gaps. By exercising its oversight role through a technology advisory board, senior military Council and Senior Steering Group (Flag level), Joint Ground Robotics (JGRE) applies this PE to enable coordination between the Services and places emphasis on interoperability and commonality among unmanned ground systems. This PE funds efforts to overcome technology barriers in thrust areas of unmanned ground system technologies to include Autonomous & Tactical Behaviors, Manipulation Technologies, Collaborative Operations, Interoperability, Man-portable Unmanned Ground System Technologies, and Technology Transition/Transformation. This PE funds unmanned ground system technologies and supports the integration of technologies into representative models or prototype systems in a high fidelity and realistic operating environment and expedites technology transition from the laboratory to operational use. Emphasis is on proving component and subsystem maturity prior to integration in major and complex systems and may involve risk reduction initiatives. Within this PE, funded projects will continue the delivery of advanced technology directed at enhancing the warfighter's capabilities identified during new concept development, operational assessments and field feedback of current unmanned systems. The technologies are generally at TRL 4 or 5 with the intent to mature them through JGRE efforts to TRL 6.

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b>	<b>R-1 ITEM NOMENCLATURE</b>
0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i>	PE 0603709D8Z: <i>Joint Robotics Program</i>
BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</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	11.782	11.803	0.000	0.000	0.000
Current President's Budget	11.086	15.279	9.878	0.000	9.878
Total Adjustments	-0.696	3.476	9.878	0.000	9.878
• Congressional General Reductions		0.000			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		3.600			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.158	0.000			
• Other Program Adjustments	-0.538	-0.124	9.878	0.000	9.878

**Congressional Add Details (\$ in Millions, and Includes General Reductions)**

**Project:** P709: *Joint Robotics Program*

    Congressional Add: *Autonomous Machine Vision for Mapping and Investigation of Remote Sites*

    Congressional Add: *Joint Robotics Training Program*

Congressional Add Subtotals for Project: P709

Congressional Add Totals for all Projects

	<u>FY 2009</u>	<u>FY 2010</u>
	0.000	1.600
	0.000	2.000
	0.000	3.600
	0.000	3.600

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603709D8Z: <i>Joint Robotics Program</i>	<b>PROJECT</b> P709: <i>Joint Robotics 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
<i>P709: Joint Robotics Program</i>	11.086	15.279	9.878	0.000	9.878	12.175	12.392	11.675	11.299	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

(U) This Program Element (PE) was established in response to Congressional guidance to consolidate DoD robotic programs on unmanned ground systems and related robotic technologies in order to increase the focus of the robotic programs on operational requirements. Technologies in the PE support the continued development of technologies beyond Budget Activity 3 (PE 0603711D8Z) for technology transition and transformation to close warfighter requirement capability gaps. By exercising its oversight role through a technology advisory board, senior military Council and Senior Steering Group (Flag level), Joint Ground Robotics (JGRE) applies this PE to enable coordination between the Services and places emphasis on interoperability and commonality among unmanned ground systems. This PE funds efforts to overcome technology barriers in thrust areas of unmanned ground system technologies to include Autonomous & Tactical Behaviors, Manipulation Technologies, Collaborative Operations, Interoperability, Man-portable Unmanned Ground System Technologies, and Technology Transition/Transformation. This PE funds unmanned ground system technologies and supports the integration of technologies into representative models or prototype systems in a high fidelity and realistic operating environment and expedites technology transition from the laboratory to operational use. Emphasis is on proving component and subsystem maturity prior to integration in major and complex systems and may involve risk reduction initiatives. Within this PE, funded projects will continue the delivery of advanced technology directed at enhancing the warfighter's capabilities identified during new concept development, operational assessments and field feedback of current unmanned systems. The technologies are generally at TRL 4 or 5 with the intent to mature them through JGRE efforts to TRL 6.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Autonomous & Tactical Behaviors  Development of vehicle onboard intelligence and tactical behaviors for greater autonomy. These technologies will increase the warfighters' ability to accomplish military task with greater effectiveness, while simultaneously reducing their risk to exposure and harm.	3.315	2.222	1.763	0.000	1.763

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603709D8Z: <i>Joint Robotics Program</i>	<b>PROJECT</b> P709: <i>Joint Robotics Program</i>
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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 2009 Accomplishments:</i></p> <ul style="list-style-type: none"> <li>* Autonomous Navigation for Small UGVs (ANSU) delivered the 1st generation sensor suite and began demonstration of the 2nd generation sensor suite on representative platform capable of detecting obstacles of 6” or greater at a range of 3 meters. Guarded tele-operation capable of avoiding obstacles 12” or greater in height at speeds of not less than 1m/s.</li>   <li>* Tactical Behaviors for Explosive Ordnance Disposal (EOD) completed requirements report and publish solicitations requesting proposals. Conducted design review and completed test reporting for visualization payloads for the Mk 1 and/or Mk 2.</li>   <li>* Automate Aircraft (Ground) Refueling (AAGR) connected the fuel nozzle to the Single Point Refueling (SPR) adapter or the In-flight Refueling (IFR) port/probe on AC mock-up. Incorporated the vision-based positioning and fuel nozzle handling capabilities; Test sub-systems; Make improvements, if necessary and document any changes.</li>   <li>* Human Presence and Detection incrementally improve detection rate and detection range from small vehicle by detecting human presence at a minimum range of 15 m at 80 percent detection rate and 10 percent false alarm rate.</li> </ul> <p><i>FY 2010 Plans:</i></p> <ul style="list-style-type: none"> <li>* Autonomous Navigation for Small UGVs (ANSU) will complete demonstration of the 2nd generation sensor suite on representative platform capable of detecting obstacles of 6” or greater at a range of 3 meters.</li>   <li>* Unmanned Ground Vehicles for Small Unit Logistics will deliver experiment final report, Center for Naval Analysis Report, and X-File Report. Project was previously funded from PE 0603711D8Z as TRL level matured.</li> </ul>					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603709D8Z: <i>Joint Robotics Program</i>	<b>PROJECT</b> P709: <i>Joint Robotics Program</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Integrate communication, mission planning, interface technologies, and advanced intelligence capabilities to support collaborative operations between manned and unmanned systems. Develop and assess several strategies to enhance tele-operation of current Unmanned Ground Vehicles (UGV) and collaborative Unmanned Air Vehicles (UAV) teams. Development of these technologies will enable unmanned systems to support warfighter concepts of operation that are envisioning unmanned systems working in collaboration across domains (air, ground, and maritime) to execute tactical missions and complex military tasks.</p> <p><i>FY 2010 Plans:</i></p> <ul style="list-style-type: none"> <li>* Counter Tunnel Technology Survey and Experimentation will evaluate COTS technologies as applied to counter tunnel mission area; perform warfighter user evaluation of technologies; and report on capability gaps and determine technologies that need to be developed to meet warfighter needs.</li> <li>* HRI for Explosive Ordinance Disposal will perform a task-oriented analysis of the human robot interface for the next generation of EOD systems. This analysis will be used to design the user interface for a common controller for the family of EOD systems being developed under the AEODRS program.</li> <li>* High Speed Small Teleoperated Robot Command and Control will quintuple to practical long-term teleoperation speed of small robots.</li> <li>* Urban Environment Exploration will mature adaptive localization behaviors with intermittent GPS beyond 2 buildings by localizing inside buildings within .5 m; localizing outside buildings within 2 m; localizing over a 1 mile radius; and transitioning in-and-out of 3 single-story building structures. Project transitioned from PE 0603711D8Z as TRL level matured.</li> <li>* Autonomous Navigation Environment (VANE) identified existing modeling processes and integration with VANE simulation. Identified transition paths for VANE CTB products. Developed dynamic scene</li> </ul>					

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603709D8Z: <i>Joint Robotics Program</i>	<b>PROJECT</b> P709: <i>Joint Robotics Program</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>generation for dense vegetation. Initiated development of ANVEL software in tandem with preparing ANVEL software for release as an open source product.</p> <p>* Urban Environment Modeling will demonstrate autonomous generation of a 3-D world model of a 2x2 city block area using fused sensor data. Project transitioned from PE 0603711D8Z as TRL level matured.</p> <p>* Miniature 3D Spatial Phase Sensors will develop and demonstrate 2nd generation SPI camera system reducing size from current prototype to 4x4x5 inches, port several steps of the processing pipeline to an integrated FPGA or parallel processor image, change surface normal vector and 3D surface data output at least 20Hz at least 4-megapixel resolution. Project was previously funded from PE 0603711D8Z as TRL level matured.</p> <p><i>FY 2011 Base Plans:</i></p> <p>* HRI for Explosive Ordinance Disposal (EOD), based on the results of the previous year efforts, will conduct another analysis of the human robot interface for the next generation of EOD systems and further refine the interface capability.</p> <p>* Urban Environment Exploration will mature adaptive localization behaviors with intermittent GPS to cover a city block, including multi-story buildings by localizing inside buildings within .3m; localizing outside buildings within 1m; localize over a 3 mile radius; and transitioning in and out of 5 building structures, including 2 multi-story buildings.</p> <p>* High Speed Small Teleoperated Robot Command and Control will quintuple to practical long-term teleoperation speed of small robots.</p>					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603709D8Z: <i>Joint Robotics Program</i>	<b>PROJECT</b> P709: <i>Joint Robotics Program</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>* Autonomous Navigation Environment (VANE) will develop inferencing algorithms of complex scenes and texturing, measure platform physical characterization methods and develop translation processes of environmental data models for different modeling architectures.</p> <p>* Urban Environment Modeling will demonstrate autonomous generation of a 3-D world model of an ~10x10 city block area in an operationally relevant environment using fused sensor data with the following metrics: Model Resolution &gt; 20cm; Model Accuracy &gt; 50cm; Global Registration Accuracy &gt; 2m; and demonstrate autonomous generation of a 3-D world model of a 2x2 city block area using fused sensor data.</p> <p>* Miniature 3D Spatial Phase Sensors will develop and demonstrate 3rd generation miniature SPI camera system reducing in size to 3x3x3 inches (not including optics); provide full data processing (through surface normal integration stage) on integral hardware (FPGA/ASIC/Parallel processor) image, surface normal, and 3D surface data output at 30Hz at 8-megapixel resolution; interfacing and power consistent with reasonable small UGV constraints (ieee1394/usb/ethernet); and additional onboard processing options available such as model/data decimation, feature identification/tracking, patch segmentation, etc. (exact details TBD).</p>						
<p>Interoperability</p> <p>Software algorithms and interface technologies will facilitate sharing of data across unmanned platforms and domains, and with C2 systems as well as interchangeability of mission payloads and unmanned chassis. Such interoperability will enable collaborative operations between manned and unmanned systems as well as among unmanned systems in differing domains.</p> <p><i>FY 2009 Accomplishments:</i></p> <p>* Joint Architecture for Unmanned Systems (JAUS) Develop 1st draft interface specifications for platform mobility, Serial manipulation, mission execution, and environment sensing. Obtained</p>		2.127	1.000	0.262	0.000	0.262

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603709D8Z: <i>Joint Robotics Program</i>	<b>PROJECT</b> P709: <i>Joint Robotics Program</i>
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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 2009 Accomplishments:</i> Funding has been utilized to assist in transition or transformation of the following projects but not limited to:</p> <ul style="list-style-type: none"> <li>* Automated Aircraft (Ground) Refueling (AAGR)</li> <li>* Tactical Behaviors for Explosive Ordnance Disposal (EOD)</li> <li>* Human Presence and Detection</li> <li>* Man-Portable Intelligence gathering, Surveillance, and Reconnaissance (ISR) Robot</li> <li>* Man-Portable Unmanned Ground Vehicles (Cobra Gold)</li> <li>* Joint Architecture for Unmanned Systems (JAUS)</li> <li>* Robotic Systems Technical and Operational Metrics Correlation</li> </ul> <p><i>FY 2010 Plans:</i> Funding will be utilized to assist in transition or transformation of the following projects but not limited to:</p> <ul style="list-style-type: none"> <li>* Autonomous Navigation for Small UGVs (ANSU)</li> <li>* Battlefield Extraction – Assist Robot (BEAR)</li> <li>* Advanced Hydraulic Actuator</li> <li>* Unmanned Ground Vehicles for Small Unit Logistics</li> </ul> <p><i>FY 2011 Base Plans:</i> Funding will be utilized to assist in transition or transformation of the following projects but not limited to:</p> <ul style="list-style-type: none"> <li>* HRI for Explosive Ordnance Disposal</li> <li>* Urban Environment Exploration</li> <li>* Maritime Interdiction Operations Experimentation</li> </ul>					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603709D8Z: <i>Joint Robotics Program</i>	<b>PROJECT</b> P709: <i>Joint Robotics Program</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
* Robotic Gripper with Adjustable Passive Compliance * Very Low Cost LADAR * Long Range Vision for Obstacle Detection * Own the Night v2 * High Speed Small Teleoperated Robot Command and Control * Autonomous Navigation Environment (VANE) * Urban Environment Modeling * 3D Visualization for Explosive Ordinance Disposal Robots * Miniature 3D Spatial Phase Sensors * Collision Prediction Utilizing Traversability Models for Dynamic Environments						
Accomplishments/Planned Programs Subtotals		11.086	11.679	9.878	0.000	9.878
		<b>FY 2009</b>	<b>FY 2010</b>			
Congressional Add: Autonomous Machine Vision for Mapping and Investigation of Remote Sites <i>FY 2010 Plans:</i> Description not provided as of this date.		0.000	1.600			
Congressional Add: Joint Robotics Training Program <i>FY 2010 Plans:</i> Description not yet provided as of this date		0.000	2.000			
Congressional Adds Subtotals		0.000	3.600			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603709D8Z: <i>Joint Robotics Program</i>	<b>PROJECT</b> P709: <i>Joint Robotics Program</i>

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

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u> <u>Base</u>	<u>FY 2011</u> <u>OCO</u>	<u>FY 2011</u> <u>Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 0603711D8Z : <i>Autonomous</i>	8.535	11.020	9.943		9.943	11.048	11.343	11.526	11.733	Continuing	Continuing
• 0604709D8Z : <i>Robotics</i>	5.420	5.086	4.155		4.155	3.126	2.986	3.028	3.157	Continuing	Continuing

**D. Acquisition Strategy**

N/A

**E. Performance Metrics**

1. Technologies to be funded & developed are reviewed by Joint Capability Area focused working groups and the Joint Staff Functional Capabilities Boards to determine progress, transition plans, and relevance of each project.
2. Project plans are submitted, evaluated and analyzed by the Joint Robotics Ground Enterprises management and technical staff for risk and progress.
3. Project progress toward goals and milestones is assessed during mid-year and end-of-year reviews.
4. Technologies developed by the Joint Robotics Ground Enterprises (JGRE) are tracked and documented using the DoD Technical Readiness Level (TRL) scale for developing TRL 3 or 4 technologies to TRL 6 and adhering to the integrated baselines with regard to cost and schedule.

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603709D8Z: <i>Joint Robotics Program</i>	<b>PROJECT</b> P709: <i>Joint Robotics Program</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			
Joint Ground Robotics Enterprise	MIPR	TBD TBD	11.682	15.176	Sep 2098	9.878	Sep 2098	0.000		9.878	Continuing	Continuing	Continuing
<b>Subtotal</b>			11.682	15.176		9.878		0.000		9.878			

**Remarks**

Funding value captures the total planned for obligation across the PE. The Joint Ground Robotics Enterprise (JGRE) utilizes several contracting and management strategies to achieve its objectives. This PE supports the need to integrate technologies into representative models or prototype systems in a high fidelity and realistic operating environment and expedite technology transition from the laboratory to operational use. Emphasis is on proving component and subsystem maturity prior to integration in major and complex systems and may involve risk reduction initiatives. Funded projects will continue the delivery of responses to advanced technology needs enhancing the warfighter's capabilities identified during concept development, operational assessments and field feedback of current unmanned systems.

**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			
Joint Ground Robotics Enterprise Support	MIPR	TBD TBD	0.100	0.103	Sep 2010	0.000	Sep 2010	0.000		0.000	Continuing	Continuing	Continuing
<b>Subtotal</b>			0.100	0.103		0.000		0.000		0.000			

**Remarks**

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**Exhibit R-4, RDT&E Schedule Profile:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603709D8Z: <i>Joint Robotics Program</i>	<b>PROJECT</b> P709: <i>Joint Robotics Program</i>
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	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Joint Collaborative Technologies Experiment				■																								
Robotic Convoy Technologies- Warfighter Experiment								■																				
Networked Robotic Communication Solutions								■																				
Unmanned System Training - Improved UMS Route Surveillance								■																				
EOD Comms Tech Demo								■																				
Open Architecture for advanced user interfaces								■																				
Battlefield Extraction - Assist Robot (BEAR)				■																								
Chemical Biological Radiological & Nuclear (CBRN) Package for UGV & UAS				■																								
Robotic Convoy Technologies				■																								
Advanced EOD Robot System				■																								
Autonomous Range Clearance				■																								
Horizontal Mobility and Environmental Mapping								■																				

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**Exhibit R-4A, RDT&E Schedule Details:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603709D8Z: <i>Joint Robotics Program</i>	<b>PROJECT</b> P709: <i>Joint Robotics Program</i>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Joint Collaborative Technologies Experiment	4	2009	4	2009
Robotic Convoy Technologies- Warfighter Experiment	4	2010	4	2010
Networked Robotic Communication Solutions	4	2010	4	2010
Unmanned System Training - Improved UMS Route Surveillance	4	2010	4	2010
EOD Comms Tech Demo	4	2010	4	2010
Open Architecture for advanced user interfaces	4	2010	4	2010
Battlefield Extraction - Assist Robot (BEAR)	4	2009	4	2009
Chemical Biological Radiological & Nuclear (CBRN) Package for UGV & UAS	4	2009	4	2009
Robotic Convoy Technologies	4	2009	4	2009
Advanced EOD Robot System	4	2009	4	2009
Autonomous Range Clearance	4	2009	4	2009
Horizontal Mobility and Environmental Mapping	4	2010	4	2010

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603714D8Z: <i>Advanced Sensors Application 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	15.912	17.627	18.060	0.000	18.060	18.434	18.845	19.230	19.605	Continuing	Continuing
714: <i>Advanced Sensors Application Program</i>	15.912	17.627	18.060	0.000	18.060	18.434	18.845	19.230	19.605	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

The program focuses on continued development of domestic technologies to support the assessment of foreign technologies that have demonstrated potential for improvements in U.S. capabilities. Unique and innovative approaches are used to expand the performance envelopes of existing systems. This program supports military requirements identified in Joint Vision 2020, the Defense Science and Technology Strategy, the ASW Initial Capabilities Document, and the Fleet ASW Integrated Prioritized Capability List.

**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	15.912	17.771	0.000	0.000	0.000
Current President's Budget	15.912	17.627	18.060	0.000	18.060
Total Adjustments	0.000	-0.144	18.060	0.000	18.060
• Congressional General Reductions		-0.144			
• 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			
• Other Program Adjustments	0.000	0.000	18.060	0.000	18.060

**C. Accomplishments/Planned Program (\$ in Millions)**

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603714D8Z: <i>Advanced Sensors Application Program</i>
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**C. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Advanced Sensor Applications Program	15.912	17.627	18.060	0.000	18.060
<i>FY 2009 Accomplishments:</i> Mission Support (Classified details provided in Defense-Wide (classified) Volume 7 book)					
<i>FY 2010 Plans:</i> Mission Support (Classified details provided in Defense-Wide (classified) Volume 7 book)					
<i>FY 2011 Base Plans:</i> Mission Support (Classified details provided in Defense-Wide (classified) Volume 7 book)					
<i>FY 2011 OCO Plans:</i> N/A					
Accomplishments/Planned Programs Subtotals	15.912	17.627	18.060	0.000	18.060

**D. Other Program Funding Summary (\$ in Millions)**

N/A

**E. Acquisition Strategy**

N/A

**F. Performance Metrics**

Numbers of operational field demonstrations; actual/in-kind resource sharing differential among participating entities; numbers of studies produced; numbers of successful anomaly detections; numbers of false-positive results. Numbers of technology transfers.

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**Exhibit R-3, RDT&E Project Cost Analysis:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603714D8Z: <i>Advanced Sensors Application Program</i>	<b>PROJECT</b> 714: <i>Advanced Sensors Application Program</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
<b>Project Cost Totals</b>	0.000	0.000	0.000	0.000	0.000			

**Remarks**  
Classified details provided in Defense-Wide (classified) Volume 7 book for Exhibit R3 and R4.

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603851D8Z: <i>Environ Security Tech Cert Pgm</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	36.616	40.780	30.419	0.000	30.419	30.722	30.957	31.416	31.927	Continuing	Continuing
P514: <i>Environ Sec Tech Cert Pgm</i>	36.616	40.780	30.419	0.000	30.419	30.722	30.957	31.416	31.927	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

(U) This program demonstrates and validates the most promising innovative environmental technologies that target DoD's most urgent environmental needs. Technologies selected are projected to provide pay back of the investment through cost savings and improved efficiencies. The program responds to: (1) Congressional concern over the slow pace of remediation of environmentally polluted sites on military installations, (2) Congressional direction to conduct demonstrations specifically focused on emerging new technologies, and (3) the need to improve defense readiness by reducing the drain on the Department's operation and maintenance dollars caused by environmental restoration, waste management, and the cost of energy. Preference for demonstrations are given to technologies that have successfully completed all necessary research and development objectives, and address the highest priority DoD environmental requirements.

**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	38.691	31.613	0.000	0.000	0.000
Current President's Budget	36.616	40.780	30.419	0.000	30.419
Total Adjustments	-2.075	9.167	30.419	0.000	30.419
• Congressional General Reductions		0.000			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		9.167			
• Congressional Directed Transfers		0.000			
• Reprogrammings	-1.532	0.000			
• SBIR/STTR Transfer	-0.477	0.000			
• Other Program Adjustments	-0.066	0.000	30.419	0.000	30.419

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603851D8Z: <i>Environ Security Tech Cert Pgm</i>	<b>PROJECT</b> P514: <i>Environ Sec Tech Cert Pgm</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
P514: <i>Environ Sec Tech Cert Pgm</i>	36.616	40.780	30.419	0.000	30.419	30.722	30.957	31.416	31.927	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

(U) This program demonstrates and validates the most promising innovative environmental technologies that target DoD's most urgent environmental needs. Technologies selected are projected to provide pay back of the investment through cost savings and improved efficiencies. The program responds to: (1) congressional concern over the slow pace of remediation of environmentally polluted sites on military installations, (2) congressional direction to conduct demonstrations specifically focused on emerging new technologies, and (3) the need to improve defense readiness by reducing the drain on the Department's operation and maintenance dollars caused by environmental restoration, waste management, and the cost of energy. Preference for demonstrations are given to technologies that have successfully completed all necessary research and development objectives, and address the highest priority DoD environmental requirements.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
ESTCP Accomplishments/plans are described at the program level below.  <i>FY 2009 Accomplishments:</i> (U) FY 2009 Accomplishments:  The focus of the program is on cleanup, UXO detection and discrimination; range and installation sustainment, and eliminating/reducing waste streams associated with DoD weapon systems. - Continued 90 demonstration projects - Reviewed and selected 32 new technologies for demonstration. - Reviewed and select sites for demonstration of technologies. - Prepared site-specific implementation plans	36.616	40.780	30.419	0.000	30.419

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603851D8Z: <i>Environ Security Tech Cert Pgm</i>	<b>PROJECT</b> P514: <i>Environ Sec Tech Cert Pgm</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul style="list-style-type: none"> <li>- Prepared sites and secure regulatory permitting</li> <li>- Awarded demonstration testing and evaluation for selected technologies</li> <li>- Extended for Congressional directed projects</li> </ul> <p>A major accomplishment was the demonstration of a scientifically defensible sampling protocol designed specifically for characterizing energetic residues on training ranges, an approach for which gained the approval of the Environmental Protection Agency. This new approach, EPA Method 8330B, addresses the uncertainty due to the heterogeneity of energetic residues on military ranges and provides an accurate sampling process.</p> <p>Another major accomplishment was the demonstration and validation of the Robotic Laser Coating Removal System as an alternative technology to remove coatings from large aircraft components. This robotic system has the potential to reduce the environmental impacts associated with coatings removal, reduce labor and chemical costs, and enable workers to remove coatings in a fraction of the time, limiting the amount of time military aircraft are out of service.</p> <p>Details on all ongoing and completed ESTCP projects in FY2009 can be found at <a href="http://www.estcp.org">www.estcp.org</a>.</p> <p>Investment by Focus Area:</p> <ul style="list-style-type: none"> <li>- Environmental Restoration: (\$11.201 million)</li> <li>- Munitions Management: (\$7.719 million)</li> <li>- Sustainable Infrastructure: (\$6.307 million)</li> <li>- Weapons Systems and Platforms: (\$11.389 million)</li> </ul> <p><i>FY 2010 Plans:</i> (U) FY 2010 Plans:</p>					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603851D8Z: <i>Environ Security Tech Cert Pgm</i>	<b>PROJECT</b> P514: <i>Environ Sec Tech Cert Pgm</i>
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A		
<b>D. Acquisition Strategy</b> ESTCP solicits proposals from all DoD organizations, other Federal Agencies, and the commercial sector. Projects are selected based on an annual competitive process through reviews by multi-agency panels.		
<b>E. Performance Metrics</b> Performance in this program is monitored at two levels. At the lowest level, each individual project is measured against technical and financial milestones on a quarterly and annual basis. At a program-wide level, progress is measured against DoD's environmental requirements and the demonstration and transition of technologies that address these requirements.		

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**Exhibit R-4, RDT&E Schedule Profile: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603851D8Z: <i>Environ Security Tech Cert Pgm</i>	<b>PROJECT</b> P514: <i>Environ Sec Tech Cert Pgm</i>
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	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
FY09 In Progress Reviews	■	■	■																										
Develop FY10 Program		■	■	■																									
FY10 In Progress Reviews					■	■	■																						
Develop FY11 Program						■	■	■																					
Develop FY12 Program											■	■	■																
FY11 In Progress Reviews									■	■	■																		

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**Exhibit R-4A, RDT&E Schedule Details:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603851D8Z: <i>Environ Security Tech Cert Pgm</i>	<b>PROJECT</b> P514: <i>Environ Sec Tech Cert Pgm</i>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
FY09 In Progress Reviews	1	2009	3	2009
Develop FY10 Program	2	2009	4	2009
FY10 In Progress Reviews	1	2010	3	2010
Develop FY11 Program	2	2010	4	2010
Develop FY12 Program	2	2011	4	2011
FY11 In Progress Reviews	1	2011	3	2011

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603920D8Z: <i>Humanitarian De-mining</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	13.993	14.568	14.735	0.000	14.735	15.016	15.402	15.616	15.814	Continuing	Continuing
920: <i>Humanitarian De-mining</i>	13.993	14.568	14.735	0.000	14.735	15.016	15.402	15.616	15.814	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

The Humanitarian Demining Research and Development (HD R&D) program element develops, demonstrates and evaluates prototype demining systems for US forces and for indigenous, DoD-supported, host nation-conducted demining operations. The HD R&D Program focuses on development of technologies to improve the efficiency and safety of removing post-conflict landmines and UXO, which are a significant danger to U.S. forces performing peace and stability operations, as well as to civilians. The HD R&D Program adapts commercial-off-the-shelf equipment, integrates mature technologies, and leverages R&D activity within DoD, particularly in the Army's Night Vision Electronic Sensors Directorate (NVESD) Tactical Countermine mission area. Equipment capabilities are assessed by host nation demining partners in actual demining conditions. The program aims to improve existing technologies for: detection discrimination and confirmation, vegetation clearance, mechanical mine excavation and clearance, individual deminer/soldier tools, and aerial survey area reduction. Areas of emphasis are identified and validated at a biannual Requirements Workshop held by the Office of the Assistant Secretary of Defense for Special Operations and Low Intensity Conflict (OASD SO/LIC). The Requirements Workshop involves representatives from the combatant commands and from mine-affected nations. Under OASD SO/LIC, the HD R&D Program is a strong participant in the International Test and Evaluation Program (ITEP).

**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	13.993	14.687	0.000	0.000	0.000
Current President's Budget	13.993	14.568	14.735	0.000	14.735
Total Adjustments	0.000	-0.119	14.735	0.000	14.735
• Congressional General Reductions		0.000			
• 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			
• Other Adjustments	0.000	-0.119	14.735	0.000	14.735

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2011 Office of Secretary Of Defense	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603920D8Z: <i>Humanitarian De-mining</i>
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**C. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>0603920D8Z - SO/LIC Humanitarian De-mining</p> <p>The Humanitarian Demining Research and Development (HD R&amp;D) program element develops, demonstrates and evaluates prototype demining systems for US forces and for indigenous, DoD supported, host nation conducted demining operations. The HD R&amp;D Program focuses on development of technologies to improve the efficiency and safety of removing post-conflict landmines and UXO, which are a significant danger to U.S. forces performing peace and stability operations, as well as to civilians. The HD R&amp;D Program adapts commercial-off-the-shelf equipment, integrates mature technologies, and leverages R&amp;D activity within DoD, particularly in the Army Night Vision Electronic Sensors Directorate (NVESD) Tactical Countermining mission area. Equipment capabilities are assessed by host nation demining partners in actual demining conditions. The program aims to improve existing technologies for: individual mine/UXO and minefield detection, wide area survey, mechanical mine/UXO and vegetation clearance, mine neutralization, individual soldier/deminer protection, detection of explosives in buried mines, verification of the presence of mines, marking and mapping of mines/minefields, post clearance quality assurance (QA), and individual deminer tools. Areas of emphasis are identified and validated at an annual Requirements Workshop held by the Office of the Assistant Secretary of Defense for Special Operations and Low Intensity Conflict (OASD SO/LIC). The Requirements Workshop involves representatives from the combatant commands and from mine affected nations. Under OASD SO/LIC, the HD R&amp;D Program is a strong participant in the International Test and Evaluation Program (ITEP).</p> <p><i>FY 2009 Accomplishments:</i> The HD R&amp;D Program actively engaged in the operational field evaluations of 37 humanitarian demining (HD) technologies in 10 countries. As a result of requests made during the biannual Requirements Workshop, OCONUS field assessments, and in-house developments, the HD R&amp;D program deployed many of its systems to humanitarian demining organizations overseas, including locations in Afghanistan and Iraq. The deployments initiated in FY2009 included the Beaver II in</p>	13.993	14.568	14.735	0.000	14.735

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2011 Office of Secretary Of Defense	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603920D8Z: <i>Humanitarian De-mining</i>
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**C. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Thailand, the Long-Handled Tools in Ecuador and Cambodia, HSTAMIDS with the Cambodian Mine Action Centre, and STORM in Cambodia. In addition, the HD R&amp;D Program continued its deployments of the Tempest, Maxx+, HSTAMIDS, Explosive Harvesting System, Sifting Attachments, Survivable Demining Tractors, Uni-Disk, Beaver, Peco, Multi-Tool Excavator, Air-Spade, Improved Backhoe, MANTIS, Orbit Sifter, Walking Tractor, Modular Detection Array, Heavy Detonation Trailer, JCB Loadall, and the Rotary Mine Comb to countries in Africa, South America and Asia. The HD R&amp;D Program continued final development, test and evaluation of prototype technologies in the following areas: detection discrimination and confirmation, vegetation clearance, mechanical mine excavation and clearance, individual deminer/soldier tools, and aerial survey area reduction. The HD R&amp;D Program supported the combatant commands and Embassy staffs by conducting site surveys, country assessments and technology development and evaluations. The Program performed surveys and assessments in Chile, Armenia, Tajikistan, and Angola to determine whether HD equipment could be effectively utilized. In addition, data from the HD R&amp;D Program's intensive evaluation of HSTAMIDS in the humanitarian demining context continued to provide critical training and operation techniques to the US Army's Tactical Countermine HSTAMIDS program. In FY2009 prototype development, program engineers completed several prototypes, including the Mine Stalker and Large Loop UXO Detection System, which transitioned to evaluations in the field. In FY2009 the program tested 15 mine detection and clearance systems at Fort AP Hill and Yuma Proving Grounds.</p> <p><i>FY 2010 Plans:</i> The HD R&amp;D Program will complete ongoing equipment developments/modifications and operational evaluations from FY2009, including new evaluations of Mini MineWolf in Tajikistan and Badger in Cambodia. The HD R&amp;D Program will support the combatant commands and Embassy staffs by conducting site surveys, country assessments and technology development and evaluation. The program will continue development, test and evaluation of prototype technologies in the following areas: detection discrimination and confirmation, vegetation clearance, mechanical mine excavation and clearance, and individual deminer/soldier tools.</p>					

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603920D8Z: <i>Humanitarian De-mining</i>
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<b>C. Accomplishments/Planned Program (\$ in Millions)</b>	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p><i>FY 2011 Base Plans:</i> The HD R&amp;D Program will complete ongoing equipment developments/modifications and operational evaluations from FY2010. The HD R&amp;D Program will support the combatant commands and Embassy staffs by conducting site surveys, country assessments and technology development and evaluation. The program will continue development, test and evaluation of prototype technologies in the following areas: detection discrimination and confirmation, vegetation clearance, mechanical mine excavation and clearance, and individual deminer/soldier tools.</p>					
<b>Accomplishments/Planned Programs Subtotals</b>	13.993	14.568	14.735	0.000	14.735

**D. Other Program Funding Summary (\$ in Millions)**  
N/A

**E. Acquisition Strategy**  
Following a rapid prototyping strategy, the program emphasizes the use/modification of existing, commercially-available items and components to build functional prototype equipment suited for humanitarian demining operations. This approach is required due to the immediate need for new demining technologies in the face of ongoing U.S. forces and host nation citizen casualties in mine-affected countries. The program evaluates prototype equipment by acquiring it off-the-shelf from industry using competition to the extent possible, by leveraging ongoing countermine R&D efforts in other U.S. and foreign R&D activities, and by taking advantage of extensive in-house fabrication capabilities at the Army's Night Vision and Electronic Sensors Division (NVESD).

**F. Performance Metrics**  
Long Term Strategies: Obtain adequate funding to support critical shortfalls; prioritize proposals that are deemed acceptable and allocate funding accordingly; and establish outreach programs to leverage institutional knowledge and expertise.

Performance Indicator and Rating:

FY 2010 Target:  
70% of currently funded research projects are completed on time and within budget

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

**APPROPRIATION/BUDGET ACTIVITY**  
0400: *Research, Development, Test & Evaluation, Defense-Wide*  
BA 4: *Advanced Component Development & Prototypes (ACD&P)*

**R-1 ITEM NOMENCLATURE**  
PE 0603920D8Z: *Humanitarian De-mining*

Complete scheduled R&D project tasks  
Transition scheduled projects to user communities  
Conduct biannual Humanitarian R&D Program Requirements Workshop

FY 2011 Target:  
70% of currently funded research projects are completed on time and within budget  
Complete scheduled R&D project tasks  
Transition scheduled projects to user communities

Basis of FY 2009 to Date Performance Rating: Currently the number of funded research projects are on track to be completed per the target.

Verification: The Humanitarian Demining Program performs program reviews and has oversight from OSD.

Validation: Completed R&D products increase the capabilities of the DoD to effectively perform demining missions.

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603923D8Z: <i>Coalition Warfare</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	12.482	13.773	13.786	0.000	13.786	14.053	14.437	14.640	14.843	Continuing	Continuing
P923: <i>Coalition Warfare</i>	12.482	13.773	13.786	0.000	13.786	14.053	14.437	14.640	14.843	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

The Coalition Warfare Program (CWP) is the only Office of the Secretary of Defense (OSD) program dedicated to initiating cooperative research and development (R&D) projects with allies and coalition partners. The goal of the effort is to assist the Combatant Commands, Services, and Agencies with integrating coalition-enabling solutions into existing and planned U.S. programs. This adds value to the Department's security cooperation strategy through collaborative development of warfighter capabilities to enhance operations of U.S. and coalition forces.

Fighting the war on terrorism and coping with the new and emerging threats have put coalition warfare issues on the radar screens of policy makers and senior leaders throughout the U.S. Government. Coalitions are and will be the standard means for addressing international crises, lending political legitimacy and providing resources that mitigate U.S. financial, materiel, and personnel burdens. Interoperability gaps between and among coalition partners have compromised operational effectiveness and jeopardized force protection (e.g., fratricidal incidents). CWP strives to bridge these gaps, for example, by providing the necessary financial support to develop interoperable, manageable and secure coalition networks, and demonstrating ability to share blue force situational awareness between U.S. and coalition battle command systems.

Cooperative efforts with likely coalition partners are needed to close interoperability gaps including those related to battlespace awareness, C4ISR, joint fires, intelligence fusion and data sharing, combat identification, logistics, weapon systems, and information sharing. Moreover, these small investments early in the R&D process yield large dividends and allow for sustainable coalition enabled U.S. systems. The OSD CWP encourages Combatant Commands, Services, Defense Agencies and OSD to involve friendly countries in development projects to meet coalition requirements that would otherwise not be realized. Partner nations participate to the extent permitted by security considerations (classified data and critical technology), when such partnering is advantageous to the U.S. Government and necessary in terms of security cooperation and regional threat scenarios.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2011 Office of Secretary Of Defense	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603923D8Z: <i>Coalition Warfare</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	13.246	13.885	0.000	0.000	0.000
Current President's Budget	12.482	13.773	13.786	0.000	13.786
Total Adjustments	-0.764	-0.112	13.786	0.000	13.786
• Congressional General Reductions		0.000			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	-0.522	0.000			
• SBIR/STTR Transfer	-0.215	0.000			
• Other Program Adjustments	-0.027	-0.112	13.786	0.000	13.786

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603923D8Z: <i>Coalition Warfare</i>	<b>PROJECT</b> P923: <i>Coalition Warfare</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
P923: <i>Coalition Warfare</i>	12.482	13.773	13.786	0.000	13.786	14.053	14.437	14.640	14.843	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

The Coalition Warfare Program (CWP) is dedicated to initiating cooperative research and development (R&D) projects with allies and coalition partners. The goal of the effort is to assist the Combatant Commands, Services, and Agencies with integrating coalition-enabling solutions into existing and planned U.S. programs. This adds value to the Department's security cooperation strategy through collaborative development of warfighter capabilities to enhance operations of U.S. and coalition forces.

Cooperative efforts with likely coalition partners are needed to close interoperability gaps including those related to battlespace awareness, C4ISR, joint fires, intelligence fusion and data sharing, combat identification, logistics, weapon systems, and information sharing. Moreover, these small investments early in the R&D process yield large dividends and allow for sustainable coalition enabled U.S. systems. The OSD CWP encourages Combatant Commands, Services, Defense Agencies and OSD to involve friendly countries in development projects to meet coalition requirements that would otherwise not be realized. Partner nations participate to the extent permitted by security considerations (classified data and critical technology), when such partnering is advantageous to the U.S. Government and necessary in terms of security cooperation and regional threat scenarios.

The Combatant Commands, Services, Defense Agencies, and OSD nominate candidate projects on an annual basis. These projects are funded for one to two years. The Program selects projects based on their compatibility with established criteria, which are based on DoD priorities (e.g. CONPLAN 7500, the OSD Building Partnerships Strategic Plan, the Combatant Commanders' Integrated Priority Lists), Joint Staff specified needs and requirements, equitable contributions from international partners, potential for transitions, portability across the regional and functional Combatant Commands, responsiveness to USD (AT&L) priorities for international armaments cooperation, and contributing to shaping operations and stability.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY08 Continuing Projects Program provided additional funding to projects that began in FY08.	4.183	0.760	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603923D8Z: <i>Coalition Warfare</i>	<b>PROJECT</b> P923: <i>Coalition Warfare</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p><i>FY 2009 Accomplishments:</i> Projects that completed their efforts in FY09 included: project that delivered a repeatable methodology to jumpstart the equipping portion of Joint Task Force Headquarters Command and Control formation; project that developed a miniature automated chemical agent detector based on the current M256A1 chemistry; and a project that established a regional multinational virtual learning environment for the purpose of using distance learning and training for U.S. and foreign military and civilian personnel.</p> <p><i>FY 2010 Plans:</i> Some FY08 projects will receive FY10 funding. These projects will deliver fieldable fluxgate magnetometers that can be of practical use to the US military and a common solution for pilots of coalition warfare platforms operating in degraded visual environments to reduce brownout impact on loss of lives, platforms and mission degradation in current desert operations.</p>						
<p>FY09 Projects</p> <p>Program selected 14 projects in FY09 nomination cycle.</p> <p><i>FY 2009 Accomplishments:</i> Projects completed international agreements and contracting efforts required to deliver capabilities. Many projects developed CONOPS and test plans and began laboratory testing.</p> <p><i>FY 2010 Plans:</i> Projects will complete their efforts and will deliver capabilities that will include an interoperable, manageable and secure coalition network based on existing and emerging standards; software solutions that will enable shared situational awareness and command and control messages with coalition partners; enhanced capability of our coalition warfare partners to interdict smuggled nuclear devices and materials; and processed imagery of coalition platforms for inclusion into Army ground-based platform trainer.</p>		7.550	5.400	0.100	0.000	0.100

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603923D8Z: <i>Coalition Warfare</i>	<b>PROJECT</b> P923: <i>Coalition Warfare</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 Base Plans:</i> One FY09 new start will receive FY11 funding. This project will deliver a software defined radio waveform specification that will support waveform porting to the participants' national radios.						
Maritime Radiological Stand-off detection and Identification (MARSII)  MARSII is an unmanned Global War on Terror warfighting system based radiological detection program designed to provide a cost effective international solution to asymmetric terrorist threats in the maritime environment.  <i>FY 2010 Plans:</i> Complete sensor integration and conduct CONUS and OCONUS demonstrations.		0.000	0.700	0.000	0.000	0.000
Fire Support Ammunition Update Capability  Establish capability to update Fire Control Information and field new ammunition to the warfighter significantly faster without completely retesting and reissuing fire support software.  <i>FY 2010 Plans:</i> Develop CONOPS and begin laboratory testing.  <i>FY 2011 Base Plans:</i> Implement capability in the annual release of the NATO Armaments Ballistic Kernel software.		0.000	0.700	0.400	0.000	0.400
Clip-on Night Vision Device – Sensor Fusion  Project aims to create better nighttime vision capabilities.  <i>FY 2010 Plans:</i> Begin development, integration, and testing of fused sensors.		0.000	0.450	0.525	0.000	0.525

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603923D8Z: <i>Coalition Warfare</i>	<b>PROJECT</b> P923: <i>Coalition Warfare</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 Base Plans:</i> Deliver prototype.						
Coalition Battle Management Services  Project aims to improve Joint and Coalition execution of pre-deployment mission rehearsals and improve adaptive planning and mission rehearsal execution for emerging threats.  <i>FY 2010 Plans:</i> Will begin developing CBMS specifications and infrastructure.  <i>FY 2011 Base Plans:</i> Will complete testing and integration of capability.		0.000	0.800	0.900	0.000	0.900
Coalition Live, Virtual, Constructive (LVC) Operations and Training  Project will create a unique training environment, where players are provided quality training including mission planning, briefing, execution, and debrief whether they are flying a live aircraft or participating in an air or ground simulation environment.  <i>FY 2010 Plans:</i> Begin development, integration and testing.  <i>FY 2011 Base Plans:</i> Deliver working LVC construct in USAFE enabling LVC operations in European theater		0.000	0.700	0.700	0.000	0.700
Maritime Data Exchange  Project will develop a multilateral information exchange capability to maximize sharing of quality information.		0.000	0.305	0.285	0.000	0.285

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603923D8Z: <i>Coalition Warfare</i>	<b>PROJECT</b> P923: <i>Coalition Warfare</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p><i>FY 2010 Plans:</i> Implement secure two-way releasable data exchange with coalition partner.</p> <p><i>FY 2011 Base Plans:</i> Deliver advanced, two-way, scalable data exchange.</p>						
<p>Easy Internet Protocol</p> <p>Project will provide a network-enhanced communications capability for maritime collaboration and situational awareness.</p> <p><i>FY 2010 Plans:</i> Develop initial CONOPS and conduct initial lab testing.</p> <p><i>FY 2011 Base Plans:</i> Deliver fly-away earth terminals, maritime awareness tool, and service contracting mechanism.</p>		0.000	0.600	0.600	0.000	0.600
<p>Joint STARS / ASTOR Interoperability Project</p> <p>Project's objective is to improve interoperability between Joint STARS and ASTOR systems.</p> <p><i>FY 2010 Plans:</i> Conduct interoperability assessment and participate in stage II exercise.</p> <p><i>FY 2011 Base Plans:</i> Conduct integration testing and operational exercise.</p>		0.000	0.700	0.700	0.000	0.700
<p>Laser Damage and Jamming Protection for Mid-Wave Infrared Detectors</p> <p>Project will develop and demonstrate laser protection for MWIR detectors.</p>		0.000	0.500	0.500	0.000	0.500

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603923D8Z: <i>Coalition Warfare</i>	<b>PROJECT</b> P923: <i>Coalition Warfare</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p><i>FY 2010 Plans:</i> Incorporate identified technologies into a jamming protected detector.</p> <p><i>FY 2011 Base Plans:</i> Deliver robust MWIR detector hardened to laser jamming and damage.</p>						
<p>Riverine and Intercoastal Operations</p> <p>Project will deliver maritime and land-based sensor/communication/common operating picture system capable of monitoring and detecting activity in the riverine and inland near-water environments.</p> <p><i>FY 2010 Plans:</i> System design, integration and test in the U.S. aboard US vessel/vehicle.</p> <p><i>FY 2011 Base Plans:</i> System design, integration and test in foreign partner vessel/vehicle.</p>		0.000	0.700	0.700	0.000	0.700
<p>FY11 Project Selections</p> <p>Program will conduct competitive nomination process to identify FY11 projects.</p> <p><i>FY 2011 Base Plans:</i> FY11 projects will be selected based on COCOM, Service, Joint Staff, OSD, and DoD Agencies priorities and requirements.</p>		0.000	0.000	7.100	0.000	7.100
<p>Coalition Warfare Program Support</p> <p>Program funds contractors to support program management.</p> <p><i>FY 2009 Accomplishments:</i> Contractor provided program support.</p>		0.693	0.723	0.742	0.000	0.742

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603923D8Z: <i>Coalition Warfare</i>	<b>PROJECT</b> P923: <i>Coalition Warfare</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p><i>FY 2010 Plans:</i> Contractor will provide program support.</p> <p><i>FY 2011 Base Plans:</i> Contractor will provide program support.</p>						
<p>Interoperability and Collaboration Initiatives</p> <p>Program funds interoperability efforts and various initiatives that are aimed at increasing collaboration.</p> <p><i>FY 2009 Accomplishments:</i> Supported international conference aimed at improving coalition vertical lift capabilities, international acquisition related meetings, and other efforts aimed at increasing interoperability and collaboration.</p> <p><i>FY 2010 Plans:</i> Will provide maintenance cost for interoperability portal and support international acquisition related conferences and meetings. Program will also fund select initiatives aimed at improving U.S. interoperability with its coalition partners.</p> <p><i>FY 2011 Base Plans:</i> Will provide maintenance cost for interoperability portal and support international acquisition related conferences and meetings.</p>		0.056	0.735	0.534	0.000	0.534
Accomplishments/Planned Programs Subtotals		12.482	13.773	13.786	0.000	13.786

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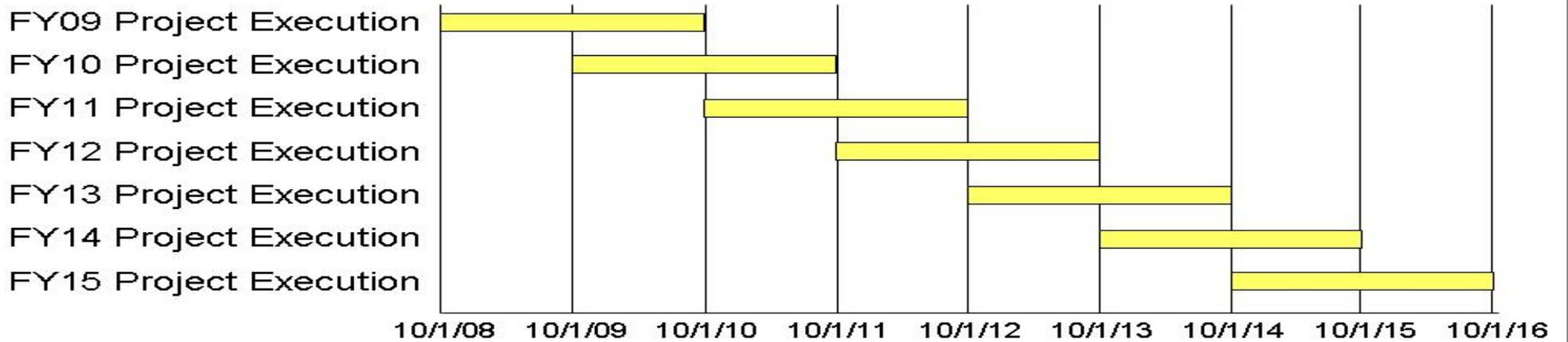
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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603923D8Z: <i>Coalition Warfare</i>	<b>PROJECT</b> P923: <i>Coalition Warfare</i>
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A		
<b>D. Acquisition Strategy</b> The Combatant Commands, Services, Defense Agencies, and the Office of the Secretary of Defense nominate candidate projects on an annual basis. These projects are funded for one to two years. The Program selects projects that address DoD priorities and meet the needs and requirements specified by the Joint Staff and the Combatant Commanders. Projects should have equitable contributions from international partners, strong potential for transition, and should contribute to allied interoperability and/or meet a user need.		
<b>E. Performance Metrics</b> After successful navigation of the competitive nomination process, initial project funding is dependent on receipt of project documentation, which includes financial information, project plan, description of project team, etc. Continued project funding is dependent on compliance with CWP requirements, which include: adequate progress toward each project's stated goals, timely reporting on financial status and project activities, provision of updated project plans and charts, and progress towards transition goals.		

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2011 Office of Secretary Of Defense</b>		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603923D8Z: <i>Coalition Warfare</i>	<b>PROJECT</b> P923: <i>Coalition Warfare</i>



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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2011 Office of Secretary Of Defense		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603923D8Z: <i>Coalition Warfare</i>	<b>PROJECT</b> P923: <i>Coalition Warfare</i>

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
FY09-FY10 Projects	1	2009	4	2010
FY10-FY11 Projects	1	2010	4	2011
FY11-FY12 Projects	1	2011	4	2012
FY12-FY13 Projects	1	2012	4	2013
FY13-FY14 Projects	1	2013	4	2014
FY14-FY15 Projects	1	2014	4	2015

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b>				<b>R-1 ITEM NOMENCLATURE</b>							
0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				PE 0604016D8Z: <i>Corrosion Protection Projects</i>							
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	18.387	22.107	4.802	0.000	4.802	4.129	4.908	4.979	5.046	Continuing	Continuing
P015: <i>Corrosion Protection Projects</i>	18.387	22.107	4.802	0.000	4.802	4.129	4.908	4.979	5.046	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

(U) The purpose of this program is to develop a comprehensive capability to prevent and mitigate corrosion and its effects on Department of Defense (DoD) weapon systems and infrastructure. Corrosion severely impacts system and facility reliability, readiness and safety, and consumes a disproportionate amount of material and labor hours for repair and treatment of corrosion damaged systems and facilities. The cost of corrosion across the DoD has been estimated at between \$10 billion and \$20 billion each year. The impact and cost of corrosion are so pervasive that Congress enacted Public Law 107-314 Sec: 1067 [portions codified in 10 U.S.C. 2228]: Prevention and mitigation of corrosion of military infrastructure and equipment. This legislation requires that DoD develop a long-term corrosion strategy to include establishment of a coordinated R&D program with transition plans. The legislation also requires that DoD designate a responsible official or organization to oversee a corrosion prevention and mitigation program.

(U) The Deputy Secretary of Defense designated the Principal Deputy Under Secretary of Defense (Acquisition, Technology, and Logistics) (PDUSD(AT&L)) as the DoD Corrosion Executive in May 2003. The DoD Corrosion Executive subsequently established a Corrosion Control and Oversight office to implement the program. Subsequently, in accordance with Section 371 of the 2008 National Defense Authorization Act, the Under Secretary of Defense (USD(AT&L)) designated a Director, Corrosion Policy and Oversight to perform the duties of the DoD Corrosion Executive with responsibilities as described in the 2008 NDAA legislation. A major responsibility of the Director, Corrosion Policy and Oversight is to select high payoff research and development projects that promise to prevent or mitigate corrosion and significantly reduce the total cost of corrosion along with the adverse impact of corrosion effects on weapon system and infrastructure operational capability. This office chartered a Corrosion Prevention and Control Integrated Product Team (CPCIPT) that has selected and funded Operation and Maintenance projects for each Fiscal Year (FY) commencing in FY 2005. However, the DoD CPCIPT has determined that the biggest payoff in corrosion prevention and mitigation will come from investing in up-front prevention technologies, materials, and processes to leverage downstream cost avoidances in corrosion maintenance and repair. Likewise, development of improved predictive and prognostic techniques can eliminate unseen failure and reduce unnecessary maintenance and repair costs. Thus, R&D projects have been selected and funded since FY 2006. The 2009 National Defense Authorization Act added requirements for corrosion executives in each military service and for reports to Congress on inserting corrosion planning into the acquisition process. These funds provide a portion of the funds used to implement associated corrosion R&D projects.

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

**APPROPRIATION/BUDGET ACTIVITY**  
0400: *Research, Development, Test & Evaluation, Defense-Wide*  
BA 4: *Advanced Component Development & Prototypes (ACD&P)*

**R-1 ITEM NOMENCLATURE**  
PE 0604016D8Z: *Corrosion Protection Projects*

(U) The Corrosion Prevention Control Integrated Product Team membership consists of both the equipment and infrastructure corrosion control experts from the Services, the Joint Staff, the Coast Guard, and the National Aeronautics and Space Administration. The Services are given project guidelines and selection criteria. The CPC project selection board, chaired by the Director, Corrosion Policy and Oversight, reviews the projects and makes recommendations to the USD(AT&L) for final approval.

(U) The former Corrosion Executive issued a policy letter that states: "Basic systems design, materials and processes selection, and intrinsic corrosion-prevention strategies establish the corrosion susceptibility of Defense material. The early stages of acquisition provide our best opportunity to make effective trade-offs among the many competing design criteria. . ." The Congress and former DoD Corrosion Executive made it clear that research and development into materials and methods to prevent or mitigate corrosion should receive high priority. Since Congress has clearly established this program as one of its highest priorities, and has reiterated its expectations regarding funding levels and methods, our budget request is designed to reflect both fiscal realities of one or more on many proposed projects over the next five to ten years.

These projects address critical corrosion issues in both Department of Defense infrastructure as well as warfighting systems. A number of low-risk, high-payoff technologies promise to vastly improve the service life and significantly reduce the maintenance costs of storage tanks and other mission support facilities essential to maintain support for the warfighter. Each of the services has identified important projects that vastly increase operational readiness and reduce operations and maintenance costs. All services are studying corrosion inhibitors that improve reliability and life of electrical and avionics equipment. Likewise, an array of highly effective, rapid cure coatings that are easy to apply and can forestall corrosion for many years on aircraft and ships are being developed. Other vital projects being considered include sealants, wash down systems, sensors and prognostic technologies that have joint service applications and potential to prevent and mitigate corrosion and its effects over a wide range of systems. The FY 2009 budget request will provide a critically needed resource to trigger even larger investment and cost avoidance.

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b>	<b>R-1 ITEM NOMENCLATURE</b>
0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i>	PE 0604016D8Z: <i>Corrosion Protection Projects</i>
BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</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	5.102	4.887	0.000	0.000	0.000
Current President's Budget	18.387	22.107	4.802	0.000	4.802
Total Adjustments	13.285	17.220	4.802	0.000	4.802
• Congressional General Reductions		-0.180			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		17.400			
• Congressional Directed Transfers		0.000			
• Reprogrammings	-3.280	0.000			
• SBIR/STTR Transfer	-0.612	0.000			
• Other Program Adjustments	0.000	0.000	4.802	0.000	4.802
• Congressional General Reductions	-0.123	0.000	0.000	0.000	0.000
• Congressional Add	17.300	0.000	0.000	0.000	0.000

**Congressional Add Details (\$ in Millions, and Includes General Reductions)**

**Project:** P015: *Corrosion Protection Projects*

Congressional Add: *Corrosion Control, Prevention and Prediction through Polymer R&D*

Congressional Add Subtotals for Project: P015

Congressional Add Totals for all Projects

	<u>FY 2009</u>	<u>FY 2010</u>
	14.800	17.400
	14.800	17.400
	14.800	17.400

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b>				<b>R-1 ITEM NOMENCLATURE</b>				<b>PROJECT</b>			
0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				PE 0604016D8Z: <i>Corrosion Protection Projects</i>				P015: <i>Corrosion Protection Projects</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
P015: <i>Corrosion Protection Projects</i>	18.387	22.107	4.802	0.000	4.802	4.129	4.908	4.979	5.046	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

(U) The purpose of this program is to develop a comprehensive capability to prevent and mitigate corrosion and its effects on Department of Defense (DoD) weapon systems and infrastructure. Corrosion severely impacts system and facility reliability, readiness and safety, and consumes a disproportionate amount of material and labor hours for repair and treatment of corrosion damaged systems and facilities. The cost of corrosion across the DoD has been estimated at between \$10 billion and \$20 billion each year. The impact and cost of corrosion are so pervasive that Congress enacted Public Law 107-314 Sec: 1067 [portions codified in 10 U.S.C. 2228]: Prevention and mitigation of corrosion of military infrastructure and equipment. This legislation requires that DoD develop a long-term corrosion strategy to include establishment of a coordinated R&D program with transition plans. The legislation also requires that DoD designate a responsible official or organization to oversee a corrosion prevention and mitigation program.

(U) The Deputy Secretary of Defense designated the Principal Deputy Under Secretary of Defense (Acquisition, Technology, and Logistics) (PDUSD(AT&L)) as the DoD Corrosion Executive in May 2003. The DoD Corrosion Executive subsequently established a Corrosion Control and Oversight office to implement the program. Subsequently, in accordance with Section 371 of the 2008 National Defense Authorization Act, the Under Secretary of Defense (USD(AT&L)) designated a Director, Corrosion Policy and Oversight to perform the duties of the DoD Corrosion Executive with responsibilities as described in the 2008 NDAA legislation. A major responsibility of the Director, Corrosion Policy and Oversight is to select high payoff research and development projects that promise to prevent or mitigate corrosion and significantly reduce the total cost of corrosion along with the adverse impact of corrosion effects on weapon system and infrastructure operational capability. This office chartered a Corrosion Prevention and Control Integrated Product Team (CPCIPT) that has selected and funded Operation and Maintenance projects for each Fiscal Year (FY) commencing in FY 2005. However, the DoD CPCIPT has determined that the biggest payoff in corrosion prevention and mitigation will come from investing in up-front prevention technologies, materials, and processes to leverage downstream cost avoidances in corrosion maintenance and repair. Likewise, development of improved predictive and prognostic techniques can eliminate unseen failure and reduce unnecessary maintenance and repair costs. Thus, R&D projects have been selected and funded since FY 2006.

(U) The Corrosion Prevention Control Integrated Product Team membership consists of both the equipment and infrastructure corrosion control experts from the Services, the Joint Staff, the Coast Guard, and the National Aeronautics and Space Administration. The Services are given project guidelines and selection criteria.

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604016D8Z: <i>Corrosion Protection Projects</i>	<b>PROJECT</b> P015: <i>Corrosion Protection Projects</i>
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The CPC project selection board, chaired by the Director, Corrosion Policy and Oversight, reviews the projects and makes recommendations to the USD(AT&L) for final approval.

(U) The former Corrosion Executive issued a policy letter that states: "Basic systems design, materials and processes selection, and intrinsic corrosion-prevention strategies establish the corrosion susceptibility of Defense material. The early stages of acquisition provide our best opportunity to make effective trade-offs among the many competing design criteria. . ." The Congress and former DoD Corrosion Executive made it clear that research and development into materials and methods to prevent or mitigate corrosion should receive high priority. Since Congress has clearly established this program as one of its highest priorities, and has reiterated its expectations regarding funding levels and methods, our budget request is designed to reflect both fiscal realities of one or more on many proposed projects over the next five to ten years.

These projects address critical corrosion issues in both Department of Defense infrastructure as well as warfighting systems. A number of low-risk, high-payoff technologies promise to vastly improve the service life and significantly reduce the maintenance costs of storage tanks and other mission support facilities essential to maintain support for the warfighter. Each of the services has identified important projects that vastly increase operational readiness and reduce operations and maintenance costs. All services are studying corrosion inhibitors that improve reliability and life of electrical and avionics equipment. Likewise, an array of highly effective, rapid cure coatings that are easy to apply and can forestall corrosion for many years on aircraft and ships are being developed. Other vital projects being considered include sealants, wash down systems, sensors and prognostic technologies that have joint service applications and potential to prevent and mitigate corrosion and its effects over a wide range of systems. The FY 2009 budget request will provide a critically needed resource to trigger even larger investment and cost avoidance.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Corrosion Prevention and Control Projects and Activities  <i>FY 2009 Accomplishments:</i> Coatings and Corrosion Prevention Compounds Diagnostics, Prognostics, Monitoring and NDI Technologies Prediction, Modeling and Supporting Technologies Maintenance and Cathodic Protection Technologies and Practices Materials Selection Processes University initiatives for Corrosion Prevention and Control	3.587	4.707	4.802	0.000	4.802

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604016D8Z: <i>Corrosion Protection Projects</i>	<b>PROJECT</b> P015: <i>Corrosion Protection Projects</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p><i>FY 2010 Plans:</i> Coatings and Corrosion Prevention Compounds Diagnostics, Prognostics, Monitoring and NDI Technologies Prediction, Modeling and Supporting Technologies Maintenance and Cathodic Protection Technologies and Practices Materials Selection Processes</p> <p><i>FY 2011 Base Plans:</i> Coatings and Corrosion Prevention Compounds Diagnostics, Prognostics, Monitoring and NDI Technologies Prediction, Modeling and Supporting Technologies Maintenance and Cathodic Protection Technologies and Practices Materials Selection Processes</p>						
Accomplishments/Planned Programs Subtotals		3.587	4.707	4.802	0.000	4.802
		<b>FY 2009</b>	<b>FY 2010</b>			
<p>Congressional Add: Corrosion Control, Prevention and Prediction through Polymer R&amp;D</p> <p><i>FY 2009 Accomplishments:</i> Funding would support a DOD-initiated pilot program among four universities, focused on understanding and reducing the premature failure of military assets via corrosion. Overall goal is to develop adequate screening protocols for the early detection and characterization of corrosion failure.</p>		14.800	17.400			

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604016D8Z: <i>Corrosion Protection Projects</i>	<b>PROJECT</b> P015: <i>Corrosion Protection Projects</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010
<i>FY 2010 Plans:</i> Funding would support a DOD-initated pilot program among four universities, focused on understanding and reducing the premature failure of military assets via corrosion. Overall goal is to develop adequate screening protocols for the early detection and characterization of corrosion failure.		
Congressional Adds Subtotals	14.800	17.400

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

N/A

**D. Acquisition Strategy**

There is an annual Corrosion Prevention and Control Integrated Project Team (CPCIPT) call for proposed project plans in April. Projects are submitted by the Services annually in June. The project plan format is contained in the DoD Corrosion Prevention and Mitigation Strategic Plan. Each project plan contains:

1. Problem statement: Description of the problem or situation, including background, history, issues, operational problems and support costs.
2. Impact statement: Details regarding why project is important including description of the operational and/or logistic impact if no action is taken.
3. Technical description: Definition of the corrosion prevention and control objective and description of the system affected by this project; applicable technologies and associated development; expected operations and logistics performance improvement characteristics; brief description of the user community and how it will apply to their mission; and current acquisition status.
4. Risk analysis: Description of the risk in managing/developing/prototyping/ testing/qualifying/manufacturing/completing the technical effort including assumptions that could affect project development or implementation.
5. Proposed phases: If project is complex and will be performed in phases, description of each phase objective.
6. Expected deliverables and results or outcomes: Description of products to be delivered such as type/number of hardware, technical orders/drawings, installation, training, etc.; and description of expected operations and/or logistics performance improvements.
7. Program management: Description of the overall approach and tasks to be taken to accomplish the project, including organization, coordination and acquisition approach.
8. Cost/benefit analysis: Definition of all resources necessary to accomplish project, description of resulting benefits, computation of Return-On-Investment (ROI), and documentation of mission criticality.
9. Schedule: Milestone chart showing all significant events through project completion.
10. Implementation plan: Explanation of how the project will be implemented when completed including a description of the transition approach.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604016D8Z: <i>Corrosion Protection Projects</i>	<b>PROJECT</b> P015: <i>Corrosion Protection Projects</i>
<p>The Corrosion Prevention and Control Integrated Project Team (CPCIPT) receives project plans and engages an evaluation panel to review proposed projects and make recommendations regarding project selection. Projects are also evaluated using Data Envelopment Analysis (DEA) to rank projects by relative efficiency. DEA factors include project performance period, ratio of OSD funding to Service funding, return-on-investment (ROI), project acceptability, potential benefits and joint service applicability. DEA efficiency scores are provided to the evaluation team to assist in their prioritization of projects for funding. In addition, evaluators consider the following in recommending final priorities:</p> <ol style="list-style-type: none"><li>1. Return on investment credibility: Degree to which there is evidence that the project will achieve an acceptable return on investment</li><li>2. Technology maturity: Degree to which proposed technology has been developed or demonstrated and will satisfy project objectives</li><li>3. Schedule confidence: Degree to which the project is likely to be completed on time</li><li>4. Budget confidence: Degree to which the project is likely to be completed within the proposed budget</li><li>5. Management support: Degree to which management actively supports this project and has committed program resources to both manage and support this project</li></ol> <p>The project priority ranking is finalized and sent to the CPCIPT lead for a final decision.. Upon acceptance and approval of the projects by the CPCIPT, the projects are briefed to the Corrosion Forum. Funding is distributed between the Services based on priority and the evaluation process results.</p> <p>Upon selection by CPCIPT of the highest priority projects and final funding approval, Office of the Secretary of Defense (OSD) transfers individual project funding to the appropriate funding sites that are provided by the Services. After receiving the project funding, the Services are responsible for the funding and management of the projects. OSD retains oversight and direction of the Corrosion Prevention and Control initiative through the CPCIPT. Project oversight includes the review of bi-monthly status reports which address progress summary, performance goals and metrics and upcoming key events, as well as reports to periodic Corrosion Forums. The bi-monthly project report (PR) format has been defined and requires the following input:</p> <ol style="list-style-type: none"><li>1. Statement of progress</li><li>2. Outstanding issues</li><li>3. Performance goals and metrics</li><li>4. Upcoming events</li><li>5. Schedule status</li><li>6. Current return on investment (ROI) status</li></ol> <p>These project reports (PRs) are submitted to the CPCIPT. The CPCIPT analyzes project status, progress and project statistics and informs the Service points of contacts.</p> <p><b><u>E. Performance Metrics</u></b> Not applicable.</p>		

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604400D8Z: <i>Unmanned Aircraft System</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	0.000	60.792	49.292	0.000	49.292	28.849	30.974	24.620	21.314	Continuing	Continuing
P440: <i>Unmanned Aircraft System</i>	0.000	35.039	30.960	0.000	30.960	28.849	30.974	24.620	21.314	Continuing	Continuing
P442: <i>UAS Common Ground Station</i>	0.000	25.753	18.332	0.000	18.332	0.000	0.000	0.000	0.000	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

The Department of Defense (DOD) Unmanned Aircraft Systems (UAS) Common Development is a joint effort to develop and demonstrate common standards, architectures, and technologies that address UAS-specific issues across all Military Services. The intent is to increase interoperability and effectiveness by promoting cooperative development of solutions that are applicable across major classes of UAS. This effort will initially focus on addressing DOD UAS integration into the National Airspace System (NAS) and demonstration of a common, interoperable ground station architecture and associated interface standards.

**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	0.000	60.792	0.000	0.000	0.000
Current President's Budget	0.000	60.792	49.292	0.000	49.292
Total Adjustments	0.000	0.000	49.292	0.000	49.292
• Congressional General Reductions		0.000			
• 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			
• Other Program Adjustments	0.000	0.000	49.292	0.000	49.292

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604400D8Z: <i>Unmanned Aircraft System</i>	<b>PROJECT</b> P440: <i>Unmanned Aircraft System</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
<i>P440: Unmanned Aircraft System</i>	0.000	35.039	30.960	0.000	30.960	28.849	30.974	24.620	21.314	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

In FY12 the Department plans to transition from the U-2 to the Global Hawk (GH), but today's restrictions on airspace access preclude this. GH and the Broad Area Maritime Surveillance (BAMS) UAS, also a GH aircraft, need an autonomous, sense-and-avoid (SAA) as an alternate means of compliance to Title 14 Code of Federal Regulations, Part 91.113, requirement to See-and-Avoid other aircraft. Predator and Sky Warrior have similar requirements for SAA capability; their SAA technology development will leverage the GH/BAMS technology. Development of a Ground Based Sense-and-Avoid (GBSAA) system using existing technology can provide a near-term solution for improved airspace access, both for terminal operations (e.g., Beale AFB, GH transit to/from controlled airspace) and for operations/training within the GBSAA system's coverage area (e.g., Sky Warrior at El Mirage, Shadow operations at Cherry Point).

Funding accelerates the development of a common onboard, autonomous SAA capability for GH and BAMS (one upon which a similar SAA system for Predator and Sky Warrior can be based), provides a GBSAA capability to meet DoD training and operational objectives at locations where airspace restrictions currently limit training and operations, and establishes dedicated funding to develop standards, modeling and simulation tools, and technology to enable DoD UAS to routinely access the national and international airspace systems.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Unmanned Aircraft System Initiatives  Starting in FY2010 the Department's sense-and-avoid (SAA) developmental efforts are consolidated within this defense-wide program element from individual Service accounts.  <i>FY 2009 Accomplishments:</i> N/A	0.000	35.039	30.960	0.000	30.960

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604400D8Z: <i>Unmanned Aircraft System</i>	<b>PROJECT</b> P440: <i>Unmanned Aircraft System</i>

**E. Performance Metrics**

N/A

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604400D8Z: <i>Unmanned Aircraft System</i>	<b>PROJECT</b> P442: <i>UAS Common Ground Station</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
P442: <i>UAS Common Ground Station</i>	0.000	25.753	18.332	0.000	18.332	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

The UAS Common Ground Station Demonstration project is intended to develop and demonstrate an interoperable, standards-based, open ground station architecture for MQ-1 (Predator/Sky Warrior), MQ-5 (Hunter), MQ-8 (Fire Scout), and MQ-9 (Reaper) UAS. The intent is to improve joint- and coalition-interoperability and to promote competition through the implementation of open standards and open architectures.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
UAS Common Ground Station Demonstration  Develop and demonstrate an interoperable, standards-based, open ground station architecture for MQ-1 (Predator/Sky Warrior), MQ-5 (Hunter), MQ-8 (Fire Scout), and MQ-9 (Reaper) UAS.  <i>FY 2009 Accomplishments:</i> N/A  <i>FY 2010 Plans:</i> Develop and demonstrate an interoperable, standards-based, open ground station architecture for MQ-1 (Predator/Sky Warrior), MQ-5 (Hunter), MQ-8 (Fire Scout), and MQ-9 (Reaper) UAS.  <i>FY 2011 Base Plans:</i> Develop and demonstrate an interoperable, standards-based, open ground station architecture for MQ-1 (Predator/Sky Warrior), MQ-5 (Hunter), MQ-8 (Fire Scout), and MQ-9 (Reaper) UAS.	0.000	25.753	18.332	0.000	18.332

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604400D8Z: <i>Unmanned Aircraft System</i>	<b>PROJECT</b> P442: <i>UAS Common Ground Station</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Accomplishments/Planned Programs Subtotals		0.000	25.753	18.332	0.000	18.332
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A						
<b>D. Acquisition Strategy</b> N/A						
<b>E. Performance Metrics</b> n/a						

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604648D8Z: <i>Joint Capability Technology Demonstration Transition</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	10.829	10.988	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
P649: <i>JCTD</i>	10.829	10.988	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

The purpose of the Joint Capability Technology Demonstration (JCTD) BA 4 Transition Program is to:

- Establish a "Transition Arm" to incorporate dedicated funding outside S&T to enhance the successful transition of JCTD projects to Programs of Record (PORs).
- Provide a venue to methodically facilitate transition of successful technologies beyond initial demonstration phase and into early acquisition.
- Continue the maturity and fielding of the most successful JCTDs that have proven operational utility and U.S. Combatant Commands deem critical for joint warfighting capabilities.

Selection criteria selecting successfully demonstrated projects for JCTD Transition funding: 1) must successfully complete a Operational Utility Assessment (OUA); 2) have strong U.S. Combatant Command (CoCom) support and provide a CoCom/Coalition capability and; 3) require no more than two years of funding until the traditional Planning, Programming Budgeting & Execution (PPBE) process that provides a permanent acquisition/transition solution. Additionally:

- Projects must attain a technology maturity of Technical Readiness Level (TRL) 6/7.
- JCTD Transition funds will provide a ramp to traditional acquisition just prior to Milestone B by expediting transition at the Initial Capability Document/Capability Development Document (ICD/CDD) phase in the JCIDS process.

In FY 2009, the JCTD Transition BA4 executed transition funding of \$13.5 million to support nine JCTD transition efforts and one Congressional add. In FY 2009, the Hyperspectral Collection and Analysis (HyCAS) ACTD will receive transition funding to advance Airborne Hyperspectral capabilities. Sensors associated with the HyCAS ACTD have proven effective in operational demonstrations supporting Operation Enduring Freedom (OEF). In addition to HyCAS, other FY 2009 candidates that recieved transition funding are Joint Force Protection (JFP), Coalition Joint Spectrum Management and Planning Tool (CJSMPT), Comprehensive Maritime Awareness (CMA), Regional Maritime Awareness (RMAC), Event Management Framework (EMF), Mapping the Human Terrain (MAP-HT), and Zephyr. A transfer of \$10.000 million from the JCTD BA3 developmental PE into the JCTD Transition BA4 PE has enabled a wider selection of potential successful candidates for transition funds while waiting for funding in a program of record increasing the ability to effect successful transition.

In FY 2010, projects are programmed to receive transition funding totaling \$18.6 million. In FY 2010, projects selected for transition funding are: Mapping the Human Terrain (MAP-HT), Hyperspectral Collection and Analysis (HyCAS), Joint Enable Theater Access (JETA-SPOD), Zephyr, Critical Runway Assessment and Repair (CRATR), Tactical Service Provider (TSP), and Joint Multi-Mission Electro-Optic System (JMMES).

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604648D8Z: <i>Joint Capability Technology Demonstration Transition</i>
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In FY 2011 this funding is being transferred to the JCTD BA3 Program Element.

**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	13.487	18.577	0.000	0.000	0.000
Current President's Budget	10.829	10.988	0.000	0.000	0.000
Total Adjustments	-2.658	-7.589	0.000	0.000	0.000
• Congressional General Reductions		0.000			
• Congressional Directed Reductions		-7.500			
• Congressional Rescissions	0.000	-0.089			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	-2.348	0.000			
• SBIR/STTR Transfer	-0.283	0.000			
• Other	-0.027	0.000	0.000	0.000	0.000

**Congressional Add Details (\$ in Millions, and Includes General Reductions)**

**Project:** P649: *JCTD*

Congressional Add: *Advanced Active Denial Planar Scanning Antenna System*

Congressional Add Subtotals for Project: P649

Congressional Add Totals for all Projects

	<u>FY 2009</u>	<u>FY 2010</u>
	0.000	0.000
	0.000	0.000
	0.000	0.000

**Change Summary Explanation**

In FY 2009, there were reprogramming of \$2.348 million mostly for a Congressional Adjustment that was sent to RDT&E, Navy. SBIR/STTR tax was \$283K. In FY 2011, the JCTD Transition funding will be transferred to the JCTD BA3 PE 0603648D8Z.

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604648D8Z: <i>Joint Capability Technology Demonstration Transition</i>	<b>PROJECT</b> P649: <i>JCTD</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
P649: <i>JCTD</i>	10.829	10.988	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**

The purpose of the Joint Capability Technology Demonstration (JCTD) BA4 Transition Program is to:

- Establish a "Transition Arm" to incorporate dedicated funding outside S&T to enhance the successful transition of JCTD projects to Programs of Record (PORs).
- Provide a venue to methodically facilitate transition of successful technologies beyond initial demonstration phase and into early acquisition.
- Continue the maturity and fielding of the most successful JCTDs that have proven operational utility and U.S. Combatant Commands deem critical for joint warfighting capabilities.

Selection criteria selecting successfully demonstrated projects for JCTD Transition funding: 1) must successfully complete a Operational Utility Assessment (OUA); 2) have strong U.S. Combatant Command support and provide a CoCom/Coalition capability and; 3) require no more than two years of funding until the traditional Planning, Programming Budgeting & Execution (PPBE) process provides a permanent acquisition/transition solution. Additionally:

- Projects must attain a technology maturity of Technical Readiness Level (TRL) 6/7.
- JCTD Transition funds will provide a ramp to traditional acquisition just prior to Milestone B by expediting transition at the Initial Capability Document/Capability Development Document (ICD/CDD) phase in the JCIDS process.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Comprehensive Maritime Awareness (CMA)  The Joint Requirements Oversight Council validated the capability need for CMA as an FY 2006 new start. The outcome of CMA is demonstration and transition of technologies and operations concepts showing the value of information sharing and effective information management for improving global Maritime Domain Awareness. CMA will demonstrate the value of both interagency and international (Republic of Singapore) information sharing. CMA has demonstrated data management techniques	2.200	0.000	0.000	0.000	0.000

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604648D8Z: <i>Joint Capability Technology Demonstration Transition</i>	<b>PROJECT</b> P649: <i>JCTD</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>The Joint Requirements Oversight Council (JROC) validated the capability need for ESSA as a FY 2006 new start. The ESSA ACTD is creating a joint, distributed, net-centric space surveillance framework. ESSA is a three-year ACTD sponsored by USSTRATCOM. The ESSA Joint Operational Utility Assessment (JOUA) is planned for mid-FY 2009, and the capability will transition to Programs of Record (PORs) by the end of FY 2009. The lead service is the U.S. Air Force. The ESSA ACTD will develop and demonstrate a net-centric sensor architecture which provides more timely Space Situational Awareness (SSA) information via the Secret Internet Protocol Router Network (SIPRNET) to decision makers. ESSA efficiencies will include: increased timeliness for delivering data products from sensor to command and control (C2) node; ability of netted sensors to perform more efficient strategies for searching, tracking, identifying and monitoring space object population; ability of C2 node to observe sensor operations in real-time and make rapid decisions in response to space events; and the ability of an architecture to support both theater and strategic users. While this ACTD does not answer all of the SSA gaps and shortfalls identified in USSTRATCOM's Space Control Joint Capability Document (JCD), it does address the number one priority identified in the JCD of synergistically exploiting all available SSA data.</p> <p><i>FY 2009 Accomplishments:</i> Executed its final demonstration in May 2009. This demonstration was centered on the characterization of a New Foreign Launch (NFL) and also incorporated a non-SSN sensor (MDA's AN/TPY-2 (THAAD) Radar) and a deep space EO capability (GEODSS-Socorro). The ESSA transition manager, with the help of the entire ESSA management team, is finalizing the transition plan for migrating ESSA ACTD capabilities into the hands of the warfighter, with anticipated approval by end of FY 2009. The transition plan included two critical portions: the extended use of residuals and transition. The transition period began after the extended use of residuals period ended. The transition manager is USAF Electronic Systems Center and the deputy transition manager is US Army Space and Missile Defense Command. The ESSA ACTD produced a Joint Operational Utility Report and provided an out-brief to the Oversight Group. This ACTD formally concluded at the end of FY 2009.</p>					

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Hyperspectral Collection and Analysis System (HyCAS)</p> <p>The Hyperspectral Collection and Analysis System (HyCAS) was validated by the Joint Requirements Oversight Council (JROC) as an FY 2002 start. Funding is needed to enhance the Spectral Airborne Reachback Cell (SPARC) hyperspectral imaging (HSI) exploitation and processing system. This SPARC enhancement will deliver a 2nd/3rd phase HSI exploitation cell by leveraging and expanding the National Air and Space Intelligence Center (NASIC) infrastructure to support 20 HSI analyst workstations, data archive, and tasking, processing, exploitation and dissemination software. This funding will also provide in-depth material identification and spectral anomaly detection analysis that is so crucial to Overseas Contingency Operations (OCO). This funding also leverages Air Force sensors and UAVs.</p> <p>The ACTD which leverages Air Force funding of sensors represents a quantum leap forward in the management of hyperspectral data. The airborne hyperspectral concept is an integration effort which will deliver four Air Force COMPact Airborne Spectral Sensors (AF COMPASS), four real-time processors and four ground station processing software packages to the Predator Unmanned Aerial Vehicle (UAV) program of record. AF COMPASS is a tactical asset designed to operate at an altitude of 15-20K feet with area coverage of approximately 600-900 sq km/hour. AF COMPASS provides a wide area search capability and can cross-cue the onboard Predator Multispectral Targeting System (MTS). The airborne hyperspectral capability will enhance the effectiveness of the Predator weapon system by finding targets and queuing the MTS ball to fix an object for tracking, targeting and engagement. The AF COMPASS sensor can also detect, locate and identify materials associated with Combat Search and Rescue (CSAR) operations and can distinguish between targets and decoys. AF COMPASS ground station processing software will allow an operator to view high resolution imagery (HRI) chips created based on either signature or anomaly detections. Chips are painted on a display which shows the path of the aircraft and the signature anomaly hits obtained by the real-time processor.</p>	2.000	4.038	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>Domain Workstation (HDWS) and field capability in support of OIF. Funds initiated the collapsing of the two systems: HTS and HDWS. Human Terrain Teams (HTT) generated structured reports using the HDWS Reporting Tool. Additionally, integration of a multi-modal analytical interface from the HTS into the HDWS was accomplished. The combination of structured reporting from HTTs and a significantly improved analytical interface improved the analytical capabilities of both the Human Terrain System and intelligence analysts. Human Domain Users within the theater benefited from this early transition and implementation within OIF.</p> <p><i>FY 2009 Accomplishments:</i> Sustained the unclassified human terrain portal; sustain the human domain toolkits and associated training of users; HW/SW refresh for the interim fielded capabilities; sustainment of residuals to integrate with DCGS-A V4 migration spirals; support to JCIDS effort creating Human Terrain Program of Record.</p> <p><i>FY 2010 Plans:</i> As MAP HT operational use expands the funds will provide integration, installation and providing sustainment of the MAP-HT software. As MAP HT is deployed funds will provide: Training &amp; Material; Field Support; Logistic support; Software Licenses; Hardware. Sustain the unclassified human terrain portal; sustain the human domain toolkits and associated training of users; HW/SW refresh for the interim fielded capabilities; sustainment of residuals to integrate with DCGS-A V4 migration spirals; support to JCIDS effort creating Human Terrain Program of Record.</p>					
<p>Joint Enable Theater Access Sea Ports of Debarkation (JETA-SPOD)</p> <p>The Joint Requirements Oversight Council (JROC) validated the need for JETA-SPOD capabilities as a FY 2006 new start. The outcome of JETA-SPOD is to develop and demonstrate: a Lightweight Modular Causeway System (LMCS) transportable by and employable from intra-theater sealift vessels such as the JHSV or other current Army/Navy watercraft; and an austere port Decision Support Tool for selection of optimal sites from multiple austere SPOD options. The capabilities proposed for</p>	0.000	0.850	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>development in this ACTD will optimize the use of the Joint High Speed Vessel (JHSV), current Army/ Naval watercraft, and Lines of Communication (LOC) bridging requirements by providing increased and more rapid flow of combat power and sustainment through multiple theater austere seaport locations. This provides to Joint/Combined Force (J/CFC) commanders a means to mitigate threat anti-access activities and increases flexibility to conduct operational maneuver from strategic distances. JETA-SPOD ACTD is a three-year project under sponsorship of U.S. Pacific Command (USPACOM), with completion of development and demonstration by the end of FY 2008; and transition to U.S. logistics systems as early as FY 2009. The lead service is U.S. Army. The primary outputs and efficiencies to be demonstrated in the ACTD Military Utility Assessment (MUA) are: 1) the LMCS will reduce weight, volume, and deployment time compared to existing military causeway and bridging systems; 2) the operational parameters for evaluating the military utility of the LMCS are based on a quantitative and qualitative comparison to the capability provided by the existing Modular Causeway System (MCS); 3) LMCS will result in a reduction in weight and volume by 50% over the MCS; a reduction in deployment time by 50% over the MCS; and elimination of in-water connections; 4) the Decision Support Tool capability equates to an increase in availability of throughput prediction information for 50-80% of worldwide small ports; and 5) the combination of LMCS and the Decision Support Tool includes a five-fold increase in the number of JHSV-compatible ports and doubling of the port throughput rate. LMCS Output includes incorporation of state-of-the-art connector and tensioning technology; innovative recovery system applicable to multiple military/civilian platforms; self-locking and strap tensioning technologies; high strength fabrics for robust, lightweight floatation technology that quickly inflates/deflates for rapid LMCS recovery; puncture/abrasion resistant floatation components; lightweight decking materials; and common 8x20 rapid transport footprint design. The efficiency is that the transport (land/sea) cost of moving causeway capabilities into austere SPODs will be significantly reduced; and causeway capabilities will arrive in theater more rapidly with a smaller logistics footprint. Austere Port Decision Support Tool Output includes query-able austere world port data; a port characterization model; rapid port enhancement tool; austere port throughput simulation; a comprehensive set of environmental and physical factors affecting ingress/egress throughput rates; and</p>					

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>the ability to share information across security domains. CDCIE provides a standards based, secure, scalable, collaborative information environment (CIE) to enable cost-effective coalition and interagency information sharing in both single and cross domain environments. The JCTD is a two-year project under sponsorship of JFCOM with STRATCOM as a cosponsor. CDCIE will transition to DISA Global Information Grid (GIG) Enterprise Services program office. DISA is the lead agency. The primary outputs and efficiencies to be demonstrated in the JCTD Operational Utility Assessment are (1) ability of the Joint Force Commander to communicate with all mission partners, including coalition, multinational and interagency partners, and (2) ability to share information with mission partners across different networks, classification levels and releasability boundaries.</p> <p><i>FY 2009 Accomplishments:</i> The funds will be used for NSA security certification, demonstration and assessment activities including operational utility analysis and reporting, and transition documentation and coordination activities. The deliverables at the end of this phase of the CDCIE JCTD will include security certified CDCIE text chat functionality with whiteboarding and language translation, and certified CDCIE web services functionality, both of which will enable cross domain information sharing on DoD and coalition-interfacing networks. In addition, the following documentation will be prepared, coordinated, and delivered: Concept of Operations (CONOPS), Integrated Assessment Plan (IAP), and Operation Utility Analysis (OUA) reports. All components will be transitioned to DISA PORs during this Transition Year.</p>						
<p>Event Management Framework (EMF)</p> <p>The Joint Requirements Oversight Council (JROC) validated the capability need for EMF as an FY 2006 new start. The outcome of EMF will demonstrate and transition information sharing through improved comprehensive analysis, situational awareness, and reduction of information overload and information discovery. Outputs and efficiencies include a correlation module that allows it to</p>		0.500	0.000	0.000	0.000	0.000

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>identify associations among data sets, an alert module to quickly acquire required data, a visualization module to graphically display pertinent data, a CCIR module to obtain critical information, an assessment module to answer the 5 Ws, and an export module to share relevant data with COIs through an exfiltration module to protect privacy. The User Sponsor is U. S. Northern Command (USNORTHCOM), the transition agency is DISA.</p> <p><i>FY 2009 Accomplishments:</i> Deliver Spiral 2.0 and 3.0. Conduct MUA. Working with NCES Program Office to support Federated Search with EMF Correlation Service. The EMF ACTD is scheduled to complete in September 2009. Secure SIPRNet accreditation. : Transition as a component of the National Senior Leadership Decision Support System (NSLDSS) JCTD. Host at DISA DECC to provide interim services to Cocom, including USNORTHCOM pending transition to NECC.</p>						
<p><b>Smart Threads Integrated Radiation Sensors (STIRS)</b></p> <p>The Joint Requirements Oversight Council (JROC) validated the capability need for Smart Threads Integrated Radiological Sensors (STIRS) Joint Capabilities Technology Demonstration (JCTD) as an FY 2007 new start. The objective of the JCTD is to demonstrate and transition the capability to detect, identify, and disseminate radiological information on land, maritime, and airborne environments in order to enhance combating weapons of mass destruction operations. The capability suite will use a combination of proven and innovative radiation detection capabilities, networked through open-architectures, to aid in counterproliferation and consequence management missions. These capabilities have global applicability with forward-deployed Combatant Command (COCOM) ground forces (U.S. Army), U.S. Naval Maritime Components, and US Coast Guard elements in the transient areas. In all mission areas, the systems will be capable of being networked and radiological information can be provided through existing tactical, operational and strategic command and control (C2) networks. STIRS is a three year JCTD sponsored by the US Northern Command (NORTHCOM); Defense Threat Reduction Agency (DTRA) is Lead Agency and US Naval Sea Systems Command (NAVSEA O4LR)</p>		0.000	0.500	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
business plan for technical gap analysis and transition; the detailed test-plan to support P3I-acquisition by the GBS POR; early advanced-T&E of the GBS-Joint IP Modem (JIPM) operational-architecture; and draft technical inputs to the GBS Test and Evaluation Master Plan (TEMP), to the GBS System Requirements Document (SRD) for FY10-15 User Suite production, to the GBS SBM-to-DECC Migration Contract, and to the GBS Concept of Operations (CONOPS) all tailored to support TSP-developed and matured technologies.					
<p>Large Data</p> <p>The Joint Requirements Oversight Council (JROC) validated the capability need for Large Data as an FY 2006 new start JCTD. The outcome of Large Data demonstrated the military utility of a highly scalable, rapid, and secure integrated capability to retrieve, store and share massive amounts of information effectively between globally distributed users. It provides increased situational awareness by displaying large, fused sets of geospatially-referenced data in a Joint Warfighting context using intuitive user dataset navigation techniques. The primary outputs and efficiencies demonstrated in the JCTD Military Utility Assessment (JMUA) are: 1) Synchronization of databases across all major operational storage nodes, i.e. cache coherency; 2) Timely delivery and sharing of data - instant real time access and collaboration; 3) Intuitive ways for users to navigate large (petabytes to exabytes) data sets; 4) Ability to easily visualize huge amounts of data generated; 5) Capability to perform "trackback" or change analysis on an unprecedented scale. The sponsor was U. S. Strategic Command. The lead agencies were the National Geospatial Agency (NGA) and Defense Systems Agency (DISA). Transition in FY 2009 to National Geospatial Agency (NGA) and Defense Systems Agency (DISA). The Large Data JCTD completed in December 2008.</p> <p><i>FY 2010 Plans:</i> Execution the Transition Strategy: U.S. Forces Korea leadership support has accelerated Army INSCOM plans to transition Large Data to the Distributed Common Ground System (DCGS-A) Fixed POR. Early acceptance testing with JIEDDO and Army stakeholders led to Army G2 funding the Large Data RoadRunner program to accelerate exploitation of wide area persistent surveillance (WAPS)</p>	0.000	1.000	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
data for OIF/OEF. In parallel, the Large Data team has successfully demonstrated Large Data global, cloud computing services to accomplish data virtualization with inherent failover and recovery. This critical transition milestone followed an early delivery of web service-based Large Data updates to the Integrated Strategic Planning Analysis Network (ISPAN) Global Situational Awareness Tool (GSAT), and secured USSTRATCOM leadership endorsement of the Large Data Transition Plan. Residual support to USFK, NASIC, and National Geospatial Agency (NGA). Transition components to NGA.					
<b>Accomplishments/Planned Programs Subtotals</b>	10.829	10.988	0.000	0.000	0.000

	FY 2009	FY 2010
Congressional Add: Advanced Active Denial Planar Scanning Antenna System <i>FY 2009 Accomplishments:</i> Congressional adjustment into the JCTD Transition PE for the purpose of constructing a stronger, lighter more capable antenna for the Active Denial System (ADS). The funds were determined to have been put into the JCTD Transition PE in error and would be more appropriately executed in the Navy Research and Development PE. Thus the \$1.6 million was reprogrammed to Navy RDT&E.	0.000	0.000
<b>Congressional Adds Subtotals</b>	0.000	0.000

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

<b>Line Item</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• 0603648D8Z: <i>JCTD BA3</i>	207.096	200.965	195.537		195.537	198.276	201.211	205.235	209.340	Continuing	Continuing

**D. Acquisition Strategy**

Not applicable for this item.

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**E. Performance Metrics**

The majority of funding from this Program Element is forwarded to the Services/Defense Agencies that execute the individual JCTD projects. DUSD(AS&C) maintains and provides overall programmatic oversight for the JCTD program, to include the individual JCTD projects. The JCTD performance metrics center on how fast relevant joint and/or transformational technologies can be demonstrated and provided to the joint warfighter. The JCTD BA4 funding, unlike the JCTD BA3 developmental funding, is specifically targeted at increasing the rate of transition for critical COCOM/Coalition capabilities. The JCTD model has developed a set of metrics, two of which are centered around spiraling products and transitioning capability. The JCTD Transition funds are specifically targeted to towards these two in particular. These metrics are driven by the overall business process which includes six parts: (1) selection focus; (2) ability to spin-off spiral technologies; (3) time necessary to complete a final demonstration; (4) adequately resourced projects with appropriate oversight; (5) capability to complete an independent assessment of the technology; and (6) the number of successful capabilities that are actually transitioned to the warfighter. The table below defines the metrics of the new JCTD business process model.

- 1) Project Selection Focus: Capability Based: Greater COCOM influence looking at nearer term joint/coalition needs.
- 2) Spiral Technologies: 25 percent of JCTDs will provide an operationally relevant product demonstration within 24 months of ID signature.
- 3) Final Demonstration Completed: 75 percent of JCTD projects complete final demonstration within three years of ID signature.
- 4) Shared Funding and Viability of resources: OSD provides significantly more funding than the former ACTD program, greater than 30 percent in some cases a majority of projected funding, especially in the first two years.
- 5) Complete independent assessments.
- 6) Number of capabilities transitioned to the warfighter.

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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			
<b>Subtotal</b>			0.000	0.000		0.000		0.000		0.000			

**Remarks**  
 Transition Funding for Mapping the Human Terrain (MAP-HT), Extended Space Sensors Architecture (ESSA), Joint Force Projection (JFP), Zephyr, Advanced Distributed Aperture System (ADAS), Hyperspectral Collection and Analysis (HyCAS), Internet Protocol In Space (IRIS), Joint Enable Theater Access-Sea Ports of Debarkation (JETA-SPOD), Comprehensive Maritime Awareness (CMA), Zephyr, Critical Runway Assessment Repair (CRATR), Global Observer (GO), Airborne Weapon Surveillance Systems (AWSS), Joint Force Protection Advanced Security System (JFPSS), Joint Multi-Mission Electro-Optic System (JMMES)

**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			
CMA	MIPR	SPAWARSSYSCEN SAN DIEGO San Diego	2.200	0.000		0.000		0.000		0.000	Continuing	Continuing	Continuing
RMAC	MIPR	Naval Undersea Warfare Center Division Keyport Keyport, Washington	0.500	0.250	Jan 2010	0.000		0.000		0.000	Continuing	Continuing	Continuing
JFP	TBD/TBD	Defense Information Systems Agency (DISA)	1.000	0.000		0.000		0.000		0.000	Continuing	Continuing	Continuing

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**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			
		Arlington, Virginia											
CJSMPT	MIPR	Army AMSRD-CER Ft Monmouth NJ	1.000	0.000		0.000		0.000		0.000	Continuing	Continuing	Continuing
ESSA	Allot	SMDC Huntsville, AL	0.264	0.000		0.000		0.000		0.000	Continuing	Continuing	Continuing
HyCas	MIPR	Spectral Airborne Reachback Cell Wright Patt AFB OH	2.000	4.038	Mar 2010	0.000		0.000		0.000	Continuing	Continuing	Continuing
Zephyr	MIPR	NAWC Patuxant River MD	2.000	0.000		0.000		0.000		0.000	Continuing	Continuing	Continuing
MAP-HT	MIPR	CERDIC Ft Monmouth NJ	1.140	0.750	Jan 2010	0.000		0.000		0.000	Continuing	Continuing	Continuing
JETA SPOD	MIPR	ERDC Vicksburg MS	0.000	0.850	Jan 2010	0.000		0.000		0.000	Continuing	Continuing	Continuing
CRATR	MIPR	AFCESA/CEBF Tyndall AFB FL	0.000	1.500	Jan 2010	0.000		0.000		0.000	Continuing	Continuing	Continuing
JMMES	MIPR	NAVAIR Pax River MD	0.000	1.000	Jan 2010	0.000		0.000		0.000	Continuing	Continuing	Continuing
CDCIE	Allot	JFCOM Norfolk VA	0.225	0.000		0.000		0.000		0.000	Continuing	Continuing	Continuing
EMF	Allot	DISA Washington DC	0.500	0.000		0.000		0.000		0.000	Continuing	Continuing	Continuing
Large Data	MIPR	NRL	0.000	1.000		0.000		0.000		0.000	Continuing	Continuing	Continuing

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**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			
		Washington DC											
STIRS	Allot	Defense Threat Reduction Agency (DTRA) Ft Belvoir VA	0.000	0.500		0.000		0.000		0.000	Continuing	Continuing	Continuing
TSP	Allot	DISA Washington DC	0.000	1.100	Jan 2010	0.000		0.000		0.000	Continuing	Continuing	Continuing
<b>Subtotal</b>			10.829	10.988		0.000		0.000		0.000			

**Remarks**  
Transition Funding for Mapping the Human Terrain (MAP-HT), Extended Space Sensors Architecture (ESSA), Joint Force Projection (JFP), Zephyr, Advanced Distributed Aperture System (ADAS), Hyperspectral Collection and Analysis (HyCAS), Internet Protocol In Space (IRIS), Joint Enable Theater Access-Sea Ports of Debarkation (JETA-SPOD), Comprehensive Maritime Awareness (CMA), Zephyr, Critical Runway Assessment Repair (CRATR), Global Observer (GO), Joint Force Protection Advanced Security System (JFPSS) , Joint Multi-Mission Electro-Optic System (JMMES), STIRS.

Project Cost Totals	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
	10.829	10.988		0.000		0.000		0.000			

**Remarks**

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**Exhibit R-4, RDT&E Schedule Profile:** PB 2011 Office of Secretary Of Defense

**DATE:** February 2010

**APPROPRIATION/BUDGET ACTIVITY**

0400: *Research, Development, Test & Evaluation, Defense-Wide*  
 BA 4: *Advanced Component Development & Prototypes (ACD&P)*

**R-1 ITEM NOMENCLATURE**

PE 0604648D8Z: *Joint Capability Technology Demonstration Transition*

**PROJECT**

P649: *JCTD*

Event Name	FY 09				FY 10				FY 11				FY 12				FY 13				FY 14				FY 15			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
FY 10 Project Selection, Transition Planning																												
(1) Procurement and Sustainment, (2) Assessment/Integration into PoR																												
FY 11 Project Selection, Transition Planning																												

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**Exhibit R-4A, RDT&E Schedule Details:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604648D8Z: <i>Joint Capability Technology Demonstration Transition</i>	<b>PROJECT</b> P649: <i>JCTD</i>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Project Selection	2	2009	3	2009
Transition Planning	4	2009	4	2009
Procurement and Sustainment	1	2010	4	2010
Assessment/Integration into PoR	1	2011	1	2011
Proj Selection	2	2010	3	2010
Transition Plan	4	2010	4	2010

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b>				<b>R-1 ITEM NOMENCLATURE</b>							
0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				PE 0604670D8Z: <i>Human, Social and Culture Behavior (HSCB) Modeling Advanced Development</i>							
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	5.392	6.950	7.459	0.000	7.459	12.206	14.759	14.983	15.206	Continuing	Continuing
P670: <i>Human, Social and Culture Behavior (HSCB) Modeling Research and Engineering</i>	5.392	6.950	7.459	0.000	7.459	12.206	14.759	14.983	15.206	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

This program focuses on maturing, hardening, and validating human, social, culture, and behavior modeling (HSCB) related software for integration into the architectures of "existing programs of record", or maturing software via open architectures to allow broad systems integration. The work provides a development to product transition pathway for socio-cultural models, tools, and visualization products. The work serves to certify that HSCB model-based technology can be transitioned into existing and developing systems in coordination with Program Executive Offices/Program Managers, joint users, and other transition customers. The program will port (integrate) relevant data and tools from a developed system to existing applications to provide essential forecasting capabilities for socio-cultural (human terrain) responses at the strategic, operational and tactical levels. It will mature and integrate technologies that provide training and mission rehearsal capabilities at the strategic to tactical level.

**B. Program Change Summary (\$ in Millions)**

	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Previous President's Budget	5.991	7.006	0.000	0.000	0.000
Current President's Budget	5.392	6.950	7.459	0.000	7.459
Total Adjustments	-0.599	-0.056	7.459	0.000	7.459
• Congressional General Reductions		0.000			
• 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	-0.110	0.000			
• Other Program Adjustments	-0.489	-0.056	7.459	0.000	7.459

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense								<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604670D8Z: <i>Human, Social and Culture Behavior (HSCB) Modeling Advanced Development</i>				<b>PROJECT</b> P670: <i>Human, Social and Culture Behavior (HSCB) Modeling Research and Engineering</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
<i>P670: Human, Social and Culture Behavior (HSCB) Modeling Research and Engineering</i>	5.392	6.950	7.459	0.000	7.459	12.206	14.759	14.983	15.206	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

This program focuses on maturing, hardening, and validating human, social, culture, and behavior modeling (HSCB) related software for integration into the architectures of "existing programs of record", or maturing software via open architectures to allow broad systems integration. The work provides a development to product transition pathway for socio-cultural models, tools, and visualization products. The work serves to certify that HSCB model-based technology can be transitioned into existing and developing systems in coordination with Program Executive Offices/Program Managers, joint users, and other transition customers. The program will port (integrate) relevant data and tools from a developed system to existing applications to provide essential forecasting capabilities for socio-cultural (human terrain) responses at the strategic, operational and tactical levels. It will mature and integrate technologies that provide training and mission rehearsal capabilities at the strategic to tactical level.

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

	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Data Collection Tool Transition first generation data collection tool and decision support tools.  <i>FY 2009 Accomplishments:</i> Matured and delivered first generation data collection tool and software to support tactical level collection and dissemination of socio-cultural data. Established the TTPs, hardware, and software necessary to support the development and transition of technologies to the Distributed Common Ground System-Army (DCGS-A). Developed a standards-based data model along with associated	1.640	2.821	2.966	0.000	2.966

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604670D8Z: <i>Human, Social and Culture Behavior (HSCB) Modeling Advanced Development</i>	<b>PROJECT</b> P670: <i>Human, Social and Culture Behavior (HSCB) Modeling Research and Engineering</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>cultural map and tabular data sets, assessed application modeling activities utilizing relevant operational scenarios and realistic data to highlight technology gaps and transition possibilities. Developed a plan to insert a technology and associated TTP into COCOM work flow.</p> <p><i>FY 2010 Plans:</i> Develop a second generation tool to support tactical to operational collection and dissemination of socio-cultural data and decision support. Leverage lessons learned from Human Terrain Teams and others to focus the effort, to include making data collection endogenous to forces. Develop a tool that is specifically designed to support unit transitions Relief in Place/Transfer of Authority (RIP/TOA) Operations by storing data in a way that facilitates knowledge transfer. Insert a data collection tool and technology into COCOM system.</p> <p><i>FY 2011 Base Plans:</i> Research and develop automated data management, translation and extraction tools to service HSCB models to support emergent user requirements. Intent is to facilitate the integration of new data sets into appropriate data stores; and enable users to discover, extract, and exploit data in forms appropriate for the models they need to use in support of HSCB problem domains and applications.</p>						
<p>Visualization Software</p> <p>Mature and develop software that will visually and digitally represent cultural factors within existing C2 systems.</p> <p><i>FY 2009 Accomplishments:</i> Matured and delivered software that supports the visualization of cultural information within existing operational-tactical level C2 and decision aiding systems. The outputs from ongoing visualization and human, social, culture, and behavior modeling projects need risk reduction support for integration into existing C2 systems (e.g. DCGS-A; Intelligence analyst systems). The work delivered the capability for</p>		1.676	1.827	1.972	0.000	1.972

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense				<b>DATE:</b> February 2010	
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0604670D8Z: <i>Human, Social and Culture Behavior (HSCB) Modeling Advanced Development</i>		<b>PROJECT</b> P670: <i>Human, Social and Culture Behavior (HSCB) Modeling Research and Engineering</i>	
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>					
<p>capability through integration of additional models and assessed transition path to DCGS-A. Initiated development of a target audience analysis and influence analysis capability to support USSOCOM and DoD strategic communication requirements. Developed a TTP for use by AFRICOM to support socio-cultural data understanding, collection, processing, and modeling.</p> <p><i>FY 2010 Plans:</i> Develop a modeling capability targeted to influence PSYOP operations to support specific transitions including capability focused on operational planning and intelligence analysis. Insert capabilities that support target audience analysis, message diffusion and message resonance transition to USSOCOM programs of record. Develop a modeling and analysis capability that allows model outputs to be translated to human decision space and allows the rank ordering and understanding of human actions. Develop a modeling capability that supports DCGS-specific socio-cultural analysis and integrate the capability into the DCGS-A Software Integration Laboratory (SIL). Develop a modeling capability to support intelligence, economic, and socio-cultural analysis; then insert into broader training model and tactical wargae suite. Implement a technology integration strategy using awards, FFRDCs, and government laboratories. Implement and test modeling capabilities in HSCB development, integration, and test lab as part of HSCB testing and assessment process.</p> <p><i>FY 2011 Base Plans:</i> Determine COCOM and deployed user needs and develop near term technologies to address these needs. Support transition to DCGS-A, Vision, Product Manager Constructive Simulation, USSOCOM, and other programs. Fund integrating contractor and US Army Geospatial Center to integrate and test HSCB technologies. Conduct the risk reduction activities necessary to ensure that HSCB technologies are validated, accurate, and address user/program of record requirements.</p>					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Risk Reduction	0.400	0.475	0.550	0.000	0.550

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604670D8Z: <i>Human, Social and Culture Behavior (HSCB) Modeling Advanced Development</i>	<b>PROJECT</b> P670: <i>Human, Social and Culture Behavior (HSCB) Modeling Research and Engineering</i>
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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 the risk reduction activities necessary to ensure that HSCB technologies are validated, accurate, and address user/program of record requirements.</p> <p><i>FY 2009 Accomplishments:</i> Developed a comprehensive technical assessment strategy tuned to the needs of the HSCB program and the maturity of the performer. Conducted over 50 discrete technical assessments of performers in various venues. Conducted scenario driven technical assessments and an integrated assessment demonstration that tied technologies to central modeling orchestration engine and database.</p> <p><i>FY 2010 Plans:</i> Increase technical engagement with awardees to ensure that developing technologies on track to meet user needs and are technically and theoretically validated. Increase engagement with key government customers to ensure ready venue for empirical validation and user assessment. Develop technology and TTP to accommodate loose integration of HSCB technologies in technical assessment experiments.</p> <p><i>FY 2011 Base Plans:</i> Conduct transition focused risk reduction activities designed to ensure that technologies targeted to POR requirements are brought through a comprehensive systems engineering and technical/theoretical assessment process. Conduct the engineering activities necessary to target technology to direct POR requirements.</p>					
<b>Accomplishments/Planned Programs Subtotals</b>	5.392	6.950	7.459	0.000	7.459

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604670D8Z: <i>Human, Social and Culture Behavior (HSCB) Modeling Advanced Development</i>	<b>PROJECT</b> P670: <i>Human, Social and Culture Behavior (HSCB) Modeling Research and Engineering</i>
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**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u> <u>Base</u>	<u>FY 2011</u> <u>OCO</u>	<u>FY 2011</u> <u>Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PE 0602670D8Z BA 2: <i>HSCB Applied Research</i>	8.063	7.882	9.499		9.499	15.843	17.991	18.322	18.662	Continuing	Continuing
• PE 0603670D8Z BA 3: <i>HSCB Advanced Development</i>	8.443	10.395	11.510		11.510	19.187	21.765	22.119	22.513	Continuing	Continuing

**D. Acquisition Strategy**

The program will produce software prototypes configured for use in programs such as the Distributed Common Ground System (DCGS). The program will be executed by a Broad Agency Announcement (BAA) and a targeted request for proposals (RFP) process. The BAA and RFPs will be issued in the first quarter of FY10. Proposals will be solicited from all DoD organizations, other federal agencies, and the commercial sector. Proposals will be competed using review panels.

**E. Performance Metrics**

N/A

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604670D8Z: <i>Human, Social and Culture Behavior (HSCB) Modeling Advanced Development</i>	<b>PROJECT</b> P670: <i>Human, Social and Culture Behavior (HSCB) Modeling Research and Engineering</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			
Data Modeling, Experimentation, & Cultural Webmapping	MIPR	Army Engineer Research & Development Center Alexandria, Virginia	1.565	0.000		0.000		0.000		0.000	Continuing	Continuing	Continuing
PMESII Modeling Framework (HPMF) Testbed	MIPR	Army Communications-Electronics Research, Development, and Engineering Center Ft. Monmouth, New Jersey	1.500	0.000		0.000		0.000		0.000	Continuing	Continuing	Continuing
<b>Subtotal</b>			3.065	0.000		0.000		0.000		0.000			

**Remarks**

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604670D8Z: <i>Human, Social and Culture Behavior (HSCB) Modeling Advanced Development</i>	<b>PROJECT</b> P670: <i>Human, Social and Culture Behavior (HSCB) Modeling Research and Engineering</i>
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**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			
Multiple Performers	MIPR	Multiple Multiple	0.000	6.950	Jan 2010	7.459	Jan 2011	0.000		7.459	Continuing	Continuing	Continuing
<b>Subtotal</b>			0.000	6.950		7.459		0.000		7.459			

**Remarks**  
 Technical Services, Research Studies and Analyses, etc - Multiple Performers

**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			
Program Management	MIPR	MITRE McLean, Virginia	1.006	0.000	Jan 2010	0.000	Jan 2011	0.000		0.000	Continuing	Continuing	Continuing
<b>Subtotal</b>			1.006	0.000		0.000		0.000		0.000			

**Remarks**

Project Cost Totals	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			
<b>Project Cost Totals</b>	4.071	6.950		7.459		0.000		7.459			

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**Exhibit R-4, RDT&E Schedule Profile: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604670D8Z: <i>Human, Social and Culture Behavior (HSCB) Modeling Advanced Development</i>	<b>PROJECT</b> P670: <i>Human, Social and Culture Behavior (HSCB) Modeling Research and Engineering</i>
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	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Software Tool Developed	■	■																										
FY11 and FY12 Projects Developed and Transitioned													■	■	■	■	■	■	■	■								
Spiral 2 Delivery															■													
FY09 and FY10 Projects Developed and Transitioned		■	■	■	■	■	■	■																				
Spiral 1 Delivery												■																
FY09 Projects Developed and Transitioned		■	■	■	■	■	■	■																				
FY09 Projects Funded		■																										
FY09 Projects Identified	■																											
SOC PAC Software Tool Transitioned		■																										
Spiral 3 Delivery																											■	

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**Exhibit R-4A, RDT&E Schedule Details:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604670D8Z: <i>Human, Social and Culture Behavior (HSCB) Modeling Advanced Development</i>	<b>PROJECT</b> P670: <i>Human, Social and Culture Behavior (HSCB) Modeling Research and Engineering</i>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Software Tool Developed	1	2009	2	2009
FY11 and FY12 Projects Developed and Transitioned	4	2011	4	2013
Spiral 2 Delivery	3	2012	3	2012
FY09 and FY10 Projects Developed and Transitioned	2	2009	4	2010
Spiral 1 Delivery	4	2010	4	2010
FY09 Projects Developed and Transitioned	2	2009	4	2010
FY09 Projects Funded	2	2009	2	2009
FY09 Projects Identified	1	2009	1	2009
SOCPAC Software Tool Transitioned	2	2009	2	2009
Spiral 3 Delivery	4	2013	4	2013

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604787D8Z: <i>Joint Systems Integration Command</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	18.083	19.585	19.413	0.000	19.413	19.561	19.767	20.067	20.365	Continuing	Continuing
P787: <i>Joint Systems Integration Command</i>	18.083	19.585	19.413	0.000	19.413	19.561	19.767	20.067	20.365	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

The FY 2005 National Defense Authorization Act (NDAA) directed the transfer of U.S. Joint Forces Command (USJFCOM) RDT&E funding of joint warfare experimentation and training programs from Navy accounts to new Defense Wide RDT&E accounts beginning in FY 2007.

JSIC supports Joint Requirements Oversight Council Memoranda (JROCM) by conducting system interoperability assessments, by providing warfighter utility assessments addressing near-term joint capability shortfalls, and by developing solutions to improve integration of Service and Agency systems. JSIC is the U.S. Joint Forces Command (USJFCOM) and Chairman, Joint Chiefs of Staff (CJCS) capability for warfighter exploration, capability integration, and evaluation of Command and Control (C2) and Command, Control, Computer, Communication, Intelligence, Surveillance & Reconnaissance (C4ISR) capabilities. JSIC provides Combatant Commands with a laboratory and assessment environment for the warfighter and technologist. This environment provides for assessment of current and near-term joint operational capabilities. JSIC's Persistent Command and Control (C2) Environment accurately replicates an operational C2 architectures. With this capability, JSIC assesses operational, system of systems, technical, software, and procedural interoperability of new systems and programs to confirm readiness for initial acquisition and fielding of evolutionary improvements.

JSIC serves as the technical analysis and operational assessment activity in support of the Joint Staff capability-driven requirements process, the Joint Capabilities Integration and Development System (JCIDS). Through JSIC's analysis and assessment, systems are evaluated for "value-added" prior to employment in joint environments typical of deployed theaters of operation. JSIC also serves as a joint compliance activity for the milestone decision authorities/program managers, including the Command and Control Capability Integration Board (C2CIB) and associated, Functional Command and Control Board (FCB). The C2 Capability Portfolio Manager (C2 CPM) has tasked JSIC to provide analysis and assessment of C2 portfolio systems.

By establishing ground truth for interoperability, utility, and suggesting remedies for demonstrated shortfalls, JSIC is a forcing function for interoperable joint solutions and a means to foster rapid, near-term insertion of C4ISR technology by promoting the ability to meet the DoD direction for spiral development and evolutionary acquisition. JSIC's mission assignment is to provide for the fielding of warfighter C2 systems through rapid systems integration, technical tasking, and operational assessment using laboratory environments and field venues. In the world of C2 and ISR capability, performance in the field is the bottom line. In terms of investment, JSIC is the "ounce of prevention" that precludes a "pound" of mission failure and loss of life due to interoperability failures in actual military operations.

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R-1 Line Item #105

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2011 Office of Secretary Of Defense	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604787D8Z: <i>Joint Systems Integration Command</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	19.643	19.744	0.000	0.000	0.000
Current President's Budget	18.083	19.585	19.413	0.000	19.413
Total Adjustments	-1.560	-0.159	19.413	0.000	19.413
• Congressional General Reductions		0.000			
• 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	-0.448	0.000			
• Other Program Adjustments	-1.112	-0.159	19.413	0.000	19.413

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense								<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604787D8Z: <i>Joint Systems Integration Command</i>				<b>PROJECT</b> P787: <i>Joint Systems Integration Command</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
<i>P787: Joint Systems Integration Command</i>	18.083	19.585	19.413	0.000	19.413	19.561	19.767	20.067	20.365	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

The FY 2005 National Defense Authorization Act (NDAA) directed the transfer of U.S. Joint Forces Command (USJFCOM) RDT&E funding of joint warfare experimentation and training programs from Navy accounts to new Defense Wide RDT&E accounts beginning in FY 2007.

JSIC supports Joint Requirements Oversight Council Memoranda (JROCM) by conducting system interoperability assessments, by providing warfighter utility assessments addressing near-term joint capability shortfalls, and by developing solutions to improve integration of Service and Agency systems. JSIC is the U.S. Joint Forces Command (USJFCOM) and Chairman, Joint Chiefs of Staff (CJCS) capability for warfighter exploration, capability integration, and evaluation of Command and Control (C2) and Command, Control, Computer, Communication, Intelligence, Surveillance & Reconnaissance (C4ISR) capabilities. JSIC provides Combatant Commands, at the joint force headquarters level, with a laboratory and assessment environment for the warfighter and technologist. This environment provides for assessment of current and near-term joint operational capabilities. JSIC's Persistent Command and Control (C2) Environment accurately replicates an operational C2 environment. With this capability, JSIC assesses operational, system of systems, technical, software, and procedural interoperability of new systems and programs to confirm readiness for initial acquisition and fielding of evolutionary improvements.

JSIC serves as the technical analysis and operational assessment activity in support of the Joint Staff capability-driven requirements process, the Joint Capabilities Integration and Development System (JCIDS). Through JSIC's analysis and assessment, systems are evaluated for "value-added" prior to employment in joint environments typical of deployed theaters of operation. JSIC also serves as a joint interoperability compliance activity for the milestone decision authorities/program managers, including the Command and Control Capability Integration Board (C2CIB) and associated, Functional Command and Control Board (FCB). The C2 Capability Portfolio Manager (C2 CPM) has tasked JSIC to provide analysis and assessment of C2 portfolio systems.

By establishing ground truth for interoperability and suggesting remedies for demonstrated shortfalls, JSIC is a forcing function for interoperable joint solutions and a means to foster rapid, near-term insertion of C4ISR technology by promoting the ability to meet the DoD direction for spiral development and evolutionary acquisition. JSIC's mission assignment is to provide for the fielding of warfighter C2 systems through rapid systems integration, technical assessment, and operational evaluation using laboratory environments and field venues. In the world of C2 and ISR interoperability, performance in the field is the bottom line. In terms of investment, JSIC is the "ounce of prevention" that precludes a "pound" of mission failure and loss of life due to interoperability failures in actual military operations.

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604787D8Z: <i>Joint Systems Integration Command</i>	<b>PROJECT</b> P787: <i>Joint Systems Integration Command</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Interoperability Technology Demonstration Center (ITDC) and Interoperability Assessments (IA)</p> <p>Primary outcome (objective) for this effort is seamless interoperability between DoD systems supporting the warfighter. ITDC supports the interoperability assessment of systems in five categories: operational, system of systems, technical, software, and procedural. These assessments provide supporting justification for continued development of a program within the acquisition system.</p> <p><i>FY 2009 Accomplishments:</i></p> <p>Conducted the following interoperability demonstrations of C2 developmental systems/applications in support of Combatant Commanders, Services, and Agencies:</p> <p>Joint System Baseline Assessment 2009 (JSBA 09) - Conducted a technical interoperability and operational integration assessment of current and transitional C2 systems, C4 ingest of Battlespace Awareness data, joint targeting systems needed by conventional and irregular warfare forces and measured improvements to shortfalls discovered in JSBA 08.</p> <p>Coalition Warfare Interoperability Demonstration 2009 (CWID 09) Selected Trial Assessments - As directed, augmented the assessment of selected Trial Demonstrations by providing analysts for C4ISR technologies that show potential for near-term transition, as determined by the CWID Technology Transition Information Working Group and recommended assessment methodology improvements to further CWID effectiveness.</p> <p>My Internet Relay Chat (mIRC)/Extensible Messaging and Presence Protocol (XMPP) Based Persistent Chat Application (JABBER) – Provided USCENTCOM an analysis of the functional and technical differences between mIRC and the XMPP based persistent chat application, JABBER</p>	10.383	11.685	11.641	0.000	11.641

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604787D8Z: <i>Joint Systems Integration Command</i>	<b>PROJECT</b> P787: <i>Joint Systems Integration Command</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>and analytic software services that support spatial and predictive capabilities for kinetic ground forces and Unmanned Aerial System (UAS) Operations across the coalition. Common Ground would be an enterprise licensed capability for DoD Command, Control and Intelligence (C2I) Systems and developers to support interoperability and data portability for geospatial information based on currently accepted standards.</p> <p>Joint C2 Network Partnership Assessment Support - Support the Joint C2 Network Partnership (JC2NP) in accordance with direction provided following the February, 2009 meeting between USJFCOM, DISA, and JS J6. JSIC support to the JC2NP will include evaluation of alternatives, analytical agendas, and possible ways ahead to leverage C/S/A efforts in coherent and mutually supportive way to solve interoperability and integration problems.</p> <p>Image Product Library Interoperability (IPL) Assessment - Conduct an end-to-end interoperability assessment of NGA IPL Upgrade v 6.5.1 prior to baseline deployment.</p> <p>Joint Systems Integration and Interoperability Lab (JSIIL) Analysis Support – Support the development of the JSIIL through evaluation and construction of top level business rules and mutual processes.</p> <p>Provide evaluation support for the Capability Portfolio Managers (CPMs):</p> <p>Command and Control Registry (C2R)/C2Pedia Development - The C2R database will be reengineered to accommodate a variety of data types and multiple data sets and will be coupled with a highly robust enterprise search engine allowing advanced data discovery, mining and aggregation of data across the web.</p> <p>Command and Control Ad-Hoc Analysis – Develop innovative tools and techniques to support analysis of C2 based on technical, operational, and programmatic criteria that support the C2 community of interest at large.</p>					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense				<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0604787D8Z: <i>Joint Systems Integration Command</i>		<b>PROJECT</b> P787: <i>Joint Systems Integration Command</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p><i>FY 2011 Base Plans:</i> Continue FY2010 initiatives by engaging the Services and Communities of Interest (COI) to leverage the capabilities of the Persistent Command and Control environment by bringing joint solutions through JSIC's integration and operational assessment process. Also continue to expand existing relationships with Service and Coalition Labs and Engineering organizations.</p>								
Accomplishments/Planned Programs Subtotals				18.083	19.585	19.413	0.000	19.413
<b>C. Other Program Funding Summary (\$ in Millions)</b>								
N/A								
<b>D. Acquisition Strategy</b>								
JSIC supports interoperability of systems selected for acquisition, integration and fielding. JSIC is intended to be a forcing function to discover and provide interoperable joint solutions as a means to foster rapid, near-term insertion of C2 technology by promoting the ability to meet the DoD direction for spiral development and evolutionary acquisition. Services and Defense Agencies are responsible for conducting acquisition activities in Programs of Record (POR).								
<b>E. Performance Metrics</b>								
<p>FY09 Strategic Goals Supported: JC2 Existing Baseline: Number of FY 2008 Assessments/Interoperability Demonstrations/Capability Integrations Planned Performance Improvement / Requirement Goal: 5% increase in assessments, integrations &amp; demos Actual Performance Improvement: Achieved 29 of planned 21 assessments/demos Planned Performance Actual Performance Metric / Methods of Measurement: Number of assessments, integrations &amp; demos Actual Performance Metric / Methods of Measurement: Completed 29 assessments/demos</p> <p>FY10 Strategic Goals Supported: JC2 Existing Baseline: Number of FY 2009 Assessments/Interoperability Demonstrations/Capability Integrations Planned Performance Improvement / Requirement Goal: 5% increase in assessments, integrations &amp; demos</p>								

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604787D8Z: <i>Joint Systems Integration Command</i>	<b>PROJECT</b> P787: <i>Joint Systems Integration Command</i>
<p>Actual Performance Improvement:            Planned Performance Actual Performance Metric / Methods of Measurement: Number of assessments, integrations &amp; demos            Actual Performance Metric / Methods of Measurement:</p> <p>Performance of Joint Systems Integration Command is measured by successful delivery of JSIC products to customers by required delivery dates. Notably FY09 productivity delivered included: Coalition Warrior Interoperability Demonstration (CWID) 2009 – Provided venue for 21 of 43 trials and assessment results for 5 promising technologies; Joint System Baseline Assessment (JSBA) 2009 – Conducted technical interoperability and operational integration assessment of current and transitional C2 systems, identified interoperability shortfalls and provided actionable recommendations to resolve critical system interoperability shortfalls; Tactical Cellular Network (TactiCell) – Integrated existing technologies to provide handheld wideband communications system for dismounted SOF teams; Transportation Visualization (TransViz) - Exercised virtual lab partnership with USSTRATCOM and USTRANSCOM to recommend improvements to TransViz tool supporting Time Phased Force Deployment Data (TPFDD) planning and validation; Tactical Service Provider (TSP) – Provided simulated COCOM node to assess the new 2-way Global Broadcast System (GBS) during the initial Limited Utility Assessment and other technical demonstrations.</p>		

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**Exhibit R-4, RDT&E Schedule Profile:** PB 2011 Office of Secretary Of Defense

**DATE:** February 2010

**APPROPRIATION/BUDGET ACTIVITY**

0400: *Research, Development, Test & Evaluation, Defense-Wide*  
 BA 4: *Advanced Component Development & Prototypes (ACD&P)*

**R-1 ITEM NOMENCLATURE**

PE 0604787D8Z: *Joint Systems Integration Command*

**PROJECT**

P787: *Joint Systems Integration Command*

Event Name	FY 09				FY 10				FY 11				FY 12				FY 13				FY 14				FY 15			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Project Selection, Project Planning	[Redacted]																											
Procurement	[Redacted]																											
Testing/Integration/Assessment	[Redacted]																											
Report/Findings	[Redacted]																											

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**Exhibit R-4A, RDT&E Schedule Details:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604787D8Z: <i>Joint Systems Integration Command</i>	<b>PROJECT</b> P787: <i>Joint Systems Integration Command</i>
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**Schedule Details**

<b>Event</b>	<b>Start</b>		<b>End</b>	
	<b>Quarter</b>	<b>Year</b>	<b>Quarter</b>	<b>Year</b>
Project Selection, Project Planning	1	2009	4	2012
Procurement	1	2009	4	2012
Testing/Integration/Assessment	1	2009	4	2012
Report/Findings	1	2009	4	2012

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b>				<b>R-1 ITEM NOMENCLATURE</b>							
0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				PE 0604828D8Z: <i>Joint Fires Integration &amp; Interoperability</i>							
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	15.446	16.835	16.637	0.000	16.637	16.764	16.941	17.199	17.452	Continuing	Continuing
P857: <i>Joint Fires Integration &amp; Interoperability</i>	15.446	16.835	16.637	0.000	16.637	16.764	16.941	17.199	17.452	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

The Joint Fires Integration & Interoperability Team (JFIIT) funded in this program is a relatively small cell of recognized Joint fires experts adding value to much larger Service investments in force elements designed to produce kinetic and non kinetic effects. Services, Joint, and Combatant Commanders and their Staffs actively seek JFIIT advice and assistance to improve the execution of combat fires applied in complex coalition and joint environments.

The FY 2005 National Defense Authorization Act (NDAA) directed the transfer of US Joint Forces Command (USJFCOM) RDT&E funding of joint warfare experimentation and training programs from Navy accounts to new Defense Wide RDT&E accounts beginning in FY 2007. Funding to support the JFIIT Program prior to FY 2007 was reflected in the Navy's RDT&E Program under PE 0603857N. The new funding alignment brings the JFIIT Program into oversight by the Undersecretary of Defense, Acquisition, Technology and Logistics (USD AT&L) Director Defense Research & Engineering (DDR&E).

Joint Requirements Oversight Council Memo (JROCM) 183-4, dated 8 Oct 04, directed U.S. Joint Forces Command (USJFCOM) to establish a Joint Fires Support Organization. JROCM 241-05, dated 3 Nov 05, validated the JFIIT mission. USJFCOM Directive Number 5170.2 dated 30 Nov 07, Charter for JFIIT, assigns JFIIT responsibility to improve Joint Fires.

The JFIIT mission is to improve the integration, interoperability, and operational effectiveness of Joint fires, at the tactical level. JFIIT takes a holistic approach to improving Joint fires by providing solutions that produce effective target acquisition, command and control, and interoperable firing systems, thereby reducing fratricide and collateral damage. This results in not only near-term tactical identification of issues and solutions, but also informs and provides a foundation for short and long-term operational and tactical capabilities.

JFIIT facilitates the development of Live, Virtual, and Constructive Joint fires and Joint ISR training applications at the Combat Training Centers (CTCs). Focus areas include Signals Intelligence (SIGINT), Full Motion Video (FMV), Non-traditional ISR (NT-ISR), Synthetic Aperture Radar/Moving Target Indicator (SAR/MTI), and Electronic Warfare to include counter Improvised Explosive Device (IED). JFIIT also assists with scenario and architecture development to duplicate real world operational environments to facilitate Joint fires and Joint ISR training opportunities.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2011 Office of Secretary Of Defense	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604828D8Z: <i>Joint Fires Integration &amp; Interoperability</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	16.906	16.972	0.000	0.000	0.000
Current President's Budget	15.446	16.835	16.637	0.000	16.637
Total Adjustments	-1.460	-0.137	16.637	0.000	16.637
• Congressional General Reductions		0.000			
• 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	-0.462	0.000			
• Other Program Adjustments	-0.998	-0.137	16.637	0.000	16.637

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b>				<b>R-1 ITEM NOMENCLATURE</b>				<b>PROJECT</b>			
0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				PE 0604828D8Z: <i>Joint Fires Integration &amp; Interoperability</i>				P857: <i>Joint Fires Integration &amp; Interoperability</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
<i>P857: Joint Fires Integration &amp; Interoperability</i>	15.446	16.835	16.637	0.000	16.637	16.764	16.941	17.199	17.452	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

The Joint Fires Integration & Interoperability Team (JFIIT) funded in this program is a relatively small cell of recognized Joint Fires experts adding value to much larger Service investments in force elements designed to produce kinetic and non kinetic effects. Services, Joint, and Combatant Commanders and their Staffs actively seek JFIIT advice and assistance to improve the execution of combat fires applied in complex coalition and joint environments.

The FY 2005 National Defense Authorization Act (NDAA) directed the transfer of US Joint Forces Command (USJFCOM) Research, Development, Test & Evaluation (RDT&E) funding of joint warfare experimentation and training programs from Navy accounts to new Defense Wide RDT&E accounts beginning in FY 2007. Funding to support the JFIIT Program prior to FY 2007 was reflected in the Navy's RDT&E Program under PE 0603857N. This brought the JFIIT Program into oversight by the Office of the Secretary of Defense (OSD)/Defense Research & Engineering (DR&E).

Joint Requirements Oversight Council Memo (JROCM) 183-4, dated 8 Oct 04, directed USJFCOM to establish a Joint Fires Support Organization. JROCM 241-05, dated 3 Nov 05, validated the JFIIT mission. USJFCOM Directive Number 5170.2 dated 30 Nov 07, Charter for JFIIT, assigns JFIIT responsibility to improve Joint Fires.

The JFIIT mission is to improve the integration, interoperability, and operational effectiveness of Joint fires, at the tactical level. JFIIT takes a holistic approach to improving Joint fires by providing solutions that produce effective target acquisition, command and control, and interoperable firing systems, thereby reducing fratricide and collateral damage. This results in not only near-term tactical identification of issues and solutions, but also informs and provides a foundation for short and long-term operational and tactical capabilities.

JFIIT facilitates the development of Live, Virtual, and Constructive Joint fires and Joint ISR training applications at the Combat Training Centers (CTCs). Focus areas include Signals Intelligence (SIGINT), Full Motion Video (FMV), Non-traditional ISR (NT-ISR), Synthetic Aperture Radar/Moving Target Indicator (SAR/MTI), and Electronic Warfare to include counter Improvised Explosive Device (IED). JFIIT also assists with scenario and architecture development to duplicate real world operational environments to facilitate Joint fires and Joint ISR training opportunities.

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

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604828D8Z: <i>Joint Fires Integration &amp; Interoperability</i>	<b>PROJECT</b> P857: <i>Joint Fires Integration &amp; Interoperability</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Joint Fires Integration &amp; Interoperability (JFIIT) Assessments and Evaluations</p> <p>The emphasis of JFIIT Assessments effort is the evaluation of Joint fires and combat identification to provide Services and Agencies findings and recommendation based on quantifiable data in order to improve Joint Fires. JFIIT collects and analyzes data and provides observations, findings, conclusions, and recommendations to identify Joint doctrine, training, and material solutions and products that promote capability improvement. Accurate data is necessary to effectively develop solutions to identified problems. JFIIT provides a truth-based data collection capability to support a holistic approach to the overall improvement of Joint fires. Evaluations range from small, single-focus events to large, multi-event/venue exercises.</p> <p>JFIIT conducts assessments in conjunction with Service and Combatant Command (COCOM) exercises, experiments, and test &amp; evaluation events. The emphasis of this JFIIT effort is assessing Joint fires and combat identification capabilities to ensure that Services and Agencies field interdependent and interoperable systems and training. JFIIT Assessment efforts include verifying an accurate Joint environment is depicted during realistic training that exercises one or more Joint tasks, assessing Joint context and Joint task execution while addressing the effectiveness of a Joint training program and identifying the need for continued support of Joint fires tactics, techniques and procedures (TTP) and doctrine. JFIIT assessments provide input to acquisition processes and enhance Joint development as programs are funded and developed.</p> <p>The primary outputs and efficiencies include:</p> <ul style="list-style-type: none"> <li>- Improvement in the Services' ability to employ Joint fires.</li> <li>- Improved Joint Intelligence, Surveillance, and Reconnaissance (ISR) and integrated Air to Ground training at Home Station and the Combat Training Centers.</li> <li>- An enhanced Joint operational environment at the Combat Training Centers that supports the execution of Joint tasks during service training and enhances JFIIT's ability to conduct assessments.</li> </ul>	6.796	7.407	7.320	0.000	7.320

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604828D8Z: <i>Joint Fires Integration &amp; Interoperability</i>	<b>PROJECT</b> P857: <i>Joint Fires Integration &amp; Interoperability</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul style="list-style-type: none"> <li>- Recommended solutions integrated within the USJFCOM-led Joint Capabilities Integration Development System (JCIDS) and Joint C2 Capability Portfolio Manager (JC2 CPM) processes</li> <li>- Identification of specific key performance parameters (KPPs) and key system attributes (KSAs) for new systems that meet Joint warfighter operational requirements to ensure Services and Agencies field interdependent and interoperable systems</li> <li>- Published doctrine and Joint Tactics, Techniques and Procedures to efficiently and effectively employ Joint forces at the tactical level</li> <li>- Increased effectiveness and confidence in combat identification and a reduction in fratricide</li> </ul> <p><i>FY 2009 Accomplishments:</i></p> <ul style="list-style-type: none"> <li>-Using the Brigade Combat Team Air-Ground Integration (BCT A-GI) initiative, followed two US Army Brigade Combat Teams (BCT) from the beginning of their pre-deployment training activities, through their deployment and execution of their assigned missions in the Operation Iraqi Freedom and Operation Enduring Freedom Areas of Operation. Develop Doctrine, Organization, Training, Material, Leadership, Personnel, Facilities (DOTMLPF) recommendations and proposals for changes to unit Standard Operating Procedure and improvements to Brigade Combat Team pre-deployment training based on observations and analysis throughout this process. Benefits will include better trained service members, improved Joint TTP, and improved pre-deployment training.</li> <li>-In support of US Army Training and Doctrine Command (TRADOC) and US Air Force Air Component Command (ACC), improved the tactical application of Joint Intelligence, Surveillance, and Reconnaissance (ISR) and the integration of Air to Ground Operations at the National Training Center, Fort Irwin, CA, and Green Flag West, Nellis AFB, NV. Provided training support and feedback to exercise participants, observer trainers/controllers, and venue support staff during multiple (10 rotations in FY09). Provided a post-event debrief to the venue staff and an Exercise Summary Report to USJFCOM. Benefits included better trained service members, improved ability to execute joint tasks at service training venues, and an improved Joint operational environment and Joint context at a Service Combat Training Center.</li> </ul>					

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>-In support of USA TRADOC and USAF ACC, improved the tactical application of Joint ISR and the integration of Air to Ground Operations at the Joint Readiness Training Center, Fort Polk, LA, and Green Flag East, Barksdale AFB, LA. Provided training support and feedback to exercise participants, observer trainers/controllers, and venue support staff during multiple (10 rotations in FY09). Provided a post-event debrief to the venue staff and an Exercise Summary Report to USJFCOM. Benefits included better trained service members, improved ability to execute joint tasks at service training venues, and an improved Joint operational environment and Joint context at a Service Combat Training Center.</p> <p>- In support of US Army Training and Doctrine Command (TRADOC) and US Air Forces Europe (USAFE), improved the tactical application of Joint ISR and the integration of Air to Ground Operations at the Joint Multi-National Readiness Center, Hoenfels, Germany. Provided training support and feedback to exercise participants, observer trainers/controllers, and venue support staff during multiple (2 rotations in FY09). Provided a post-event debrief to the venue staff and an Exercise Summary Report to USJFCOM. Benefits included better trained service members, improved ability to execute joint tasks at service training venues, and an improved Joint operational environment and Joint context at a Service Combat Training Center.</p> <p>- In support of USMC Marine Air-Ground Task Force – Training Command (MAGTF-TC) improved the tactical application of Joint ISR and the integration of Air to Ground Operations at the Marine Corps Air Ground Combat Center, Twenty-Nine Palms, CA. Provided training support and feedback to exercise participants, observer trainers/controllers, and venue support staff during multiple enhanced Mojave Viper rotations. Provided a post-event debrief to the venue staff and an Exercise Summary Report to USJFCOM. Define training support to Marine Corps Tactics and Operations Group (MCTOG) Spartan Resolve exercises. Benefits included better trained service members, improved ability to execute joint tasks at service training venues, and an improved Joint operational environment and Joint context at a Service Combat Training Center.</p> <p>- Continued to support the Coalition Combat Identification Advanced Combat Identification Demonstration (CCID ACTD) thru support of Bold Quest 09. Provide analytical support to a Military</p>					

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Utility Assessment of coalition and US Combat Identification Systems. Also, provide instrumentation, data collection, data capture, real-time mission monitoring, and feedback to participants via daily debriefings. Benefits will include improved ability to assess various participating coalition and US systems, improved joint task execution, and an effective Military Utility Assessment of US Combat Identification systems while greatly reducing the timeline required to provide fact-based recommendations.</p> <ul style="list-style-type: none"> <li>- Continued support for irregular warfare in the capability and training assessment of special operations exercises and events in preparation for Deployment and assisted in the identification of solutions in support of irregular warfare issues identified during these joint task execution and joint capabilities assessments.</li> <li>- Continued support to US Air Forces Central (USAFCENT formerly USCENTAF) and the 18th Air Support Operations Group (ASOG) in training Joint Terminal Attack Controllers (JTACs) and Joint Fires Officers (JFOs) teams during exercises Atlantic Strike. Provided training support and feedback to the training audience and trainers. Benefits included increased combat readiness of Joint Terminal Attack Controllers (JTACs) and Joint Fires Officers (JFOs) as well as Air Support Operations Squadron (ASOS) personnel.</li> <li>- Led a short notice Tactical Cellular (TactiCell) Limited Operational Assessment (LOA) as a culminating event in a series of limited objective events. Provided tactical operators and led the assessment team in an effort to evaluate the military benefit of TactiCell to small unit operations. In addition, the TactiCell LOA demonstrated the value of using Universal Joint Tasks (UJT) to conduct tactical and technical assessments.</li> </ul> <p><i>FY 2010 Plans:</i></p> <ul style="list-style-type: none"> <li>-Using the Brigade Combat Team Air-Ground Integration (BCT A-GI) initiative, follow multiple US Army Brigade Combat Teams (BCT) from the beginning of their pre-deployment training activities, through their deployment and execution of their assigned missions in the Operation Iraqi Freedom and Operation Enduring Freedom Areas of Operation. Develop Doctrine, Organization, Training, Material, Leadership, Personnel, Facilities (DOTMLPF) recommendations and proposals for changes</li> </ul>					

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>to unit Standard Operating Procedure and improvements to Brigade Combat Team pre-deployment training based on observations and analysis throughout this process. Benefits will include better trained service members, improved Joint TTP, and improved pre-deployment training.</p> <p>- In support of, US Army Training and Doctrine Command (TRADOC) and US Air Force Air Component Command (ACC), continue efforts to improve the tactical application of Joint ISR and the Integration of Air to Ground Operations at the National Training Center, Fort Irwin, CA, and Green Flag West, Nellis AFB, NV. Provide training support and feedback to exercise participants, observer trainers/controllers, and venue support staff during 10 training rotations. Provide a post-event debrief to the venue staff and an Exercise Summary Report to USJFCOM. Benefits will include better trained service members, improved ability to execute joint tasks at service training venues, and an improved Joint operational environment and Joint context at a Service Combat Training Center.</p> <p>- In support of USA TRADOC and USAF ACC, continue efforts to improve the tactical application of Joint ISR and the Integration of Air to Ground Operations at the Joint Readiness Training Center, Fort Polk, LA, and Green Flag East, Barksdale AFB, LA. Provide training support and feedback to exercise participants, observer trainers/controllers, and venue support staff during 10 training rotations. Provide a post-event debrief to the venue staff and an Exercise Summary Report to USJFCOM. Benefits will include better trained service members, improved ability to execute joint tasks at service training venues, and an improved Joint operational environment and Joint context at a Service Combat Training Center.</p> <p>- In support of USA TRADOC and US Air Forces Europe (USAFE), continue efforts to improve the tactical application of JISR and the Integration of Air to Ground Operations at the Joint Multi-National Readiness Center, Hoenfels, Germany. Provide training support and feedback to exercise participants, observer trainers/controllers, and venue support staff during 2 training rotations. Provide a post-event debrief to the venue staff and an Exercise Summary Report to USJFCOM. Benefits will include better trained service members, improved ability to execute joint tasks at service training venues, and an improved Joint operational environment and Joint context at a Service Combat Training Center.</p>					

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>- In support of USMC Marine Air-Ground Task Force – Training Command (MAGTF-TC) continue efforts to improve the tactical application of Joint ISR and the Integration of Air to Ground Operations at the Marine Corps Air Ground Combat Center, Twenty-Nine Palms, CA. Provide training support and feedback to exercise participants, observer trainers/controllers, and venue support staff during 5 enhanced Mojave Viper rotations and 5 Spartan Resolve training exercises. Provide a post-event debrief to the venue staff and an Exercise Summary Report to USJFCOM. Continue efforts to define training support to Marine Corps Tactics and Operations Group (MCTOG). Benefits will include better trained service members, improved ability to execute joint tasks at service training venues, and an improved Joint operational environment and Joint context at a Service Combat Training Center.</p> <p>- In support of the USN 2nd Fleet (east coast) and 3rd Fleet (west coast), provide training support and feedback to exercise participants, observer trainers/controllers, and venue support staff during multiple Fleet Synthetic Training-Joint (FST-J) training exercises. Also, provide a post-event debrief to the venue staff and an Exercise Summary Report to USJFCOM. Benefits will include better trained service members, improved ability to execute joint tasks at service training venues, and an improved Joint operational environment and Joint context at a Service training venue.</p> <p>- In support of the USN 2nd Fleet (east coast) and 3rd Fleet (west coast), provide training support and feedback to exercise participants, observer trainers/controllers, and venue support staff during multiple Joint Task Force Exercise (JTFEX) training exercises. Also, provide a post-event debrief to the venue staff and an Exercise Summary Report to USJFCOM. Benefits will include better trained service members, improved ability to execute joint tasks at service training venues, and an improved Joint operational environment and Joint context at a Service training venue.</p> <p>- In support of USN Naval Surface Warfare Center (NSWC), provide analytical support to netted sensor assessments conducted to determine how to integrate world-wide sensors on a Global Information Grid (GIG) to allow for a common operational picture. Also provide instrumentation, data collection, data capture, real-time mission monitoring, and feedback to participants via daily debriefings. Benefits will include improved integration of world-wide sensors and improved Joint interoperability.</p>					

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>- Continue to support the Coalition Combat Identification Advanced Combat Identification Demonstration (CCID ACTD) Bold Quest events. Provide analytical support to provide a Military Utility Assessment of coalition and US Combat Identification Systems. Provide instrumentation, data collection, data capture, real-time mission monitoring, and feedback to participants via daily debriefings. Benefits will include improved ability to assess various participating coalition and US systems, improved joint task execution, and an effective Military Utility Assessment US Combat Identification systems while greatly reducing the timeline required to provide fact-based recommendations.</p> <p>- Continue support for irregular warfare in the capability and training assessment of special operations exercises and events in preparation for Deployment and will assist in the identification of solutions in support of irregular warfare issues identified during these joint task execution and joint capabilities assessments.</p> <p>- Continue support to USAFCENT and the various Air Support Operations Groups (ASOGs) in training Joint Terminal Attack Controllers (JTACs) and Joint Fires Officers (JFOs) teams. Provide training support and feedback to the training audience and trainers. Benefits will include increased combat readiness of JTACs and JFOs as well as Air Support Operations Squadron (ASOS) personnel.</p> <p><i>FY 2011 Base Plans:</i></p> <p>-Using the Brigade Combat Team Air-Ground Integration (BCT A-GI) initiative, follow multiple US Army Brigade Combat Teams (BCT) from the beginning of their pre-deployment training activities, through their deployment and execution of their assigned missions. Develop Doctrine, Organization, Training, Material, Leadership, Personnel, Facilities (DOTMLPF) recommendations and proposals for changes to unit Standard Operating Procedure and improvements to Brigade Combat Team pre-deployment training based on observations and analysis throughout this process. Benefits will include better trained service members, improved Joint TTP, and improved pre-deployment training.</p> <p>- In support of US Army Training and Doctrine Command (TRADOC) and USAF Air Component Command (ACC), continue efforts to improve the tactical application of Joint ISR and the Integration of Air to Ground Operations at the National Training Center, Fort Irwin, CA, and Green Flag West,</p>					

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Nellis AFB, NV. Provide training support and feedback to exercise participants, observer trainers/controllers, and venue support staff during multiple (10 rotations in FY09). Provide a post-event debrief to the venue staff and an Exercise Summary Report to USJFCOM. Benefits will include better trained service members, improved ability to execute joint tasks at service training venues, and an improved Joint operational environment and Joint context at a Service Combat Training Center.</p> <p>- In support of USA TRADOC and USAF ACC, continue efforts to improve the tactical application of Joint ISR and the Integration of Air to Ground Operations at the Joint Readiness Training Center, Fort Polk, LA, and Green Flag East, Barksdale AFB, LA. Provide training support and feedback to exercise participants, observer trainers/controllers, and venue support staff during multiple rotations (10 rotations in FY09). Also, provide a post-event debrief to the venue staff and an Exercise Summary Report to USJFCOM. Benefits will include better trained service members, improved ability to execute joint tasks at service training venues, and an improved Joint operational environment and Joint context at a Service Combat Training Center.</p> <p>- In support of US Army Training and Doctrine Command (TRADOC) and US Air Forces Europe, continue efforts to improve the tactical application of JISR and the Integration of Air to Ground Operations at the Joint Multi-National Readiness Center, Hoenfels, Germany. Provide training support and feedback to exercise participants, observer trainers/controllers, and venue support staff during multiple rotations. Also, provide a post-event debrief to the venue staff and an Exercise Summary Report to USJFCOM. Benefits will include better trained service members, improved ability to execute joint tasks at service training venues, and an improved Joint operational environment and Joint context at a Service Combat Training Center.</p> <p>- In support of USMC Marine Air-Ground Task Force – Training Command (MAGTF-TC), continue efforts to improve the tactical application of Joint ISR and the Integration of Air to Ground Operations at the Marine Corps Air Ground Combat Center, Twenty-Nine Palms, CA. Provide training support and feedback to exercise participants, observer trainers/controllers, and venue support staff during multiple enhanced Mojave Viper rotations and Spartan Resolve exercises. Also, provide a post-event debrief to the venue staff and an Exercise Summary Report to USJFCOM. Continue efforts to define training support to Marine Corps Tactics and Operations Group (MCTOG). Benefits will include better</p>					

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>trained service members, improved ability to execute joint tasks at service training venues, and an improved Joint operational environment and Joint context at a Service Combat Training Center.</p> <ul style="list-style-type: none"> <li>- Continue support to the USN 2nd Fleet (east coast) and 3rd Fleet (west coast), providing training support and feedback to exercise participants, observer trainers/controllers, and venue support staff during multiple Fleet Synthetic Training-Joint (FST-J) training exercises. Also, providing a post-event debrief to the venue staff and an Exercise Summary Report to USJFCOM. Benefits will include better trained service members, improved ability to execute joint tasks at service training venues, and an improved Joint operational environment and Joint context at a Service training venue.</li> <li>- Continue support to the USN 2nd Fleet (east coast) and 3rd Fleet (west coast), providing training support and feedback to exercise participants, observer trainers/controllers, and venue support staff during multiple Joint Task Force Exercise (JTFEX) training exercises. Also, providing a post-event debrief to the venue staff and an Exercise Summary Report to USJFCOM. Benefits will include better trained service members, improved ability to execute joint tasks at service training venues, and an improved Joint operational environment and Joint context at a Service training venue.</li> <li>- Continue support of USN Naval Surface Warfare Center (NSWC), providing analytical support to netted sensor assessments conducted to determine how to integrate world-wide sensors on a Global Information Grid (GIG) to allow for a common operational picture. Also providing instrumentation, data collection, data capture, real-time mission monitoring, and feedback to participants via daily debriefings. Benefits will include improved integration of world-wide sensors and improved Joint interoperability.</li> <li>- Continue to support the Coalition Combat Identification Advanced Combat Identification Demonstration (CCID ACTD) Bold Quest efforts. Provide analytical support to provide a Military Utility Assessment of coalition and US Combat Identification Systems. Also provide instrumentation, data collection, data capture, real-time mission monitoring, and feedback to participants via daily debriefings. Benefits will include improved ability to assess various participating coalition and US systems, improved joint task execution, and an effective Military Utility Assessment US Combat Identification systems while greatly reducing the timeline required to provide fact-based recommendations.</li> </ul>					

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul style="list-style-type: none"> <li>- Resolution of Combat Identification and Joint Close Air Support Action Plan issues</li> <li>- Publication of Tactical Leader’s Joint Intelligence, Surveillance &amp; Reconnaissance (ISR) Handbook</li> <li>- Accreditation/certification for Joint fires context and training capability of all service venues</li> <li>- Recommendations for tactical Joint fires improvement solutions</li> <li>- Recommendations for system integration and interoperability</li> <li>- Optimum utilization of currently fielded systems as evidenced through feedback from deployed forces</li> <li>- Ability to include Joint context during new system acquisition or development</li> <li>- New system capability that meets current Joint operational requirements</li> <li>- Proposed tactics, techniques and procedures (TTP) and doctrine</li> <li>- Increased effectiveness and confidence in combat identification as evidenced through feedback from deployed forces</li> <li>- Reduced collateral damage and decreased number of fratricide incidents across the force</li> <li>- Jointly trained forces</li> </ul> <p><i>FY 2009 Accomplishments:</i></p> <ul style="list-style-type: none"> <li>- Continued to refine and enhance support to pre-deployment mission rehearsal exercises as requested by the Services and Combatant Commands. Evolving joint fires issues identified during the rotational units pre-deployment exercises form the basis to develop tactical level recommendations to address the operational gaps and seams.</li> <li>- Continued to develop the Joint Intelligence, Surveillance, and Reconnaissance (ISR) Integration at the Combat Training Centers (CTC) integrated training initiatives. Provided Joint fires, Joint ISR, and network subject matter expertise to: assist synchronization of joint tasks; facilitate joint mission thread execution; and training development and mentoring to Combat Training Center staff and observer controllers. These activities promoted the synergistic application of Joint capabilities to effectively perform joint fires.</li> </ul>					

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul style="list-style-type: none"> <li>- Served as the USJFCOM lead for Counter-Rocket, Artillery, and Mortar (C-RAM), assisted with development of tactics, techniques, and procedures for effective utilization of the C-RAM technologies to enhance this Joint capability.</li> <li>- Continued as USJFCOM lead for advocacy of the Global Area Reference System (GARS). This promoted standardized application and employment of a common coordinate format to provide timely and accurate exchange of target data to conduct joint fires.</li> <li>- Provided planning, execution, and analysis support for future USCENTAF Atlantic Strike exercises. This is an ongoing event to evaluate and train Joint Close Air Support aircrews, Joint Terminal Attack Controllers, and Joint Fires Observers.</li> <li>- Continued to provide Joint Fires subject matter expertise to the JC2 CP Manager to develop joint guidance, assessment, and analysis to proactively shape Service POMs to achieve systems interoperability in Joint Fires related tasks.</li> <li>- Continued Joint Windows-based Warfare Assessment Model (JWinWAM) software and development to support JFIIT assessment activities and the efforts of other government agencies as directed.</li> <li>- Continued to support the Joint National Training Capability (JNTC) certification, accreditation, and mitigation program and execution of Joint fires related JNTC exercises.</li> </ul> <p><i>FY 2010 Plans:</i></p> <ul style="list-style-type: none"> <li>- Continue to refine and enhance support to pre-deployment mission rehearsal exercises as requested by the Services and Combatant Commands. Evolving Joint fires issues identified during the rotational units pre-deployment exercises form the basis to develop tactical level recommendations to address the operational gaps and seams.</li> <li>- Continue to develop the Joint Intelligence, Surveillance, and Reconnaissance (ISR) Integration at the Combat Training Centers (CTC) integrated training initiatives. Provide Joint fires, Joint ISR, and</li> </ul>					

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>assist synchronization of joint tasks; facilitate joint mission thread execution; and training development and mentoring to Combat Training Center staff and observer controllers. These activities will promote the synergistic application of Joint capabilities to effectively perform joint fires.</p> <ul style="list-style-type: none"> <li>- Continue work as the USJFCOM lead for Counter-Rocket, Artillery, and Mortar (C-RAM) and the follow on Integrated Unit, Base and Installation Protection (IUBIP) system. Develop tactics, techniques, and procedures for effective utilization of the IUIBP technologies to enhance this Joint capability.</li> <li>- Provide planning, execution, and analysis support for future USCENTAF Atlantic Strike exercises. This is an ongoing event to evaluate and train Joint Close Air Support aircrews, Joint Terminal Attack Controllers, and Joint Fires Observers.</li> <li>- Continue to provide Joint Fires subject matter expertise to the JC2 CP Manager to develop joint guidance, assessment, and analysis to proactively shape Service POMs to achieve systems interoperability in Joint Fires related tasks.</li> <li>- Continue Joint Windows-based Warfare Assessment Model (JWinWAM) software and development to support JFIIT assessment activities and the efforts of other government agencies as directed.</li> </ul>					
<b>Accomplishments/Planned Programs Subtotals</b>	15.446	16.835	16.637	0.000	16.637

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

N/A

**D. Acquisition Strategy**

Not applicable for this item.

**E. Performance Metrics**

JFIIT delivers Joint solutions for tactical forces deployed to Combatant Commands (COCOMs). Deliverables may include: discrete improvements to training processes; doctrine; Tactics, Techniques, & Procedures (TTPs); and/or technical system performance specifications and standards; validated Doctrine, Organization, Training,

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Material, Leadership, Personnel, Facilities (DOTMLPF) Joint fires recommendations; timely delivery of quality feedback to exercise participants; or improvements to Joint context of a training venue. USD AT&L/DDR&E and USJFCOM work in concert to approve the annual agenda of work and validate results.		

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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2011 Office of Secretary Of Defense		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604828D8Z: <i>Joint Fires Integration &amp; Interoperability</i>	<b>PROJECT</b> P857: <i>Joint Fires Integration &amp; Interoperability</i>

<b>Schedule Profile (R4 Exhibit)</b>																				<b>September 2009</b>								
<b>BUDGET ACTIVITY</b> 4 - <b>Advanced Component Development and Prototypes (ACDP)</b>										<b>PE NUMBER AND TITLE</b> 0604828D8Z - <b>Joint Fires Integration &amp; Interoperability</b>										<b>PROJECT</b> P857								
<b>Event Name</b>	<b>FY 09</b>				<b>FY 10</b>				<b>FY 11</b>				<b>FY 12</b>				<b>FY 13</b>				<b>FY 14</b>				<b>FY 15</b>			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
<b>Operational Test &amp; Planning, Publications</b>																												

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**Exhibit R-4A, RDT&E Schedule Details:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604828D8Z: <i>Joint Fires Integration &amp; Interoperability</i>	<b>PROJECT</b> P857: <i>Joint Fires Integration &amp; Interoperability</i>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Operational Test & Planning, Publications	1	2009	4	2012

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605017D8Z: <i>Reduction of Total Ownership Cost (RTOC)</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	23.113	24.447	20.310	0.000	20.310	26.364	23.507	21.883	22.709	Continuing	Continuing
017: RTOC	23.113	24.447	20.310	0.000	20.310	26.364	23.507	21.883	22.709	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

The Under Secretary of Defense (Acquisition, Technology & Logistics) defined mission for the Reduction in Total Ownership Cost (RTOC) program as the reduction of ownership costs for defense systems. The RTOC program funds activities and initiatives that will:

1. Increase the reliability, maintainability, supportability--and thus increase readiness--of new or existing defense systems.
2. Reduce logistics footprint.
3. Generate future cost reductions in total ownership cost.

Individual Service Projects are complete efforts within themselves that yield complete developments/redesigns which the Services are committed to put into production and operation. The initiatives optimize cost avoidance, ultimately reducing the operating and support costs for systems. Each project is evaluated against a rigorous set of criteria to assess its viability and probability of success. Individual projects address specific Service needs and high Operations and Support (O&S) cost areas.

The Department has set a FY 2010 RTOC goal of reducing the total defense systems inflation increase in O&S cost by 30 percent between FY 2004 and FY 2010. This Program Element (PE) provides a major portion of the program funding to achieve this goal. The successful demonstration of the RTOC program initiatives stimulates additional initiatives by the Services to achieve even greater cost avoidances.

Individual RTOC Project Management rests with the Services and their Project Managers. Each Service has an active RTOC Point of Contact (POC) for the initial interface between the Office of the Secretary of Defense (OSD) and the RTOC Project Managers.

The average Return on Investment (ROI) for FY 2009 projects (based on discounted cash flow calculations) is approximately 45:1 with \$1.174 billion in cost avoidances across the life cycle of the affected systems. These cost avoidances will be lost without the requested funding in FY 2010, which is needed to complete the projects begun with FY 2009 funding. The average ROI for these FY 2010 new start projects (based on discounted cash flow calculations) is approximately 80:1 with \$1.333 billion in cost avoidances across the life cycle of the affected systems.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2011 Office of Secretary Of Defense	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605017D8Z: <i>Reduction of Total Ownership Cost (RTOC)</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	24.765	24.447	0.000	0.000	0.000
Current President's Budget	23.113	24.447	20.310	0.000	20.310
Total Adjustments	-1.652	0.000	20.310	0.000	20.310
• Congressional General Reductions		0.000			
• 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	-0.496	0.000			
• Other Program Adjustments	-1.156	0.000	20.310	0.000	20.310

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605017D8Z: <i>Reduction of Total Ownership Cost (RTOC)</i>	<b>PROJECT</b> 017: <i>RTOC</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
017: <i>RTOC</i>	23.113	24.447	20.310	0.000	20.310	26.364	23.507	21.883	22.709	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

The Under Secretary of Defense, Acquisition, Technology & Logistics (USD(AT&L), defined the mission for the Reduction in Total Ownership Cost (RTOC) program as the reduction of ownership costs for defense systems. The RTOC program funds activities and initiatives that will:

1. Increase the reliability, maintainability, supportability and thus increase readiness of new or existing defense systems.
2. Reduce logistics footprint.
3. Generate future cost reductions in total ownership cost.

These individual initiatives are complete efforts within themselves that yield complete redesigns which the Services are committed to put into production and operation. The initiatives optimize cost avoidance, ultimately reducing the operating and support (O&S) costs for systems.

The Department has set an FY 2010 RTOC goal of reducing the total defense systems inflation increase in operations and support cost by 30 percent between FY 2004 (baseline) and FY 2010. This Program Element (PE) provides a major portion of the program funding to achieve this goal. The successful demonstration of the RTOC program initiatives should stimulate additional initiatives by the Services to achieve even greater cost avoidances.

Individual RTOC Project Management rests with the Services and their Project Managers. Each Service has an active RTOC Point of Contact (POC) for the initial interface between OSD and the RTOC Project Managers.

The average Return on Investment (ROI) for FY 2008 projects (based on discounted cash flow calculations) is approximately 28:1 with \$1.176 billion in cost avoidances across the life cycle of the affected systems. These cost avoidances will be lost without the requested funding in FY 2009, which is needed to complete the projects begun with FY 2008 funding. The average Return on Investment (ROI) for these FY 2009 new start projects (based on discounted cash flow calculations) is approximately 72 with \$2.006 billion in cost avoidances across the life cycle of the affected systems.

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

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605017D8Z: <i>Reduction of Total Ownership Cost (RTOC)</i>	<b>PROJECT</b> 017: <i>RTOC</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Reduction of Total Ownership Cost Efforts</p> <p>The Services continued eleven projects and began nineteen new projects. Cost avoidances established for the projects listed below are based on engineering estimates of the benefits provided by project implementations. Sources of cost avoidances are defined as part of the project submittal and come from any O&amp;S cost source (fewer spares, lower maintenance hours, faster turnaround times, reduced scheduled maintenance, reliability/maintainability/supportability problems, etc.). The average ROI for FY 2009 projects (based on discounted cash flow calculations) was approximately 45:1 with \$1.174 billion in cost avoidances across the life cycle of the affected systems.</p> <p><i>FY 2009 Accomplishments:</i></p> <p>Army Projects: Continued four projects and began seven new projects (see list below). Replacement FLIR System is available for use on the HH-60M MEDEVAC Helicopter. The replacement FLIR takes advantage of improved technology (low-light-level TV, Day Camera, Laser Rangefinder, Laser Pointer, and Geo-reference). Software and interface planning is underway. Redesigning HIMARS Fire Control Display to improve reliability was completed. Prototype testing and software compatibility testing has been successfully completed. Redesigning 120MM Mortar M9 baseplate to optimize manufacturing costs and weight reductions has been developed and is undergoing live fire testing. Testing state of the art Low Solar Absorption coating, insulation insertion, and air strip curtain technologies to improve the reflective barrier of the system skin and between the refrigeration system and the sun thereby transferring heat to the surrounding environment and minimizing/diffusing heat transfer to the surface of the fielded refrigerated container. Developed replacement Type IV suspension lines with 9/16th tubular webbing resulting in a more robust design appropriate for high speed drogue applications. Remaining projects included:                      HH-60M ECS                      HIMARS IM                      ECBC                      Extraction Parachute (Cargo Drop)                      Refrigeration Improvements (Container System)</p>	23.113	24.447	20.310	0.000	20.310

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605017D8Z: <i>Reduction of Total Ownership Cost (RTOC)</i>	<b>PROJECT</b> 017: <i>RTOC</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>AH-64: Hydraulic Hand Pump                      AH-64: Servo                      HH-60: FLIR                      81mm: Monopack                      Guardrail: AQL RF Antenna Panel                      120mm Mortor M9: Baseplate</p> <p>Navy Projects: Continued two current projects and began eleven new projects (see list below). Power conservation measures and gained efficiencies through standardization are the major themes for Navy's FY09 projects in order to reduce costly fuel consumption and the dependence on foreign oil. Navy is enhancing propeller performance by minimizing surface roughness from bio-fouling and calcareous deposits. NAVSEA has defined requirements for cathodic protection of Marine 5000 series aluminum alloys that reduce ship corrosion. NAVSEA has developed a solvent-free, high-build antifouling coating for ships and submarines, which now supports the 12-year docking cycle for aircraft carriers. NAVSEA is also working to improve shipboard surface coatings life span by implementing validated repeatable quantitative measures that will improve corrosion reduction, and reduce maintenance requirements and hazardous materials in a shipboard waterfront environment.</p> <p>Remaining projects included:                      Common: Power Conservation Management                      F/A-18E/F: Fiber Optic Network                      V-22: NLG Mech Improvement                      Common Ship: Coating Surface Ship Propellers                      ASE: F/A-18E/F SRA Pinpoint Routines                      Common Ship: High Solids Antifoulant Coating                      Common Ship: Cathodic Protection of Aluminum                      ASE: Spectrometer Modification                      NAVAIR: CMIS TDSA-KITMIS Migration                      Common Ship: Surface Profile Tool</p>					

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605017D8Z: <i>Reduction of Total Ownership Cost (RTOC)</i>	<b>PROJECT</b> 017: <i>RTOC</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>supportability provide additional criteria for project selection. OMB discount rates are used to provide real comparisons of future value against current uses of resources. Projected cost avoidances are based on engineering estimates of the benefits provided by project implementations. Updated ROI calculations are part of the required semi-annual project reports to provide tracking of this metric. The estimated ROI for FY 2010 projects (based on discounted cash flow calculations) is 80:1 with \$1.333 billion in cost avoidances across the life cycle of the affected systems.</p> <p>Army Projects: Continue two projects begun earlier and initiate four new projects (see list below). Leverage missile program technology to incorporate state of the art common ESAF components that will reduce obsolescence on the GMLRS. Redesign H-60 Hydraulic Power Supply to reduce the primary causes of failure, internal and external leaks, overheating, and excessive wear. Design and prototype howitzer front split ring using higher strength steel to double functional life and improving durability and reliability.</p> <p>HH-60 FLIR 120mm Mortar M9 Baseplate HIMARS/GMLRS: ESAF HH-60: Hand Pump SOA CAAS Training Simulation Overwatch display Control Module (TENT)</p> <p>Navy Projects: Continue ten projects begun earlier and begin three new Common Ship projects (see list below). The primary theme for FY10 projects is the improvement of maintenance technologies that will reduce cost and add efficiency. NAVSEA will provide underwater hull condition based maintenance that will reduce maintenance requirements and improve warfighting readiness. NAVSEA will also introduce the use of vapor corrosion inhibitors in ship voids to reduce the effects of corrosion causing moisture within voids in order to double the maintenance interval. NAVSEA will work with NAVAIR to design a new machined hinge replacement for Main Landing Gear door hinges to meet current loading requirements.</p>					

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605017D8Z: <i>Reduction of Total Ownership Cost (RTOC)</i>	<b>PROJECT</b> 017: <i>RTOC</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Common Ship: Coating Surface Ship Propellers                      ASE: F/A-18 SRA Pinpoint Routines                      Common Ship: High Solids Antifoulant Coating                      Common Ship: Cathodic Protection of Aluminum                      ASE: Spectrometer Modification                      NAVAIR: CMIS TDSA-KITMIS Migration                      Common Ship: Surface Profile Tool                      H-60: Blade D-ice Controller                      F/A-18E/F: Fiber Optic Cable Restore                      LCS PMO: S1000/SCORM Integration                      Common Ship: Underwater Hull CBM                      Common Ship: High Solid Silica Alkyds                      Common Ship: Main Landing gear Door Hinge</p> <p>Air Force Projects: Continue four projects begun earlier and begin twelve new projects (see list below). Deliver prototype composite material replacement radomes and towers that meet or exceed the structural requirements of current radomes and towers, while reducing total ownership cost and environmental impacts. Develop and validate through prototyping a process for repairing single titanium and nickel blades that are part of the Integrally Bladed Rotor (IBR); develop process to reduce need to replace entire IBR assembly, if a single blade is damaged. Develop and prototype process for repair of landing gear cylinders using the magnetron sputtering process. Develop and prototype portable tool to organically inspect low observable tiles. Continue development on a methodology to apply individual engine flight data, rather than average fleet statistics, to predict and schedule engine maintenance. Begin to revise and update multiple aircraft and engine repair and coating processes to reflect modern processes that are more cost effective and environmentally sound. Test prototype digital heads up display for the F-15 to replace current cathode ray tube (CRT) based displays that are costly to maintain.</p> <p>F-16: Field Backstop Test Data Collection and Analysis System</p>					

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605017D8Z: <i>Reduction of Total Ownership Cost (RTOC)</i>	<b>PROJECT</b> 017: <i>RTOC</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>F-22: F-119 Engine Ti Repair                      F-22: F-119 Engine NI 100 Integrally Bladed Rotor (IBR) Repair                      F-16: F-110 Engine Interval Extension                      Multiple Systems: Stripping Solution                      F-22/F-35: Laser Shock Peening                      Multiple Systems: Powder Coating                      Multiple Systems: No-Strip Touch-Up Repair                      Multiple Systems: Coating Removal Process                      Multiple Systems: Laser Inspection of GTE                      F-15/F-16: Laser Cladding/LAM                      Multiple Systems: Low Radioactivity Thermal Barrier                      Multiple Systems: Parent Material Restoration                      F-15: Digital Heads Up Display                      Multiple Systems: Single Part Wheel Paint                      Low Observable Multifunction Material Inspection System (LOMMIS)</p> <p><i>FY 2011 Base Plans:</i>                      The primary objectives for projects, listed below (from various services), will continue to be the reduction of operations and support costs for the affected systems. Continue eleven projects begun earlier and initiate twenty-two new projects. ROI will continue to be the primary performance metric for the projects. Each project plan includes a cost/benefit analysis, which is based on discounted cash flow calculations of project investment costs and projected cost avoidances. OMB discount rates will be used to provide real comparisons of future value against current uses of resources. Improvements in reliability, maintainability and supportability are important factors in project selections. Projected cost avoidances are based on engineering estimates of the benefits to be provided by project implementations. Updated ROI calculations are part of the required semi-annual project reports to provide tracking of this metric. The estimated ROI for FY 2011 projects (based on discounted cash</p>					

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>flow calculations) is 53:1 with \$2.049 billion in cost avoidances across the life cycle of the affected systems.</p> <p>Army Projects: Begin five new projects (see list below). Redesign five of the MLRS M270A1 Fire Control System (FCS) electronic boxes that compute all fire mission data. Redesign Launcher-Loader Module (LLM) portion that performs all operations necessary to complete a fire mission. Eliminate two of the five electronic boxes mitigating the obsolescence issue and reducing the operational and sustainment burden. Evaluate and implement a coating process to improve the reliability of the UH-72A main rotor blade in harsh environments. Develop and prototype, improved AH-64 transmission drop-in filter capable of decreasing the affect of contaminants smaller than 10-microns.</p> <p>MLRS M270A1 V1 FCS Spindle UH-72A: Main Rotor Blade Coating Rapid Low Cost Manufacturing of Functionally Graded Nano-Structured Rifling Broaches &amp; Cutting Tools for Newly Developed Ultra High-Strength Gun Steels AH-64D: Transmission Filters</p> <p>Navy Projects: Continue one projects begun earlier and begin eleven new projects (see list below). The primary themes for FY11 are power conservation, better corrosion control through improved surface coatings, and maintenance cost reductions through streamlining. Conservation projects include the replacement of legacy fluorescent lighting with LED lighting on test ship (USS PEARL HARBOR) to lower maintenance and energy costs, the reduction of energy costs through improved steering capabilities on amphibious (L-Class) ships, and the reduction of cooling water use onboard Aegis (CG and DDG) Class ships to reduce weight and chill water system load requirements. Corrosion control projects include the use of prototype cameras in shipboard tank voids to analyze condition and structural degradation eliminating the need to open tank. Test alternative corrosion coatings on shipboard crash-cranes. Maintenance cost reduction projects include the redesign of night vision goggles used in tactical aircraft; introducing the usage of conditioned based maintenance</p>					

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **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>practices in the new LCS class ships; and upgrading high-maintenance components in shipboard munitions transporters to reduce maintenance requirements. Other projects include the streamlining of airborne networking infrastructure on P-3 platforms to reduce redundancies; and the leveraging of industry electronic banking advances to streamline shipboard banking and expenditure transactions for Sailors at sea.</p> <p>Common Ship: High Solid Silica Alkyds Common Ship: Underwater Hull CBM LSD Class SSL Fuel ISIS ESBBS LHD Class S&amp;S AN/AVS-9 TACAIR Mount MHU-191 Upgrade Alternate Coating System for Shipboard Crash Crane Afn ISEA Alignment Next Gen Navy Cash Littoral Combat Ship: Condition based Maintenance /Remote Monitoring Aegis: Electronic Cooling Water Reduction</p> <p>Air Force Projects: Continue ten projects begun earlier and begin six new projects (see list below). Deliver qualified repair, repair source data, and first article tooling to support the process for repairing single titanium and nickel blades that are part of an Integrally Bladed Rotor (IBR). Continue to revise and update multiple aircraft engine repair and coating processes to reflect modern processes that are more cost effective and environmentally sound. Begin to modernize aircraft inspection data collection process to develop a methodology for forecasting unplanned maintenance. Begin to prototype replacement sensor cooler for Large Aircraft Infrared Countermeasure System (LAIRCM). Multiple Systems: Stripping Solution F-22/F-35: Laser Shock Peening Multiple Systems: Powder Coating</p>					

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Multiple Systems: No-Strip Touch-Up Repair Multiple Systems: Coating Removal Process Multiple Systems: Laser Inspection of GTE F-15/F-16: Laser Cladding/LAM Multiple Systems: Low Radioactivity Thermal Barrier Multiple Systems: Parent Material Restoration Multiple Systems: Single Part Wheel Paint Process Guide Pulse Tube Cooler LP704 Non-Solvent Cleaning Low Percent Analysis LP 753 High Velocity Oxy Fuel (HVOF) ID Gun Supersonic Particle Dep					
<b>Accomplishments/Planned Programs Subtotals</b>	23.113	24.447	20.310	0.000	20.310

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

N/A

**D. Acquisition Strategy**

There is an annual USD(AT&L) call for proposed project plans in October. Projects are submitted by the Services annually in January. The project plan format is provided with the call for submission of Service projects. Each project plan contains:

1. Problem statement
2. Impact statement
3. Technical description
4. Risk analysis
5. Proposed phases
6. Expected deliverables and results or outcomes
7. Program management

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense		<b>DATE:</b> February 2010
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8. Cost/benefit analysis 9. Schedule 10. Implementation plan		
<p>The project evaluation criteria are also provided as part of the call for use by the Services in arriving at their prioritized project list. There are five objective and six subjective categories for evaluation.</p> <p>The Services receive project plans and make a Service priority ranking based on detailed analysis of each proposed initiative against the eleven evaluation criteria. This priority ranking is sent to the OSD lead. Upon acceptance and approval of the projects by OSD, the projects are briefed to the R-TOC Forum and Congressional staff, as required. Funding is distributed equally between the Services based on priority and the evaluation process results.</p> <p>Upon final funding approval, OSD transfers individual project funding to the appropriate funding sites that are provided by the Services. After receiving the project funding, the Services are responsible for the funding and management of the projects. OSD retains oversight and direction of the R-TOC Initiative through the OSD lead office.</p> <p>A semi-annual Project Report format has been defined, approved by the Services, and is required for each funded project. These reports are submitted to the OSD R-TOC Initiative lead office. OSD analyzes project status, progress and project statistics and informs the Service POCs of any project problems. Projects are also required to report verbally at the quarterly R-TOC Forums, as appropriate.</p>		
<b><u>E. Performance Metrics</u></b> Not applicable.		

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605017D8Z: <i>Reduction of Total Ownership Cost (RTOC)</i>	<b>PROJECT</b> 017: <i>RTOC</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			
RTOC	TBD	TBD TBD	0.000	24.447		20.310		0.000		20.310	Continuing	Continuing	Continuing
<b>Subtotal</b>			0.000	24.447		20.310		0.000		20.310			

**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			
<b>Subtotal</b>			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			
<b>Subtotal</b>			0.000	0.000		0.000		0.000		0.000			

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605017D8Z: <i>Reduction of Total Ownership Cost (RTOC)</i>	<b>PROJECT</b> 017: <i>RTOC</i>
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**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			
<b>Remarks</b>													
			<b>Total Prior Years Cost</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>		<b>FY 2011 OCO</b>		<b>FY 2011 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>	
<b>Project Cost Totals</b>			0.000	24.447	20.310		0.000		20.310				

**Remarks**

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b>			<b>R-1 ITEM NOMENCLATURE</b>								
0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>			PE 0303191D8Z: <i>Joint Electromagnetic Technology (JET) Program</i>								
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	4.653	6.298	4.027	0.000	4.027	4.103	4.210	4.268	4.321	Continuing	Continuing
192: <i>Joint Electromagnetic Technology (JET) Program</i>	4.653	6.298	4.027	0.000	4.027	4.103	4.210	4.268	4.321	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

The JET Program supports the Defense Community in general with a particular emphasis on the communication requirements of Special Forces and Intelligence. Details of the program are classified. This program is funded under Budget Activity 4, Demonstration and Validation.

**B. Program Change Summary (\$ in Millions)**

	<u><b>FY 2009</b></u>	<u><b>FY 2010</b></u>	<u><b>FY 2011 Base</b></u>	<u><b>FY 2011 OCO</b></u>	<u><b>FY 2011 Total</b></u>
Previous President's Budget	5.494	3.949	0.000	0.000	0.000
Current President's Budget	4.653	6.298	4.027	0.000	4.027
Total Adjustments	-0.841	2.349	4.027	0.000	4.027
• Congressional General Reductions		0.000			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		2.400			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Program Adjustment	-0.841	-0.051	4.027	0.000	4.027

**Congressional Add Details (\$ in Millions, and Includes General Reductions)**

**Project:** 192: *Joint Electromagnetic Technology (JET) Program*

Congressional Add: *Secure Minaturized, Free Space, Optical Communications*

Congressional Add: *Lifetime Power for Wireless Control Sensors*

	<b>FY 2009</b>	<b>FY 2010</b>
	2.000	1.600
	0.000	0.800
	2.000	2.400

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0303191D8Z: <i>Joint Electromagnetic Technology (JET) Program</i>
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<b>Congressional Add Details (\$ in Millions, and Includes General Reductions)</b>	<b>FY 2009</b>	<b>FY 2010</b>
Congressional Add Subtotals for Project: 192		
Congressional Add Totals for all Projects	2.000	2.400

**Change Summary Explanation**

FY 2009: Program adjustment -0.841 million.

FY 2010: Congressional Adds 2.400 million, FFRDC Reductions -0.025, Economic Assumptions -0.026 million.

FY 2011: Program Adjustment 4.027 million.

**C. Accomplishments/Planned Program (\$ in Millions)**

	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
JET Program Initiatives	2.653	3.898	4.027	0.000	4.027
<i>FY 2009 Accomplishments:</i> Program Planning and Support					
<i>FY 2010 Plans:</i> Program Planning and Support					
<i>FY 2011 Base Plans:</i> Program Planning and Support					
<i>FY 2011 OCO Plans:</i> N/A					
<b>Accomplishments/Planned Programs Subtotals</b>	2.653	3.898	4.027	0.000	4.027
	<b>FY 2009</b>	<b>FY 2010</b>			
	2.000	1.600			

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0303191D8Z: <i>Joint Electromagnetic Technology (JET) Program</i>
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**C. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010
Congressional Add: Secure Minitaturized, Free Space, Optical Communications  <i>FY 2009 Accomplishments:</i> Program planning and support  <i>FY 2010 Plans:</i> Program Planning and Support		
Congressional Add: Lifetime Power for Wireless Control Sensors  <i>FY 2009 Accomplishments:</i> n/a  <i>FY 2010 Plans:</i> Program and Planning Support	0.000	0.800
Congressional Adds Subtotals	2.000	2.400

**D. Other Program Funding Summary (\$ in Millions)**

N/A

**E. Acquisition Strategy**

N/A

**F. Performance Metrics**

- Numbers of operational field demonstrations.
- Numbers of false-positive results.
- Successful technology transfer to service component.
- Number of service requirements satisfied.

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b>			<b>R-1 ITEM NOMENCLATURE</b>								
0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>			PE 0604051D8Z: <i>Defense Acquisition Challenge Program (DACP)</i>								
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	26.979	28.629	24.344	0.000	24.344	30.319	29.869	28.851	29.245	Continuing	Continuing
P051: <i>Defense Acquisition Challenge Program</i>	26.979	28.629	24.344	0.000	24.344	30.319	29.869	28.851	29.245	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

Authorized by Title 10, U.S. Code, Section 2359b, the Defense Acquisition Challenge Program (DACP) provides increased opportunities to insert innovative and cost-saving technologies into acquisition programs of the Department of Defense. DACP funds the test and evaluation of technologies and products with potential to improve performance, affordability, manufacturability, or operational capability of current acquisition programs at the subcomponent, component, or system level.

Since the program inception in FY 2003, Office of Secretary of Defense has initiated 119 projects; 60 projects have been completed to date; 45 met Service or Agency testing requirements and 35 led to procurements. To date, 30 projects have yielded technology currently in use by our warfighters in Iraq, Afghanistan, or at U.S. training facilities.

The Defense Acquisition Challenge Program (DACP) increases opportunities for domestic vendors to enter the Department of Defense (DoD) acquisition process. Although business size is not an evaluation criterion, it is noteworthy that to date approximately 60 percent of the DACP projects awarded are with technology providers at the small or mid-sized enterprise level. DACP has the additional DoD/National Security benefit of expanding the industrial base for defense acquisition.

Final selection of FY 2011 DACP new start projects will be determined in September 2010.

Congressional authority to execute Defense Acquisition Challenge Program currently ends September 30, 2012 (Title 10, U.S. Code, Section 2359b).

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2011 Office of Secretary Of Defense	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604051D8Z: <i>Defense Acquisition Challenge Program (DACP)</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	28.409	28.862	0.000	0.000	0.000
Current President's Budget	26.979	28.629	24.344	0.000	24.344
Total Adjustments	-1.430	-0.233	24.344	0.000	24.344
• Congressional General Reductions		0.000			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	-0.961	0.000			
• SBIR/STTR Transfer	-0.469	0.000			
• Other Program Adjustments	0.000	-0.233	24.344	0.000	24.344

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604051D8Z: <i>Defense Acquisition Challenge Program (DACP)</i>	<b>PROJECT</b> P051: <i>Defense Acquisition Challenge 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
P051: <i>Defense Acquisition Challenge Program</i>	26.979	28.629	24.344	0.000	24.344	30.319	29.869	28.851	29.245	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

Authorized by Title 10, U.S. Code, Section 2395b, the Defense Acquisition Challenge Program (DACP) provides increased opportunities to insert innovative and cost-saving technologies into acquisition programs of the Department of Defense. DACP funds the test and evaluation of technologies and products with potential to improve performance, affordability, manufacturability, or operational capability of current acquisition programs at the subcomponent, component, or system level.

Since the program inception in FY 2003, Office of the Secretary of Defense (OSD) has initiated 119 projects; 60 projects have been completed to date: 45 met Service or Agency testing requirements; and 35 led to procurements. To date, 30 projects have yielded technology currently in use by our warfighters in Iraq, Afghanistan, or at U.S. training facilities.

The Defense Acquisition Challenge Program (DACP) increases opportunities for domestic vendors to enter the Department of Defense (DoD) acquisition process. Although business size is not an evaluation criterion, it is noteworthy that to date approximately 60 percent of the DACP projects awarded are with technology providers at the small or mid-sized enterprise level. DACP has the additional DoD/National Security benefit of expanding the industrial base for defense acquisition.

Final selection of FY 2011 DACP new starts will be determined in September 2010.

Congressional authority to execute Defense Acquisition Challenge Program currently ends September 30, 2012 (Title 10, U.S. Code, Section 2359b).

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Advanced Infrared (IR) Expendable Decoy (Air Force)	1.297	2.969	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604051D8Z: <i>Defense Acquisition Challenge Program (DACP)</i>	<b>PROJECT</b> P051: <i>Defense Acquisition Challenge Program</i>

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Evaluate and qualify a small kinematic IR decoy that protects Air Force and Navy aircraft (C-130H, KC-130J, A-10, and F-16) against current generation IR-guided missiles that have the discriminatory capability to reject conventional non-kinematic flares. Following the successful completion of the demonstration the final steps necessary for the full qualification of the flare and the preparation of a technical data package for procurement will be completed. The lead service is Air Force. The primary outputs and efficiencies to be demonstrated are the protection of medium-signature aircraft against heat-seeking missiles that employ kinematic techniques to discriminate against conventional non-kinematic flares. This flare is much more compact than existing kinematic flare designs. This compact design will allow more decoys to be carried per mission. The decoy also takes advantage of new decoy design technology which provides for better performance in a compact shape when compared to existing decoys.</p> <p><i>FY 2009 Accomplishments:</i> Completed draft First Article Qualification Test Plan for the Mobile Jettison Unit-17 (MJB-71)/B Flare. Procured flares for FY 2010 captive seeker flight tests with the above four aircraft. Completed preliminary Modeling and Simulation to determine dynamic effectiveness against missiles with kinematic flare rejection capability. Completed Vendor testing to establish appropriate impulse cartridge and ignition pellet composition for providing reliable ignition and enhanced flare effectiveness for the thrusted MJU-71/B flare. These efforts finalized the flare specification details.</p> <p><i>FY 2010 Plans:</i> Evaluate the effectiveness of the MJU-71/B in protecting the C-130H, KC-130J, A-10, and F-16 aircraft against advanced infrared guided missiles that reject non-kinematic i.e. conventional flares. This evaluation will be accomplished with captive seekers during flight tests with the above four aircraft. Additional effectiveness evaluation will be accomplished through modeling and simulation with MJU-71/B measured IR signatures and measured trajectories. Vendor will manufacture 2500 flares and complete all qualification and safety testing. Data will be analyzed in preparation for</p>					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense				<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0604051D8Z: <i>Defense Acquisition Challenge Program (DACP)</i>		<b>PROJECT</b> P051: <i>Defense Acquisition Challenge Program</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
functional configuration audit. Technical orders prepared for the flare and impulse cartridge and plan for transition into the Services finalized.								
<p>Assessment of Lightweight Weapon Mount (Navy)</p> <p>A successful project will provide the Department of the Navy with a commercial off-the-shelf three-axis stabilized weapons mount superior to existing stabilized mounts. These mounts stabilize heavy cameras on turbulent moving platforms. The improved Lightweight Weapon Mount underwent a preliminary user evaluation with members of the Naval Special Forces using a 0.50 caliber machine gun mounted to the back of a High Mobility Multipurpose Wheeled Vehicle (HMMWV). Per the testimonies of the Navy Sea, Air, Land Forces (SEALS) who performed the evaluation, the technology under consideration showed promising potential. Navy Special Forces recommended that this technology be fielded to Iraq as soon as possible. The primary outputs and efficiencies to be demonstrated are as followed: (1) improved accuracy when firing vehicle mounted weapons; (2) a crew-served weapon mount that is lighter and more cost effective than legacy mounts; and (3) avoids RDT&amp;E, Operations and Support and manufacturing costs of over \$37.000 million.</p> <p><i>FY 2009 Accomplishments:</i> Completed live-fire testing at Naval Surface Warfare Center (NSWC) Crane 3Q FY 2009. Completed technical down select of test mounts 4Q FY 2009.</p> <p><i>FY 2010 Plans:</i> Complete testing of selected mount at Naval Air Systems Command Patuxent River, Maryland 2Q FY 2010. Attain approval from Weapon System Explosives Safety Review Board 4Q FY 2010. Develop and submit final closeout report 4Q FY 2010.</p>				1.839	0.000	0.000	0.000	0.000
Automated Digital Network System (ADNS) Wide Area Network (WAN) Optimization Challenge (Navy)				0.000	1.409	0.951	0.000	0.951
A successful project will provide the Department of the Navy commercial off-the-shelf solutions to address end-of-life issues with the Fleet's current WAN devices. The primary outputs and efficiencies								

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604051D8Z: <i>Defense Acquisition Challenge Program (DACP)</i>	<b>PROJECT</b> P051: <i>Defense Acquisition Challenge Program</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>to be demonstrated are: (1) State-of-the art functions in Network monitoring; (2) Quality of Service; (3) Advanced Compression, Protocol and Application Acceleration; and (4) total cost avoidance over \$106.000 million.</p> <p><i>FY 2010 Plans:</i> Receive initial DAC funding and develop Test Plan 2Q FY 2010. Receive test articles during 3Q FY 2010. Conduct integration and lab testing during 4Q FY 2010. Down select at the end of 4Q FY 2010.</p> <p><i>FY 2011 Base Plans:</i> Provide test report 2Q FY 2011. User evaluation and fleet integration planned for FY 2011 or FY 2012 through transition windows such as: ADNS Increment I, II, IIA, IIB, III, airborne ADNS, or subsurface ADNS. Provide closeout report and procurement decision 4Q FY 2011.</p>						
<p><b>B-2 Stores Management System (SMS) Test Program Initiative (Air Force)</b></p> <p>The B-2 is the nation's leading "knock down the door" first-strike combat delivery vehicle, possessing the ability to deliver 80 Joint Direct Attack Munitions (JDAMS) against targets with pinpoint lethality. SMS anomalies, involving a highly complex federated avionics architecture linked to individual weapons through established Military Standards (MIL-STD) 1760 interfaces, jeopardize the B-2 fleet's ability to support its primary mission: "Bombs on Target"! At any given time, there are a maximum of 16 aircraft available to support global mission taskings. The need for SMS diagnostic test capabilities to help ensure all assigned aircraft can achieve their basic mission, irrespective of geographic location is clear. An off-station SMS anomaly that cannot be corrected in a timely manner could require deploying a replacement aircraft to an alternate global location. This is an expensive/burdensome solution which fails to mitigate the core impediment: B-2 SMS maintenance support capabilities required to be in place to maintain mission integrity.</p>		0.000	1.540	1.746	0.000	1.746

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604051D8Z: <i>Defense Acquisition Challenge Program (DACP)</i>	<b>PROJECT</b> P051: <i>Defense Acquisition Challenge Program</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>prime integration teams and the end users, United States Air Force (USAF) and United States Special Operations Command (USSOCOM). Data taken from the testing and characterization operations will provide the specification limits and the system performance criteria necessary for inclusion in the production unit(s). The lead service is Air Force. The primary outputs and efficiencies to be demonstrated are (1) significant weight reduction; (2) significant size reduction; and (3) increased portability advantages over the currently available metallic and coated composite antenna reflectors, with equal or better performance in the three frequency bands. Weight reduction threshold is a 50 percent reduction from baseline, with a goal of 70 percent reduction from baseline. Size reduction threshold is a 50 percent reduction in stored (transported) volume with a goal of 80 percent reduction. The frequency gain threshold is equivalence to the mesh dish baseline, with a goal of equivalence to the solid aluminum dish baseline.</p> <p><i>FY 2010 Plans:</i> Contract preparation and award. Fabricate X-band reflector. Conduct structural, environmental and operational testing (USAF). Conduct field testing (USSOCOM). Initiate procurement (USSOCOM). Fabricate Ku-band reflector.</p> <p><i>FY 2011 Base Plans:</i> Conduct structural, environmental and operational testing (USAF) of Ku-band reflector. Conduct field testing (USSOCOM). Initiate procurement (USSOCOM). Fabricate Ka-band reflector. Conduct structural, environmental and operational testing (USAF). Conduct field testing (USSOCOM). Initiate procurement (USSOCOM).</p>					
<p>Conformal Warfighter Wearable Battery Power Source (CWS) (Army)</p> <p>The conformable battery will be a wearable power source for the soldier. It could be worn on the vest or as an attachment. This unit will also meet all environmental, safety, and regulatory requirements as standard hand-held batteries. The improvement over the current battery is the flexibility to use a wearable battery pack as a power source, which is bullet safe and has high temperature performance.</p>	0.000	1.112	0.900	0.000	0.900

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604051D8Z: <i>Defense Acquisition Challenge Program (DACP)</i>	<b>PROJECT</b> P051: <i>Defense Acquisition Challenge Program</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<b>Expeditionary Water Packaging System (EWPS) (Navy)</b>  A successful project will provide the United States Marine Corps (USMC) with an expeditionary hydration solution that will address safety hazards associated with the distribution of unregulated bottled water to deployed forces, as well as the severe logistics burden incurred. The EWPS will supply the Warfighter with a portable water packaging system for all phases of the Marine Expeditionary Unit, Marine Expeditionary Battalion, and Marine Expeditionary Force deployments. Projected completion of all testing events is FY 2011. The primary outputs and efficiencies to be demonstrated in the project are: (1) Provide the capability to package and distribute potable water for less than \$1.00 per liter; (2) increase warfighter survivability by eliminating the threat of contamination to unregulated packaged water through sabotage or indirect means; (3) increase operational flexibility of Marine forces deployed in expeditionary environments; and (4) avoids RDT&E, Procurement, and Operations and Support Life-Cycle costs of \$2.000 million, \$0.465 million, and \$65.000 million with a return on investment (ROI) of 46:1.  <i>FY 2009 Accomplishments:</i> Received initial DACP funding at the end of 1Q FY 2009. Initiated contract award preparation during 2Q FY 2009.  <i>FY 2010 Plans:</i> Finalize contract award at the early 2Q FY 2010. Receive test articles by the end of 2Q FY 2010. Initiate Qualification testing at the beginning of 3Q FY 2010 and complete by the end of 4Q FY 2010. Initiate Filed User Evaluation early 4Q FY 2010.		0.753	1.232	0.000	0.000	0.000
<b>F-15 Digital Head Up Display (HUD) (Air Force)</b>  Demonstrate and document the flight characteristics and increased operational utility and reliability of a digital HUD over the analog display currently employed in the F-15 C/D aircraft. The goal is to qualify the item as a preferred spare for the F-15. The F-15 digital HUD project is scheduled for completion Q3 FY 2010. The lead service is Air Force. The primary outputs and efficiencies to be demonstrated		2.015	0.000	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense			<b>DATE:</b> February 2010			
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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>is \$2.800 million and manufacturing cost avoidance is \$6.000 million. Completion date is scheduled for September 2011.</p> <p><i>FY 2010 Plans:</i> Receive funding; receipt of samples; conduct current technology evaluation, analyze vendor data and conduct analysis/study/integration; procure for test articles.</p> <p><i>FY 2011 Base Plans:</i> Conduct project planning, Contract for test articles, conduct analysis/study/integration and analyze vendor data 2Q FY 2010. Prepare for initial technical testing and complete test report; procure OT test articles and perform operational testing. Complete OT test report and obtain safety confirmation.</p>						
<p>Handheld Total Fluid Condition Monitor (Special Operations Command)</p> <p>This qualification test project will evaluate an affordable, easy to use, handheld monitor that provides real-time, on demand, point-of-use, fluid condition assessment for hydraulic and lubrication oils, equal to current technologies, while simultaneously increasing readiness and significantly reducing cost of testing. Vendor will provide test articles configured specifically for the Army's Special Operations aviation fleet. The FluidScan handheld oil analysis system will be capable of meeting all oil evaluation and reporting requirements currently obtained via remote site testing. The primary outputs and efficiencies are as followed: FluidScan usable by average soldier to obtain on-the-spot fluid condition assessment in less than two minutes; system meets environmental compliance; equivalence to oil analysis in Tech Manual 38-301-2 determining contamination based on viscosity, moisture/water content, flash point, acidity, dispersancy, insolubles/total solids and particles/debris per Army Oil Analysis Program (AOAP) Technical Bulletin 43-0211. The RDT&amp;E cost avoidance is \$8.500 million. Procurement cost avoidance is \$4.000 million. Operations and Support cost avoidance is \$6.500 million. Completion date is October 2010.</p>		0.727	0.567	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><i>FY 2009 Accomplishments:</i> Conducted project planning. Procured test articles.</p> <p><i>FY 2010 Plans:</i> Analyze vendor's test data. Initiate development testing and prepare technical test report. Complete Technical Test Report. Conduct Operational Testing. Prepare Operator/User Test Report. Prepare documentation for Milestone C Decision and submit project closeout report 1Q FY 2011.</p>					
<p><b>High Density Swaging Machine (Navy)</b></p> <p>When landing aboard an aircraft carrier, an aircraft is recovered by its tailhook engaging the arresting cable gear on the carrier flight deck. The arresting gear cable connects to an engine below the flight deck in order to absorb 50 million foot-pounds of energy. Both the cable and engine are Critical Safety Items where failure could likely mean loss of aircraft and life. During each cable replacement, sailors must attach a terminal to the cable aboard ship. The current process requires sailors to pour molten zinc at 1000 degrees Fahrenheit into a socket on a moving ship, exposing the sailors to toxic materials and noxious gases. The primary outputs and efficiencies to be demonstrated in the project are: (1) the High-Density Swaging Machine replaces the current process by pressing the terminal onto the cable. It will produce 2200 tons of pressing force in a foot-print small enough to be viable aboard ship, eliminating a risk of injury and long-term health to personnel; and (2) avoids RDT&amp;E and Operations and Support costs worth over \$5.600 million.</p> <p><i>FY 2009 Accomplishments:</i> Successfully tested new terminal for tensile strength 1Q FY 2009. Completed hardware design of the swaging machine 2Q FY 2009. Passed Critical Design Review (CDR) 3Q FY 2009. Proved through analysis that design will withstand shock and vibration requirements. Determined that swaging machine will be compatible with shipboard requirements, including power and electro-magnetic interference, and that the spaces identified for the machine have enough structure to support the machine's weight.</p>	0.987	0.000	0.000	0.000	0.000

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 Base Plans:</i> Complete Performance testing 1Q FY 2011. Complete Technical Test Report and closeout report, and Mielstone C Decision 2Q FY 2011.						
<b>Hostile Fire Aid for the AN/AVR-2B Laser Detecting Set (Special Operations Command)</b>  This validation project evaluates the integration and testing of a new software Operational Flight Program (OFP) for the AN/AVR-2B laser detecting set (LDS) currently fielded on Army rotary wing aircraft. With the new software OFP, the LDS will utilize the existing A/B-Kit equipment to detect hostile small arms and rocket propelled grenades (RPG) fire events, and alert the aircrew via existing on-board equipment. The primary outputs and efficiencies are as follows: the new software OFP will utilize the laser beam rider detection channel to alert the aircrew of small arms, crew served, and RPG fires. The applicability of the Hostile Fire Aid technology insertion into the AN/AVR-2B will be evaluated and demonstrated. This project will collect data, develop software declaration algorithms, and live fire test the new software algorithms against hostile fire threats. RDT&E cost avoidance is \$15.000-20.000 million. Procurement cost avoidance at \$18.957 million. Operational and Support cost avoidance is \$12.255 million. Completion date is scheduled for May 2011.  <i>FY 2010 Plans:</i> Conduct software (S/W) integration and bench testing. Conduct ground development testing and collect aircraft noise data.  <i>FY 2011 Base Plans:</i> Complete data analysis and reporting. Complete S/W updates and algorithms & integration testing. Conduct live fire flight for technical/operational testing. Conduct data analysis and reporting. Complete S/W functional qualification test, prepare test report, and documentation for Milestone C Production Decision, and submit project closeout report 3Q FY 2011.		0.000	0.841	0.510	0.000	0.510
<b>Improved Flash Hider For M2 Heavy Barrel (M2HB) .50 Cal Weapons (Special Operations Command)</b>		0.000	0.493	0.000	0.000	0.000

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>This comparative test project evaluates an improved flash hider for .50 Caliber machine guns, a user defined requirement for which a solution does not currently exist. The flash hider will reduce an enemies' ability to detect the weapon, and prevent operator's loss of night vision capability caused by the muzzle flash.</p> <p>The primary outputs and efficiencies are as follows: the major categories of operational requirements for the M2HB machinegun Flash Hider are fit, function, flash suppression, SOF environment, accuracy and service life: open system architecture with no tools required for attachment or removal; diameter no less than two inches and no greater than 1.5 inches; length no more than ten inches and no less than 6.6 inches; weight no more than 32 ounces and no less than 24 ounces; capable of withstanding 25,000 rounds without system degradation, and remaining intact and attached during catastrophic failure; removal and attachment will not be hindered by wearing cold weather gloves or NOMEX flight gloves, and no tools will be required for assembly or removal. RDT&amp;E cost avoidance is expected to be \$0.900 million. Procurement cost avoidance is \$0.300 million. Operational and Support cost avoidance is \$12.500 million. Completion date is scheduled for December 2011.</p> <p><i>FY 2010 Plans:</i> Develop and publish performance specifications and solicit test samples. Conduct safety testing as well as technical and User Assessment One to support source selection. This will result in contracting action for test items and initiation of User Assessment Two/Operational Test and Evaluation.</p> <p><i>FY 2011 Base Plans:</i> Complete test reports and obtain Milestone C and Fielding and Deployment Release. Submit DAC closeout report 2Q FY 2011.</p>								
Improved Viper Strike PGM (Special Operations Command)				1.221	0.399	0.000	0.000	0.000
Viper Strike is an operationally fielded lightweight, precision-guided munition using Global Positioning Satellite (GPS) aided navigation and a semi-active laser (SAL) seeker to attack targets. This qualification test project will evaluate subsystems that reduce the cost and procurement lead times of								

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>an Alternate Semi-Active Laser (ASAL), while maintaining or improving operational attack capability of the Viper Strike munitions. The primary outputs and efficiencies are as follows: demonstrate ASAL form fit and function replacement to existing SAL seeker; and validate equal or greater ASAL operational capability. The RDT&amp;E cost avoidance is \$100.000 million. Manufacturing cost avoidance is \$6.000 million. Procurement cost avoidance is \$0.036 million. Operations and Support cost avoidance is expected to be \$0.900 million. Completion is scheduled September 2010.</p> <p><i>FY 2009 Accomplishments:</i> Conducted project planning, procured/contracted for test articles. Received test articles. Conducted analysis/study/integration. Analyzed vendor data. Conducted initial technical testing. Obtained safety release. Conducted Phase I End-to-End System Test. Prepared tech test report and began performance of operator/user assessment/test.</p> <p><i>FY 2010 Plans:</i> Complete operator/user assessment test and test report. Field ASAL capability. End-To-End System live fire testing will be conducted in China Lake. Complete documentation for Milestone C Decision packet and prepare project closeout report 4Q FY 2010.</p>						
<p>Integrated Shipboard Network System (ISNS) Storage (Navy)</p> <p>This project will test new commercial off-the-shelf solutions to address end-of-life issues with its current network storage product. The incumbent vendor's next-generation product will exceed the heat and power envelope for the system resulting in potentially millions of dollars of unnecessary rack redesign/upgrades. The challenge the Navy faces is to provide the network storage while staying within the heating and power specifications for our Navy ships afloat. Aside from meeting necessary size, weight and power constraints, the primary output and efficiencies to be demonstrated in the project are: (1) interoperability with existing system (plug and play); and (2) avoiding RDT&amp;E and procurement costs of over \$7.500 million.</p>		0.621	0.000	0.000	0.000	0.000

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p><i>FY 2009 Accomplishments:</i> Test planning commenced 1Q FY 2009. Test article contracts awarded 3Q FY 2009. Performance testing and environmental testing completed 3Q FY 2009. Request for Information (RFI) responses received from nine vendors. Seven of the nine filer types were placed in a matrix for analysis of their compliance to the RFI. Three of the seven candidates were chosen for further testing and analysis. The preliminary down selectees were three candidates; Celeros EZSANfiler XDM34, Dot Hill 2322, and the Sun ST2510. Performance analysis, final down select, and procurement of test articles completed 3Q FY 2009.</p> <p><i>FY 2010 Plans:</i> The technical test report, Engineering Change Order (ECO), and project closeout report are anticipated 1Q FY 2010.</p>						
<p>Intelligent Power Management and Distribution System (IPMDS) (Army)</p> <p>This project will provide the Army with an IPMDS for the use in Tactical Operation Center mobile power grids. Additionally, it will reduce training time, fuel consumption and provide a more reliable power grid to mission critical equipment. Reports from the warfighters returning from Iraq and Afghanistan have reported issues with load balancing which leads to shutdown of power and potential harm to equipment. The Army will test non-developmental items from Custom Manufacturing &amp; Engineering of Saint Petersburg, Florida, Lex Products, Inc. of Stamford, Connecticut and Rolls-Royce of Cheshire England. The intent is to transition to US Army Program Manager - Mobile Electric Power (PM-MEP) in FY 2011. The primary output and efficiencies will be demonstrated in the test are: (1) automatic electrical load balancing across the three phases of the generator set; (2) increased safety with indication of improper grounding and improper setup; (3) avoid RDT&amp;E costs of \$5.000 million; and (4) avoid Operations and Support costs of \$10.000 million.</p>		1.979	0.809	0.000	0.000	0.000

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>580 systems or \$24.000 million. Other benefits: Joint Service and supports four biological detection programs.</p> <p><i>FY 2009 Accomplishments:</i> Biological warfare agent data from Edgewood Chem/Bio Center and Defense Threat Reduction Agency has been leveraged for evaluation. Expect to award contract to complete integration of candidate system into the JPS in 1Q FY 2010. Government conformance testing of candidate assay plate and approximately six months of operational testing will be conducted through FY 2010. Army Evaluation Center has been tasked to evaluate the candidate system prior to fielding. Candidate is under evaluation for insertion into JBPDS and other Joint Program Executive Office - Chemical, Biological Detection programs. Follow-on tests will include product verification testing such as hardware Military Standard (MIL STD) 810 type testing as well as user testing in 2Q-3Q FY 2010. Closeout report to be conducted in 4Q FY 2010.</p>								
<p>JP-8 Operated Modified Commerical Generator (Army)</p> <p>The US Army Communications-Electronics Research Development and Engineering Center Power Generation Team in conjunction with the Project Manager for Mobile Electric Power (PM-MEP) will test highly efficient, reliable, low noise, soldier portable power sources in the range of three kilowatts and below. The use of the current two kilowatts Military Tactical Generator or three kilowatts Tactical Quiet Generator for lower power missions result in increased fuel consumption as well as decreased generator life when compared to the use of an appropriately sized power source. Also it significantly increases the weight burden on the Warfighter. A modification of a commercial gasoline generator set, such as the Honda External Unit 1000i generator rated for one kilowatt max / 900 watt continuous by Foster-Miller, of QinetiQ North America with Fog Carburetor technology, that enables successful operation on JP-8 and other logistic fuels will be tested. This system would be the first Soldier-portable, logistic fueled, one kilowatt power source for tactical operations. The total system weight is less than 33 pounds and meets MIL-STD 1472 for a single Soldier carry. The system specifications state a 59</p>				0.000	0.479	0.067	0.000	0.067

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>M1A1 Sniper Detection System (SDS) (Navy)</p> <p>The M1A1 Sniper Detection System, a two-year project under sponsorship of DAC and Marine Corps Systems Command PM Tank Systems, will provide the M1A1 with the capability to instantaneously detect and accurately locate enemy sniper fire. This new M1A1 capability will significantly improve the safety of tank crews and dismounted infantry. A two-year project under sponsorship of the DACP and Marine Corps Systems Command, Program Manager Tank Systems. Projected completion of all testing events is FY 2010. The primary outputs and efficiencies are: (1) drastically improve survivability and lethality of the M1A1 Tank; (2) increase survivability and situational awareness of dismounted infantry; (3) fulfill a crucial capability gap of the M1A1 Tank; and (4) avoids RDT&amp;E cost of \$4.500 million with a return on investment (ROI) of 13:1.</p> <p><i>FY 2009 Accomplishments:</i> Received initial DACP funding and initiated contract award preparation at the end of 1Q FY 2009. Initiated technical test planning during 2Q FY 2009. Completed contract award at the end of 3Q FY 2009. Initiated test articles fabrication early 4Q FY 2009.</p> <p><i>FY 2010 Plans:</i> Receive test articles and initiate M1A1 integration &amp; user interface/lab testing by end of 1Q FY 2010. Complete M1A1 integration &amp; user interface/lab testing and initiate tactical testing during 2Q FY 2010. Complete tactical testing and M1A1 operational testing by the end of 3Q FY 2010. Finalize technical test report, closeout report and Milestone C Decision by the end of 4Q FY 2010.</p>		0.727	0.216	0.000	0.000	0.000
<p>Mobile IP Interface to Tactical Data Links (TDL) (Navy)</p> <p>This project is to demonstrate dynamic integration of TDLs via the US Fleet's tactical Internet Protocol (IP) backbone, which is provided by the Automated Digital Network System (ADNS). The lead service is the Navy. A two year project sponsored by Office Secretary of Defense with completion date 1Q FY 2010. The primary outputs and efficiencies to be demonstrated are: (1) capability for TDL platforms to automatically maintain communications with other TDL platforms when one platform migrates to a</p>		0.727	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>cost avoidance is \$1.000 million and procurement cost avoidance is \$0.500 million. Completion date is August 2011.</p> <p><i>FY 2009 Accomplishments:</i> Conducted project planning with established Integrated Project Team (IPT). Coordinate with contracting official to complete contract for test articles by February 2010.</p> <p><i>FY 2010 Plans:</i> Manufacture and receive test articles and prepare for initial technical testing.</p> <p><i>FY 2011 Base Plans:</i> Analyze vendor data. Conduct combined developmental and operational testing. Prepare test report, prepare documentation for Milestone C Decision and submit project closeout report 4Q FY 2011.</p>					
<p>Omni-Directional Antenna for M156 Magneto Inductive Remote Activation Munition System (MI-RAMS) (Army)</p> <p>This project will dramatically reduce time on target (mission survivability) and increase mission effectiveness through higher operational reliability in challenging target environments (underwater, urban, littoral, night operations, constrained target sets). This improvement in functionality of the MI-RAMS would result in the reduced numbers of receivers that would be procured and deployed. The estimated total RDT&amp;E, manufacturing and procurement cost avoidance of \$20.000 million will be realized with the proposed enhanced capability. The activities conducted in FY 2009 were the delivery of the Omni directional antennas test quantities, and performance/environmental testing which included user assessment.</p>	0.779	0.000	0.000	0.000	0.000

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p><i>FY 2009 Accomplishments:</i> The analysis of test data which culminated in a close-out report and subsequent production decision. The Omni directional antenna will potentially dovetail into future (FY 2010 and beyond) production of the MI-RAMS receivers through an engineering change to the existing configuration.</p>						
<p>Package on Package Technology for ARC-210 Radio (Navy)</p> <p>Package on Package (POP) technology is three dimensional stacking of two or more Ball Grid Array (BGA) microelectronic packages that enables increased capabilities and functionalities in limited space. This technology will allow continued growth in tactical communication capabilities for vehicles while reducing weight and power consumption. Improving the expandability of the ARC-210 radio within its current configuration will additionally eliminate the need for expensive aircraft system integration efforts. The primary outputs and efficiencies to be demonstrated in the project are: (1) increased interoperability and mission flexibility; and (2) avoids RDT&amp;E and Operations and Support costs worth almost \$4.500 million.</p> <p><i>FY 2010 Plans:</i> Procure test articles 2Q FY 2010. Perform development testing during 3Q and 4Q FY 2010.</p> <p><i>FY 2011 Base Plans:</i> Complete Reliability Testing during 2Q through 3Q FY 2011. Introduction of POP technology to the product is planned for 4Q FY 2011.</p>		0.000	0.674	0.245	0.000	0.245
<p>Personal Aircrew Cooling for Enhanced Endurance (PACE2) Program (Navy)</p> <p>An Urgent Universal Needs Statement (UUNS) issued by U.S. Marine Corps Forces Command (MARFORCOM) addresses heat stress – a major health risk on rotorcraft missions, especially in current hot operational environments. PACE2 system provides a man-mounted personal, portable cooling unit to improve mission endurance, address health concerns and improve health readiness. The</p>		1.056	0.530	0.000	0.000	0.000

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>for additional N-Stor (metal hydride) cartridges; and (5) assembled final units for official Air Worthiness Testing (AWT) and qualification, and additional Air Force Research Laboratory (AFRL) testing.</p> <p><i>FY 2010 Plans:</i> The DAC-sponsored portion of the program is scheduled to be completed by end 1Q FY 2010 with AWT to continue during FY 2010. Additional funds will be sought from other sources to support integrating user defined modifications identified during AWT and Operational Test and Evaluation (OT&amp;E). Future plans are for the production of 1000 PEPSAE units based on these modified systems.</p>						
<p>Sensor Fusion Clip-On Night Vision Device for SOF Combat Assault Rifle (Special Operations Command)</p> <p>This competitive test project will evaluate a Sensor Fusion Clip-on Night Vision Device (CNVD) for the Special Operations Forces (SOF) Combat Assault Rifle (SCAR) that integrates the technologies of both thermal and image intensification into one sight. This will provide the SOF warfighter a greater advantage when operating in austere environments. The primary outputs and efficiencies are as follows: (1) demonstrate significant improvement in target acquisition in rain, mist, smoke, vegetation, fog, dust, and low light; (2) the RDT&amp;E cost avoidance is \$7.000 million; (3) manufacturing cost avoidance is \$13.000 million; (4) procurement cost avoidance is \$48.000 million; and (5) Operations and support cost avoidance is \$2.800 million. Completion date is scheduled for September 2010.</p> <p><i>FY 2009 Accomplishments:</i> Developed performance specifications.</p> <p><i>FY 2010 Plans:</i> Conduct solicitation and down select. Receive oral presentations and product samples. Conduct technical evaluation; user operational assessment; finalize technical and operational test report. Obtain Low Rate Initial Production (LRIP) decision and complete LRIP procurement contract for first article test items.</p>		0.000	0.561	0.000	0.000	0.000

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604051D8Z: <i>Defense Acquisition Challenge Program (DACP)</i>	<b>PROJECT</b> P051: <i>Defense Acquisition Challenge Program</i>
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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 2011 Base Plans:</i> Receive delivery of Low Rate Initial Production units, conduct first article testing, and obtain final safety confirmation. Obtain Milestone C Full Rate Production Decision and Fielding and Deployment Release. Complete DAC Project closeout report 4Q FY 2011.</p>					
<p>Shock Profile of SOF Combat Assault Rifle (Special Operations Command)</p> <p>This qualification test project will evaluate upgrades to shock profile equipment for Special Operations Combat Assault Rifle (SCAR) weapons that have exhibited shock values higher than currently fielded Special Operations Peculiar Modification/Miniature Day Night Sights (SOPMOD/MDNS) equipment is designed to withstand. This effort will procure test hardware and support development of inter-mounts for MDNS and SCAR integration. Net results will ensure all MDNS sub-systems are forward compatible with SCAR. The primary outputs and efficiencies are as follows: demonstrate solution to problems which resulted from original SOPMOD/MDNS kit integration for the M4A1 Carbine, which when compared to SCAR, had a significantly reduced shock profile. This project makes shock dampening of MDNS equipment quicker, saves millions in replacement equipment for SCAR and expedites the fielding of SOPMOD/MDNS sights and accessories along with imminent fielding of SCAR. The shock profile system will realize an RDT&amp;E cost avoidance savings of \$3.000 million and procurement cost avoidance savings of \$14.000 million. Project completion is anticipated October 2010.</p> <p><i>FY 2009 Accomplishments:</i> Conducted project planning meetings. Incorporated engineering changes to upgraded Shock Simulator to mimic SCAR shock values. Began contract negotiation for shock mitigation test articles.</p> <p><i>FY 2010 Plans:</i> Complete contract action and receive shock mitigation test articles and SCAR aftermarket solution samples. Analyze vendor data. Conduct technical testing and prepare technical test report.</p>	0.911	0.585	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604051D8Z: <i>Defense Acquisition Challenge Program (DACP)</i>	<b>PROJECT</b> P051: <i>Defense Acquisition Challenge Program</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 Base Plans:</i> Prepare production decision package and DAC closeout report 1Q FY 2011.						
<p>Shockwave Therapy for Traumatic Wounds and Burns of the Extremity (Army)</p> <p>To evaluate shockwave therapy to determine if it meets combat casualty care requirements for complex wound treatment. Non-healing wounds are a major medical problem, impairing the quality of life to soldiers with acute traumatic wounds. In order to access the feasibility and safety of shockwave therapy and determine if shockwave therapy significantly improves wound healing over current standards of care, we will conduct definitive field testing of the extracorporeal shock wave therapy device from Tissue Regeneration Technologies, Woodstock, Georgia. The primary outputs and efficiencies to be demonstrated in the field testing are: (1) accelerate tissue repair in wounds; (2) reduce infection-related amputations and deformity; (3) minimize number of surgical interventions; (4) reduce hospital time and cost; (5) facilitate early rehabilitation. The key benefit to the warfighter is a non-invasive, painless treatment method to reduce bacterial load in wounds and facilitate blood vessel in-growth and soft tissue healing. RDT&amp;E cost avoidance of \$3.300 million; estimated Return on Investment of \$10.100 million.</p> <p><i>FY 2009 Accomplishments:</i> Conducted pre-study visit for initial study sites. Obtained study site Review Board approvals. Procured shockwave therapy device. Conducted study personnel training on study procedures and equipment. Began Phase III clinical trial field testing.</p> <p><i>FY 2010 Plans:</i> Phase III clinical trial field testing and user evaluation will continue at study sites. Continue data safety monitoring and data collection on study subjects participating in Phase III clinical trial field testing. Interim data analysis will be conducted during the 2Q FY 2010. A Milestone C Decision is anticipated at the end of the 3Q FY 2010. The technical test report and final report are anticipated during the 4Q FY 2010. Final procurement of test article (DermaGold 180 MultiWave device) is anticipated during</p>		2.305	1.235	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense				<b>DATE:</b> February 2010				
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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
the 4Q FY 2010 and 1Q FY 2011, if field tests prove successful in order to support multi-specialty utilization throughout DoD Military Treatment Facilities.								
<p>Sinuous Spiral Antenna for ANA/ALQ211 (SIRFC) EW System (Special Operations Command</p> <p>This validation project will test and evaluate a new detection antenna for the ALQ-211 Suite of Integrated Radio Frequency Countermeasures (SIRFC) currently being fielded on the MH-47G and CV-22. The primary outputs and efficiencies are as follows: the new antenna provides polarization sensitivity allowing SIRFC to better correlate the received signal with its order of battle database, which leads to quicker identification and jamming. Simulation and lab testing will be performed to validate that sinuous antenna face conforms to the spiral antenna located within the AN/ALQ-211 Quadrature Antenna Assembly. Prototype antennas will be measured and analyzed for performance against defined polarizations. In addition the prototype antennas will be measured, analyzed, and evaluated for performance against legacy spiral antennas. RDT&amp;E cost avoidance was projected to be \$10.000 million, and procurement cost avoidance was valued at \$3.000 million. Project completion is scheduled for August 2010.</p> <p><i>FY 2009 Accomplishments:</i> Contract was awarded to ITT Electronics Systems for test articles and technical support. Because of contract negotiation delay \$0.720 million FY 2009 project funding was reallocated, to be re-funded in FY 2010.</p> <p><i>FY 2010 Plans:</i> Take delivery of test articles. Conduct a concept demonstration and publish demonstration report. Conduct validation testing and complete test reports. Obtain production decision and prepare DAC closeout report.</p>				0.000	0.887	0.000	0.000	0.000
Source One Tactical Infrared Resistant Uniform Repair Patch Kit (Army)				0.518	0.000	0.000	0.000	0.000

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604051D8Z: <i>Defense Acquisition Challenge Program (DACP)</i>	<b>PROJECT</b> P051: <i>Defense Acquisition Challenge Program</i>
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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 project has provided the Army with a means of increasing the reliability and durability of the Fire Resistant Army Combat Uniform (FR ACU) and other Army uniform ensembles. Since the Department of Defense has put emphasis on durability and reliability of uniforms, the product office has made considerable advancements in extending the wear life of uniforms, but rips and tears will occur with consumable uniform products. The materials solution has provided abrasion resistance, strength, and durability to achieve a 120 day threshold operational durability. The Integrated Patch kit (IPK) has been developed to meet the key performance parameters (KPP) of Reliability and Durability for combat uniforms. The IPK is designed to be fire resistant and infrared compatible with the base uniform. The patch has been tailored to size and the pressure-sensitive adhesive is designed to be easily applied to the uniform with little effort while extending the wear life up to an objective of 180 days. The primary outputs and efficiencies: Increased durability and wear life of the combat uniform, integration into other combat uniforms, maintaining the integrity of the fire resistant ensemble. RDT&amp;E cost avoidance is estimated at \$ 1.300 million. The current cost of the FR ACU is \$162.00 dollars per uniform set; the IPK has extended the wear life of a uniform by 33-50 percent.</p> <p><i>FY 2009 Accomplishments:</i> A Commercial Off-The-Shelf (COTS) technology has been identified. COTS system has undergone extensive validation and safety testing to include system level burn testing and durability testing. Testing has been completed items have been procured for a limited user evaluation in a simulated operational environment. Items have also been tested in two prototype uniforms in Operation Enduring Freedom (OEF). We expect user feedback 4Q FY 2009.</p> <p><i>FY 2010 Plans:</i> Submit a closeout report in 2Q-3Q FY 2010.</p>					
<p>Special Operations Forces (SOF) Forward Trauma Management Set (Special Operations Command)</p> <p>This comparative test project will evaluate a deployable Level III surgical care and trauma life support that will stabilize and sustain casualties with life saving trauma care for SOF operating in remote</p>	0.933	0.557	0.460	0.000	0.460

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **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>areas where casualty evacuation is not available. The forward trauma management set is a modular, resuscitative surgical intervention that is operationally adaptable vice operationally specific. User assessment testing will be completed in three worldwide operational areas: Central Command, Africa Command, and Pacific Command. The primary outputs and efficiencies are as follows: resuscitative surgical care and trauma life support equal to tactical combat casualty care guidelines; within capability of assigned SOF medical and non-medical personnel; self contained rapidly deployable by C-130/ C-17 aircraft; sustainable in remote harsh environments. RDT&amp;E cost avoidance is \$2.100 million. Procurement cost avoidance at \$3.100 million. Operational and Support cost avoidance is \$71.460 million. Completion date is scheduled for September 2011.</p> <p><i>FY 2009 Accomplishments:</i> Conducted project planning through three Integrated Product Team Meetings. Initiated development of the project's concept for operations, identified and procured test articles for trauma kits.</p> <p><i>FY 2010 Plans:</i> Receive test articles. Evaluate Form, Fit and Function, and conduct initial user evaluations.</p> <p><i>FY 2011 Base Plans:</i> Prepare technical test report. Perform operator user assessment test, prepare test report, prepare documentation for Milestone C Production Decision and submit project closeout report 4Q FY 2011. Prepare report on user evaluation, conduct user assessment/validation (exercise), prepare validation report, complete documentation for Milestone C Production Decision and submit project closeout report 4Q FY 2011.</p>					
<p><b>Stand Alone Patient Simulator (Army)</b></p> <p>This project will test a rugged field medical training capability that is applicable from point of injury to theater evacuation. The proposed system tests will prove the efficiency of using Stand Alone Patient Simulator (SAPS) technologies in various medical training scenarios including care under fire, tactical</p>	0.156	0.000	0.000	0.000	0.000

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604051D8Z: <i>Defense Acquisition Challenge Program (DACP)</i>	<b>PROJECT</b> P051: <i>Defense Acquisition Challenge Program</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>field care, Casualty Evacuation (CASEVAC)/ Medical Evacuation (MEDEVAC), forward surgical teams, hospital care, and Air Force Critical Care Air Transport (CCAT) training. The primary outputs and efficiencies to be demonstrated in the project test are: (1) ruggedness in field training exercises; (2) clinical accuracy at various levels of care; (3) flight safety certification for rotary wing aircraft for care in the air training; (4) documentation to support the establishment of a wireless patient simulator acquisition program; and (5) avoiding RDT&amp;E costs of \$3.000 million.</p> <p><i>FY 2009 Accomplishments:</i> Reconfigured the test articles with the new "bones" and "skins". Delivered to the long term test sites at the Defense Medical Readiness Training Institute (DMRTI), Camps Lejeune and Pendleton. Received rotary wing safe to fly certification. Started fixed wing flight safety testing with the United States Air Force. Conducted user tests at DMRTI, Fort Lewis, and Camp Lejeune. Conducted long term tests (more than two weeks) at Camps Lejeune, Pendleton, and Bullis. Delivering a test unit to the tenth Combat Support Hospital, Baghdad in October 2009.</p>					
<p>Tactical Beyond-Line-of-Sight Communications Extension System (Special Operations Command)</p> <p>This validation project tests and evaluates a tactical, man-portable, beyond line-of-sight (BLOS) troposcatter terminal that will significantly increase the existing range of the tactical network data throughput for 16 Megabites per second (Mbps) links from 22 Kilometers (km) line of sight to 44 km, while reducing or eliminating vulnerable relay sites. Tactical network range extension currently relies on limited data transfers through expensive Ku-band and Ka-band satellite communications (SATCOM) for BLOS connectivity. Use of troposcatter terminals will reduce the dependency and reliance on SATCOM to provide a transport path for short range line of sight and BLOS requirements. The primary outputs and efficiencies are as follows: (1) data throughput of 10 Mbps or greater at 40 km; *(2) two person transportable (86 pounds) system; and (3) set up in 30 minutes and ready to acquire distant end. RDT&amp;E cost avoidance is \$10.000 million. Operations and support cost avoidance is \$1.500 million and procurement cost avoidance is \$2.000 million. Completion date is scheduled for November 2010.</p>	0.000	2.337	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604051D8Z: <i>Defense Acquisition Challenge Program (DACP)</i>	<b>PROJECT</b> P051: <i>Defense Acquisition Challenge Program</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p><i>FY 2010 Plans:</i> Contract and acquire test articles. Obtain safety release to conduct technical testing. Perform technical and user assessment/operational testing. Attain Joint Interoperability Test Command certification. Complete all test reporting.</p> <p><i>FY 2011 Base Plans:</i> Prepare documentation for Milestone C Production Decision and complete project closeout report 1Q FY 2011.</p>						
<p><b>Tactical Vehicle Battery – Replacement (TVB-R) (Navy)</b></p> <p>A successful project will provide the United States Marine Corps (USMC) with a higher energy density, comparable power capability, and greater deep-discharge cycle life compared to the current 6T lead acid battery. A two-year project under sponsorship of the DAC and Marine Corps Systems Command Program Manager Expeditionary Power System. Projected completion of all testing events is FY 2011. The primary outputs and efficiencies are as follows: (1) drop in replacement for lead acid batteries; (2) Increase energy density ranging from three to five times over lead acid; (3) ten times more deep discharge cycles than lead acid; and (4) avoids RDT&amp;E cost of \$10.000 - \$20.000 million with a Return on Investment (ROI) of 82:1.</p> <p><i>FY 2010 Plans:</i> Receive DAC funding and initiated the Contract Award preparation at the end of 2Q FY 2010. Receive Phase I test articles and initiate comparative test 3Q FY 2010. Initiate Data Analysis/Evaluation/Downselect of Phase I test articles 4Q FY 2010.</p> <p><i>FY 2011 Base Plans:</i> Complete Phase I down selection 1Q FY 2011. Exercise Contract Option and receive test articles for Phase II test efforts 2Q FY 2011. Initiate Phase II Performance test and Field User Evaluation 3Q FY</p>		0.000	0.862	0.500	0.000	0.500

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense				<b>DATE:</b> February 2010				
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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
2011. Complete Phase II test events, technical test report and make Milestone C Decision 4Q FY 2011.								
<p>Upgraded External Auxiliary Power Unit (U-EAPU) (Navy)</p> <p>This project will evaluate an U-EAPU that is capable of providing a sufficient secondary power source, effectively eliminating the reliance on using a vehicles primary engine or power system. The upgrades will increase operational effectiveness, lethality, survivability, and prevent incidents of fratricide. A two year project under sponsorship of the DAC and Marine Corps Systems Command, Program Manager Expeditionary Power Systems. Projected completion of all testing events is FY 2010. The primary outputs and efficiencies are as followed: (1) Supplemental power to a wide range of tactical vehicles to operate vehicle systems including communication suites, Improvised Explosive Device (IED) defeat equipment, fire control systems, M1A1 turret drive and Chemical, Biological, Radiological and Nuclear protective systems; (2) 50 percent reduction in noise intensity (acoustic signature), increased reliability and increased power output in similar sized units; (3) RDT&amp;E, Operations and Support Life-Cycle cost avoidances of \$8.000 million and \$20.000 million with a Return on Investment (ROI) of 37:1.</p> <p><i>FY 2009 Accomplishments:</i> Contract Awarded and Source Selection completed in 1Q FY 2009. Phase I test articles received and comparative testing initiated in 2Q FY 2009. Completion of Phase I comparative testing and data analysis/down selection at end of 3Q FY 2009. Completed Phase II contract award and received Phase II test articles at beginning of 4Q FY 2009. Initiated and completed procurement testing and field user evaluation (FUE) at the end of 4Q FY 2009.</p> <p><i>FY 2010 Plans:</i> Finalize technical test report, closeout report and Milestone C Decision by the end of 1Q FY 2010.</p>				0.493	0.000	0.000	0.000	0.000
FY 2011 Plans				0.000	0.000	13.597	0.000	13.597

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604051D8Z: <i>Defense Acquisition Challenge Program (DACP)</i>	<b>PROJECT</b> P051: <i>Defense Acquisition Challenge Program</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>The Defense Acquisition Challenge Program (DACP) will continue to fund testing activities on an estimated 15 continuing projects executing \$10.747 million. Remaining funding of \$13.597 will be used to initiate new start DACP projects selected from the FY 2011 DACP proposal process. The FY 2011 final proposal selection process is scheduled for 4Q FY 2010.</p> <p><i>FY 2011 Base Plans:</i> Initiate new start projects.</p>					
<p><b>Microelectronics Technology Development and Support (Defense Microelectronics Activity)</b></p> <p>Defense Microelectronics Activity (DMEA) was established in 1966 by the Office of the Secretary of Defense to act as the joint DoD Center for microelectronics acquisition, transformation, and support. The DMEA mission is to develop, develop, and demonstrate microelectronics concepts, advanced technologies, and applications to provide a pathway to extend the life of weapon systems and to solve operations problems (e.g. reliability, maintainability, performance, and assured supply). DMEA's capabilities make it a key tool in the intelligent and rapid development and application of advanced technologies to identified military needs. This includes implementation of advanced microelectronics research technologies providing for the development and long-term support structure necessary to ensure rapid design, fabrication, test, insertion, and support of microelectronics technologies. The DMEA provides an in-house capability to support these strategically important technologies within the DOD. DMEA has been singled out as a unique national resource by the warfighters, industry and foreign governments. Funds are required for investments and expenses for personnel, technical and analytical support, facilities, equipment, supplies, travel, publications.</p> <p><i>FY 2009 Accomplishments:</i> Implemented an advanced microelectronics research technologies providing for the development and long-term support structure necessary to ensure rapid design, fabrication, test, insertion, and support of microelectronics technologies.</p>	1.000	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
Accomplishments/Planned Programs Subtotals	26.979	28.629	24.344	0.000	24.344

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

N/A

**D. Acquisition Strategy**

The Acquisition Strategy for Defense Acquisition Challenge Program (DACP) is as outlined in Title 10. DACP is to provide opportunities for the increased introduction of innovative and cost-saving technology in acquisition programs of the Department of Defense. DACP funding is used to fund testing of commercial and non-developmental items that could result in improvements in performance, affordability, manufacturability, or operational capability of an existing acquisition program. It is expected that, should testing be successful, the respective current acquisition program will procure.

**E. Performance Metrics**

From program inception in 2003 until 2009, the Office of Secretary of Defense has initiated 119 projects; 60 projects have been completed to date; 45 met Service or Agency testing requirements and 35 led to procurements. To date, 30 projects have yielded technology currently in use by our warfighters in Iraq, Afghanistan, or at U.S. training facilities. In FY 2009 DACP had a transition rate of 77 percent for completed projects, exceeding the objective of 30 percent for demonstration programs (Strategic Objective 4-3, Office of the Under Secretary of Defense, Acquisition, Technology & Logistics (OUSD (AT&L))). In FY 2009, 57 percent of the projects were awarded to small or mid-sized businesses and 50 percent were awarded to companies indicating "first-time" participation with the Department of Defense.

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604051D8Z: <i>Defense Acquisition Challenge Program (DACP)</i>	<b>PROJECT</b> P051: <i>Defense Acquisition Challenge Program</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			
Various Projects under Defense Acquisition Challeng Program	SS/Various	Various DC, District of Columbia	26.979	28.629	Oct 2009	24.344	Oct 2009	0.000		24.344	0.000	79.952	Continuing
<b>Subtotal</b>			26.979	28.629		24.344		0.000		24.344	0.000	79.952	

**Remarks**

**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			
<b>Subtotal</b>			0.000	0.000		0.000		0.000		0.000			

**Remarks**

Project Cost Totals	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			
<b>Project Cost Totals</b>	26.979	28.629		24.344		0.000		24.344	0.000	79.952	

**Remarks**

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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2011 Office of Secretary Of Defense		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604051D8Z: <i>Defense Acquisition Challenge Program (DACP)</i>	<b>PROJECT</b> P051: <i>Defense Acquisition Challenge Program</i>

	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
FY 2011 Planned Output									■	■	■	■	■	■	■	■												
FY 2011 Project Selections								■																				
Funding Received (estimate)									■																			
Procure Test Items										■																		
Delivery of Test Items											■	■																
DACP Project Test Plans Finalized											■	■																
DACP Project Testing														■	■	■												
DACP Final Testing and Closeout Reports																			■	■								

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2011 Office of Secretary Of Defense		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604051D8Z: <i>Defense Acquisition Challenge Program (DACP)</i>	<b>PROJECT</b> P051: <i>Defense Acquisition Challenge Program</i>

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
FY 2011 Planned Output	1	2011	4	2012
FY 2011 Project Selections	4	2010	4	2010
Funding Received (estimate)	1	2011	1	2011
Procure Test Items	2	2011	2	2011
Delivery of Test Items	3	2011	4	2011
DACP Project Test Plans Finalized	3	2011	4	2011
DACP Project Testing	3	2012	1	2013
DACP Final Testing and Closeout Reports	1	2013	2	2013

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b>			<b>R-1 ITEM NOMENCLATURE</b>								
0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>			PE 0604161D8Z: <i>Nuclear &amp; Conventional Phy Sec Equip</i>								
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	4.106	7.566	7.973	0.000	7.973	7.296	8.327	8.843	6.838	Continuing	Continuing
P163: <i>Nuclear &amp; Conventional Phy Sec Equip</i>	4.106	7.566	7.973	0.000	7.973	7.296	8.327	8.843	6.838	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

The purpose of this program is the system development and validation of conventional and nuclear physical security equipment (PSE) systems for all DoD components. This program supports the protection of tactical, fixed, and nuclear weapons systems, DoD personnel and DoD facilities. The funds are used to provide PSE RDT&E for continuing and evolving individual Service and joint PSE requirements that provide capability in the areas of force protection and tactical security equipment; robotic security systems integration; waterside security systems; explosive detection equipment; locks, safes and vaults; commercial-off-the-shelf (COTS) testing; and nuclear weapons security. A number of RDT&E efforts arising from PE 0603161D8Z will transition to this PE for system demonstration and validation. The PSE program is organized so that representatives from the Army, Navy, Air Force, and Defense Threat Reduction Agency (DTRA) monitor, direct and prioritize potential and existing PSE programs through the auspices of the Physical Security Equipment Action Group (PSEAG) and the Security Policy Verification Committee (SPVC). With few exceptions, each Service sponsors RDT&E efforts for technologies and programs that have multi-service application. This program element supports: 1) the Army's PSE RDT&E efforts in the areas of Interior and Exterior Detection, Security Lighting, Security Barriers and Security Display Units; 2) the Air Force's PSE RDT&E effort in the areas of Exterior Detection/Surveillance, Entry Control, Delay/Denial, Tactical Systems and Airborne Intrusion; 3) the Navy's PSE RDT&E efforts in the areas of Waterside Security, Explosive Detection, and improved technology for Locks, Safes and Vaults; and 4) DTRA's PSE RDT&E efforts that enhance the security of Navy and Air Force nuclear assets. The program element also supports all four Services' identification and redesign of developmental, non-developmental, and commercial-off-the-shelf equipment to meet physical security requirements. Activities within this program will seek to reduce risk associated with integrating, fielding, and supporting the equipment once it becomes a part of the overall security system.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2011 Office of Secretary Of Defense	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604161D8Z: <i>Nuclear &amp; Conventional Phy Sec Equip</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	4.331	7.628	0.000	0.000	0.000
Current President's Budget	4.106	7.566	7.973	0.000	7.973
Total Adjustments	-0.225	-0.062	7.973	0.000	7.973
• Congressional General Reductions		0.000			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	-0.105	0.000			
• SBIR/STTR Transfer	-0.112	0.000			
• Other Program AdjustmentsOther	-0.008	-0.062	7.973	0.000	7.973

**Change Summary Explanation**

Reprogramming was used to accommodate the maturation of PSE developmental items from advanced engineering development (BA 4) to system development and demonstration (BA 5). A reduction in PE 0603161D8Z funding reflects the additional funding in this PE.

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b>				<b>R-1 ITEM NOMENCLATURE</b>				<b>PROJECT</b>			
0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				PE 0604161D8Z: <i>Nuclear &amp; Conventional Phy Sec Equip</i>				P163: <i>Nuclear &amp; Conventional Phy Sec Equip</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
P163: <i>Nuclear &amp; Conventional Phy Sec Equip</i>	4.106	7.566	7.973	0.000	7.973	7.296	8.327	8.843	6.838	Continuing	Continuing
Quantity of RDT&E Articles											

**Note**

There are no new start programs. Several programs and projects have transitioned from PE 0603161D8Z.

**A. Mission Description and Budget Item Justification**

The purpose of this program is the system development and validation of conventional and nuclear physical security equipment (PSE) systems for all DoD components. This program supports the protection of tactical, fixed, and nuclear weapons systems, DoD personnel and DoD facilities. The funds are used to provide PSE RDT&E for continuing and evolving individual Service and joint PSE requirements that provide capability in the areas of force protection and tactical security equipment; robotic security systems integration; waterside security systems; explosive detection equipment; locks, safes and vaults; commercial-off-the-shelf (COTS) testing; and nuclear weapons security. A number of RDT&E efforts arising from PE 0603161D8Z will transition to this PE for system demonstration and validation. The PSE program is organized so that representatives from the Army, Navy, Air Force, and Defense Threat Reduction Agency (DTRA) monitor, direct and prioritize potential and existing PSE programs through the auspices of the Physical Security Equipment Action Group (PSEAG) and the Security Policy Verification Committee (SPVC). With few exceptions, each Service sponsors RDT&E efforts for technologies and programs that have multi-service application. This program element supports: 1) the Army's PSE RDT&E efforts in the areas of Interior and Exterior Detection, Security Lighting, Security Barriers and Security Display Units; 2) the Air Force's PSE RDT&E effort in the areas of Exterior Detection/Surveillance, Entry Control, Delay/Denial, Tactical Systems and Airborne Intrusion; 3) the Navy's PSE RDT&E efforts in the areas of Waterside Security, Explosive Detection, and improved technology for Locks, Safes and Vaults; and 4) DTRA's PSE RDT&E efforts that enhance the security of Navy and Air Force nuclear assets. The program element also supports all four Services' identification and redesign of developmental, non-developmental, and commercial-off-the-shelf equipment to meet physical security requirements. Activities within this program will seek to reduce risk associated with integrating, fielding, and supporting the equipment once it becomes a part of the overall security system.

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

	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Robotic Security Systems Integration (RSSI)	1.000	0.000	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604161D8Z: <i>Nuclear &amp; Conventional Phy Sec Equip</i>	<b>PROJECT</b> P163: <i>Nuclear &amp; Conventional Phy Sec Equip</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>MDARS</p> <p><i>FY 2009 Accomplishments:</i></p> <ul style="list-style-type: none"> <li>- Conducted MDARS product verification endurance testing at HWAD.</li> <li>- Continued to integrate unmanned systems to meet physical security requirements.</li> <li>- Continued to manage, develop, evaluate, and test Detection/Assessment/Delay/Denial products.</li> <li>- Continued to manage sensor and assessment product developments and tests.</li> <li>- Continued to prepare operational systems improvement plans; develop technology roadmaps, and update system architecture.</li> <li>- Continued to test, develop, and integrate equipment to improve security and access to facilities.</li> <li>- Completed a feasibility study of MDARS Integration - system modifications need to be complete before any more demonstrations can be held.</li> </ul>						
<p>Force Protection/Tactical Security Equipment (FP/TSE)</p> <p>This program includes two large projects and several smaller ones (under the Million dollar threshold). Battlefield Anti-Intrusion System (BAIS) Lighting Kit Motion Detector (LKMD)</p> <p><i>FY 2009 Accomplishments:</i></p> <ul style="list-style-type: none"> <li>- Continued the spiral development/modernization of BAIS.</li> <li>- Completed the development of BAIS sensor-to-sensor communications capability.</li> <li>- Began Production Qualification and Verification testing (PQ/VT)of the LKMD.</li> <li>- Continued to manage, develop, evaluate, and test Detection/Assessment/Delay/Denial products.</li> <li>- Continued to manage sensor and assessment product developments and tests.</li> <li>- Continued to prepare operational systems improvement plans; develop technology roadmaps, and update system architecture.</li> <li>- Continued to test, develop, and integrate equipment to improve security and access to facilities.</li> </ul>		3.106	3.035	2.750	0.000	2.750

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense			<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604161D8Z: <i>Nuclear &amp; Conventional Phy Sec Equip</i>	<b>PROJECT</b> P163: <i>Nuclear &amp; Conventional Phy Sec Equip</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p><i>FY 2010 Plans:</i></p> <ul style="list-style-type: none"> <li>- Refine BAIS interfaces with C4ISR systems.</li> <li>- Lower BAIS system and component costs.</li> <li>- Improve BAIS performance by integrating global positioning system (GPS) capability.</li> <li>- Begin Production Qualification and Verification testing (PQ/VT) of the Increment 2 of LKMD.</li> <li>- Begin coordination with MANSCEN for completion of LKMD Increment 2 CDD.</li> <li>- Complete the development of BAIS sensor-to-sensor communications capability.</li> <li>- Begin Production Qualification and Verification testing (PQ/VT) of the BAIS.</li> <li>- Continue to manage, develop, evaluate, and test Detection/Assessment/Delay/Denial products.</li> <li>- Continue to manage sensor and assessment product developments and tests.</li> <li>- Continue to prepare operational systems improvement plans; develop technology roadmaps, and update system architecture.</li> <li>- Continue to test, develop, and integrate equipment to improve security and access to facilities.</li> </ul> <p><i>FY 2011 Base Plans:</i></p> <ul style="list-style-type: none"> <li>- Increase BAIS duration, probability of detection, and detection range.</li> <li>- Decrease BAIS size and weight.</li> <li>- Produce production representative samples of LKMD for initial operational test and evaluation (IOT&amp;E).</li> <li>- Continue to manage, develop, evaluate, and test Detection/Assessment/Delay/Denial products.</li> <li>- Continue to manage sensor and assessment product developments and tests.</li> <li>- Continue to prepare operational systems improvement plans; develop technology roadmaps, and update system architecture.</li> <li>- Continue to test, develop, and integrate equipment to improve security and access to facilities.</li> </ul>						
<p>Locks, Safes, Vaults</p> <p>This program includes several small projects (under the Million dollar threshold).</p>		0.000	1.000	1.706	0.000	1.706

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense			<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604161D8Z: <i>Nuclear &amp; Conventional Phy Sec Equip</i>	<b>PROJECT</b> P163: <i>Nuclear &amp; Conventional Phy Sec Equip</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>Advanced Container Security Device (ACSD) Interactive Voice Response System (IVRS) Physical Security of Storage Magazines (PSSM) Short Range Threat Detection System (SRTDS)</p> <p><i>FY 2010 Plans:</i></p> <ul style="list-style-type: none"> <li>- ACSD will begin operational field testing, design modifications</li> <li>- IVRS System Integration and Deployment</li> <li>- PSSM: Transition to acquisition and field support.</li> <li>- SRTDS: Develop DDG 1000 Series Laptop Security Container</li> <li>- Continued to manage, develop, evaluate, and test Detection/Assessment/Delay/Denial products.</li> <li>- Continued to manage sensor and assessment product developments and tests.</li> <li>- Continued to prepare operational systems improvement plans; develop technology roadmaps, and update system architecture.</li> <li>- Continued to test, develop, and integrate equipment to improve security and access to facilities.</li> </ul> <p><i>FY 2011 Base Plans:</i></p> <ul style="list-style-type: none"> <li>- ACSD: Field advanced prototype, final report, transition</li> <li>- IVRS will be to transition to NAVSEA</li> <li>- Continued to manage, develop, evaluate, and test Detection/Assessment/Delay/Denial products.</li> <li>- Continued to manage sensor and assessment product developments and tests.</li> <li>- Continued to prepare operational systems improvement plans; develop technology roadmaps, and update system architecture.</li> <li>- Continued to test, develop, and integrate equipment to improve security and access to facilities.</li> </ul>						
<p>Strategic Planning, Requirements Analysis, &amp; Demonstration</p> <p>This program includes two large projects and several smaller ones (under the Million dollar threshold). Force Protection Equipment Demonstration (FPED)</p>		0.000	3.531	3.517	0.000	3.517

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604161D8Z: <i>Nuclear &amp; Conventional Phy Sec Equip</i>	<b>PROJECT</b> P163: <i>Nuclear &amp; Conventional Phy Sec Equip</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>AVERT Joint Requirements Working Group (JRWG) PSEAG Strategic Plan</p> <p><i>FY 2010 Plans:</i></p> <ul style="list-style-type: none"> <li>- Initiate planning sequence for FPED VIII with Stafford Regional Airport</li> <li>- Information Technology</li> <li>- Website Development And Hosting</li> <li>- Database Development</li> <li>- Multi-Media Production Mgmt</li> <li>- Show Management Services</li> <li>- Infrastructure Support</li> <li>- Train 20 military or selected contractor personnel in the use of AVERT.</li> <li>- Refine 3-D site models for specified OCONUS &amp; CONUS sites, to include performing the remaining initial installation visits to collect necessary data.</li> <li>- Perform baseline site security risk assessments and output reports of each site.</li> <li>- Incorporate mitigation strategies as selected by ODATSD(NM), through DTRA, into the baseline models for all OCONUS &amp; CONUS sites</li> <li>- Perform cost-benefit analyses on the mitigation strategies using functions incorporated into AVERT or the associated roll-up tool.</li> <li>- Perform risk-rollup assessments across all sites.</li> <li>- Prepare final briefing and report for all sites to include adversary paths, assessment of mitigation packages including a cost-benefit analysis, and risk roll-up presentation.</li> <li>- Provide support and technical assistance to the AVERT Verification, Validation, &amp; Accreditation (VV&amp;A).</li> <li>- Completion of AVERT batch/automated mitigators processing enhancement (AVERT v 5.0 Enterprise).</li> </ul>					

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604161D8Z: <i>Nuclear &amp; Conventional Phy Sec Equip</i>	<b>PROJECT</b> P163: <i>Nuclear &amp; Conventional Phy Sec Equip</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul style="list-style-type: none"> <li>- Continue the JRWG process to minimize duplication of efforts and builds common requirements for interoperable and more standardized platforms and solutions.</li> <li>- Continued development the PSEAG Strategic Plan by completing an analytical assessment of current PSEAG Structure to reassess effectiveness, requirements and developmental/acquisition approach in response to the gap analysis shortfalls and developes a long term program to improve solution sets DoD-wide.</li> <li>- Continued to manage, develop, evaluate, and test Detection/Assessment/Delay/Denial products.</li> <li>- Continued to manage sensor and assessment product developments and tests.</li> <li>- Continued to prepare operational systems improvement plans; develop technology roadmaps, and update system architecture.</li> <li>- Continued to test, develop, and integrate equipment to improve security and access to facilities.</li> </ul>					
<b>Accomplishments/Planned Programs Subtotals</b>	4.106	7.566	7.973	0.000	7.973

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

N/A

**D. Acquisition Strategy**

N/A

**E. Performance Metrics**

The program performance metrics are established/approved through the DoD Physical Security Equipment Action Group (PSEAG) and the Security Policy Verification Committee (SPVC). The cost, schedule and technical progress of each project is reviewed at quarterly PSEAG and SPVC meetings. Performance variances are addressed and corrective action is implemented as necessary.

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604161D8Z: <i>Nuclear &amp; Conventional Phy Sec Equip</i>	<b>PROJECT</b> P163: <i>Nuclear &amp; Conventional Phy Sec Equip</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			
BAIS	MIPR	PM-FPS (USA) Ft. Belvoir, Virginia	1.415	1.608	Jun 2010	1.250	May 2011	0.000		1.250	Continuing	Continuing	Continuing
LKMD	MIPR	PM-FPS (USA) Ft. Belvoir, Virginia	1.000	0.422	Apr 2009	1.000	Apr 2010	0.000		1.000	Continuing	Continuing	Continuing
FPED	MIPR	FM-FPS Ft. Belvoir, VA	0.000	1.280	Dec 2009	1.900	Dec 2010	0.000		1.900	Continuing	Continuing	Continuing
Lock, Vaults, Safes	MIPR	NAVFAC/ESC San Diego, CA	0.000	0.645	Jan 2009	0.977	Jan 2010	0.000		0.977	Continuing	Continuing	Continuing
AVERT	MIPR	DTRA Ft. Belvoir, VA	0.000	0.877	Jan 2009	0.960	Jan 2010	0.000		0.960	Continuing	Continuing	Continuing
MDARS	MIPR	PM-FPS (USA) Ft. Belvoir, Virginia	1.000	0.000		0.000		0.000		0.000	Continuing	Continuing	Continuing
<b>Subtotal</b>			3.415	4.832		6.087		0.000		6.087			

**Remarks**

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604161D8Z: <i>Nuclear &amp; Conventional Phy Sec Equip</i>	<b>PROJECT</b> P163: <i>Nuclear &amp; Conventional Phy Sec Equip</i>
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**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			
Locks, Safes, and Vaults	MIPR	NAVFAC San Diego, CA	0.000	0.116	Dec 2009	0.076	Dec 2010	0.000		0.076	Continuing	Continuing	Continuing
AVERT	MIPR	DTRA Ft. Belvoir, VA	0.000	0.760	Dec 2010	0.546	Dec 2010	0.000		0.546	Continuing	Continuing	Continuing
<b>Subtotal</b>			0.000	0.876		0.622		0.000		0.622			

**Remarks**

**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			
BAIS	MIPR	PM-FPS (USA) Ft. Belvoir, Virginia	0.691	0.350	May 2010	0.200	Feb 2011	0.000		0.200	Continuing	Continuing	Continuing
Locks, Safes, and Vaults	MIPR	PM-FPS (USA) Ft. Belvoir, Virginia	0.000	0.241	Jan 2010	0.214	Feb 2011	0.000		0.214	Continuing	Continuing	Continuing
<b>Subtotal</b>			0.691	0.591		0.414		0.000		0.414			

**Remarks**

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604161D8Z: <i>Nuclear &amp; Conventional Phy Sec Equip</i>	<b>PROJECT</b> P163: <i>Nuclear &amp; Conventional Phy Sec Equip</i>
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**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			
BAIS	MIPR	PM-FPS (USA) Ft. Belvoir, Virginia	0.200	0.150	Dec 2009	0.150	Dec 2010	0.000		0.150	Continuing	Continuing	Continuing
LKMD	MIPR	PM-FPS (USA) Ft. Belvoir, Virginia	0.000	0.717	Dec 2009	0.200	Dec 2010	0.000		0.200	Continuing	Continuing	Continuing
FPED	MIPR	PM-FPS (USA) Ft. Belvoir, Virginia	0.000	0.400	Dec 2009	0.500	Dec 2010	0.000		0.500	Continuing	Continuing	Continuing
<b>Subtotal</b>			0.200	1.267		0.850		0.000		0.850			

**Remarks**

Project Cost Totals	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	4.306	7.566		7.973		0.000		7.973			

**Remarks**

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**Exhibit R-4, RDT&E Schedule Profile: PB 2011 Office of Secretary Of Defense**

**DATE: February 2010**

**APPROPRIATION/BUDGET ACTIVITY**

0400: *Research, Development, Test & Evaluation, Defense-Wide*  
 BA 5: *Development & Demonstration (SDD)*

**R-1 ITEM NOMENCLATURE**

PE 0604161D8Z: *Nuclear & Conventional Phy Sec Equip*

**PROJECT**

P163: *Nuclear & Conventional Phy Sec Equip*



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R-1 Line Item #114

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**Exhibit R-4A, RDT&E Schedule Details:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604161D8Z: <i>Nuclear &amp; Conventional Phy Sec Equip</i>	<b>PROJECT</b> P163: <i>Nuclear &amp; Conventional Phy Sec Equip</i>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
AVERT Training, Modeling, and Software Devoplment and Support	3	2010	4	2011
Refine BAIS Interfaces with C4ISR Components	2	2010	2	2011
LKMD Increment 1 Product Qualification and Verification Testing	1	2009	4	2009
ACDS System Certification and Demo	3	2010	4	2010
Refine BAIS size and weight	2	2010	4	2011
BAIS Product Improvement Modernization for production systems	2	2011	4	2011
Develop BAIS remote sensor activation/deactivation capability	1	2009	2	2009
Feasibility Study of MDARS Integration	3	2009	4	2009
SDD of LKMD Increment 2	1	2010	4	2010
Execute FPED VIII	2	2011	2	2011
BAIS Product Verification Endurance Testing	1	2010	3	2010
AVERT Model Development and Risk Assessment	4	2009	3	2010
IVR System Certification and Demo	3	2010	4	2010

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604165D8Z: <i>Prompt Global Strike</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	69.636	165.563	239.861	0.000	239.861	238.549	274.069	374.600	574.548	Continuing	Continuing
P165: <i>Prompt Global Strike</i>	69.636	165.563	239.861	0.000	239.861	238.549	274.069	374.600	574.548	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

This Program Element (PE) was established in response to guidance associated with the Fiscal Year (FY) 2008 President's Budget, which called for the consolidation and reduction of funding for Conventional Prompt Global Strike (CPGS) efforts for the Navy (Conventional Trident Modification) and Air Force (Common Aero Vehicle) programs. Resources in this PE support the continued development of technologies to continue to enable technology transitions to close the conventional prompt global strike warfighting capability gap. The program uses a national team approach to ensure coordination between the Services, Agencies and National Research Laboratories and places emphasis on the pursuit of integrated portfolio objectives for a national CPGS system. This program funds the design, development and acquisition of guidance systems, boosters, mission planning capabilities, mission enabling capabilities, reentry systems, and payload delivery vehicles (PDVs). It procures modeling and simulation activities, command and control capabilities, test range support, as well as launch system infrastructure. Additionally, funding may be applied towards efforts such as strategic policy compliance and advanced non-nuclear warheads. The emphasis on demonstrating component and subsystem maturity on order to ultimately offer solutions for an existing warfighting capability gap dictates the need for risk reduction initiatives. With the Air Force Conventional Strike Missile (CSM) serving as the lead design to demonstrate a possible materiel solution for the CPGS warfighting capability gap, the Army Hypersonic Glide Body (HGB) design provides an alternative risk reduction path within the Air Force CSM concept. In FY 2011, funding for each of the individual service initiatives will be contingent upon their abilities to execute and achieve satisfactory progress towards project goals as determined by the CPGS portfolio manager.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2011 Office of Secretary Of Defense	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604165D8Z: <i>Prompt Global Strike</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	117.572	166.913	0.000	0.000	0.000
Current President's Budget	69.636	165.563	239.861	0.000	239.861
Total Adjustments	-47.936	-1.350	239.861	0.000	239.861
• Congressional General Reductions		-1.350			
• 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	-2.076	0.000			
• Other Adjustments	-2.860	0.000	239.861	0.000	239.861
• Congressional Distributed Action	-43.000	0.000	0.000	0.000	0.000

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604165D8Z: <i>Prompt Global Strike</i>	<b>PROJECT</b> P165: <i>Prompt Global Strike</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
<i>P165: Prompt Global Strike</i>	69.636	165.563	239.861	0.000	239.861	238.549	274.069	374.600	574.548	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

This Program Element (PE) was established in response to guidance associated with the Fiscal Year (FY) 2008 President's Budget, which called for the consolidation and reduction of funding for Conventional Prompt Global Strike (CPGS) efforts for the Navy (Conventional Trident Modification) and Air Force (Common Aero Vehicle) programs. Resources in this PE support the continued development of technologies and enable technology transitions to close the conventional prompt global strike warfighting capability gap. The program uses a national team approach to ensure coordination between the Services, Agencies and National Research Laboratories and places emphasis on the pursuit of integrated portfolio objectives for a national CPGS system. This program funds the design, development and acquisition of guidance systems, boosters, mission planning capabilities, mission enabling capabilities, reentry systems, and payload delivery vehicles (PDVs). It procures modeling and simulation activities, command and control capabilities, test range support, as well as launch system infrastructure. Additionally, funding may be applied towards efforts such as strategic policy compliance and advanced non-nuclear warheads. The emphasis on demonstrating component and subsystem maturity in order to ultimately offer solutions for an existing warfighting capability gap dictates the need for risk reduction initiatives. With the Air Force Conventional Strike Missile (CSM) serving as the lead design to demonstrate a possible materiel solution for the CPGS warfighting capability gap, the Army Hypersonic Glide Body (HGB) design provides an alternative risk reduction path within the Air Force CSM concept. In FY 2011, funding for each of the individual service initiatives will be contingent upon their abilities to execute and achieve satisfactory progress towards project goals as determined by the CPGS portfolio manager.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Hypersonic Glide Experiments and Concept Demonstration Development/Support  This sub-project describes efforts to develop technologies and assess capabilities that could potentially enable transformational changes in the arena of global, time critical strike.  The objectives of this sub-project are to: - Assess vehicle technologies	41.983	90.110	136.583	0.000	136.583

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604165D8Z: <i>Prompt Global Strike</i>	<b>PROJECT</b> P165: <i>Prompt Global Strike</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>- Exercise the ability to use a high-payload capacity system, which may demonstrate responsive, global reach against high value targets</p> <p>- Assess the feasibility of producing an affordable solution to fill the CPGS capability gap</p> <p>It will mature technologies that could lead to a system capable of global reach from Continental United States (CONUS) with the following characteristics: effects on targets in a very short-period of time from execution order; non-ballistic flight over the majority of the flight path; positive control from launch to impact; adequate cross-range/ maneuverability to avoid overflight issues; controlled stage drop over Broad Ocean area(BOA), and provides for in-flight target updates. The technologies developed will have cross-service and cross-concept applicability and will be developed through close coordination among DoD components. Specific initiatives within this sub-project include:</p> <p>- Continue systems engineering/development and assembly, integration and test (AI&amp;T) of one weaponized payload delivery vehicle (PDV)</p> <p>- Continue flight test planning and support</p> <p>- Integrated PDV vehicle with Minotaur IV Lite launch vehicle and conduct one operationally relevant land impact flight test demonstration</p> <p>- Perform analysis of the military utility of vehicle performance with respect to thermal protection materials, aerodynamics and control surfaces, navigation, guidance, control, and weapons performance</p> <p>- Integrate HTV-2 vehicles with Minotaur IV Lite Launch Vehicles and conduct two BOA impact flight test demonstrations</p> <p><i>FY 2009 Accomplishments:</i></p> <p>- Performed systems engineering/development and assembly, integration and test (AI&amp;T) of two HTV-2 demonstration vehicles</p> <p>- Performed flight test planning and support for the planned FY2010 and FY2011 HTV-2 flight test experiments</p> <p>- Developed analysis measures for the FY2010 and FY2011 flight experiments</p> <p>- Performed integration work for the launch of the HTV-2 vehicles on the Minotaur IV Lite launch vehicles</p>					

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604165D8Z: <i>Prompt Global Strike</i>	<b>PROJECT</b> P165: <i>Prompt Global Strike</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul style="list-style-type: none"> <li>- Performed analysis of the military utility of vehicle performance with respect to thermal protection materials, aerodynamics and control surfaces, as well as navigation, guidance and control (NG&amp;C) and weapons performance</li> <li>- Received approval of acquisition strategy for the planned CSM weaponized PDV flight demonstration</li> <li>- Performed portfolio technical reviews to assess the maturity of the CSM PDV design, warhead survivability and integration efforts, and booster materiel solutions</li> <li>- Successfully conducted six static fire warhead tests used to mature the warhead design and anchor modeling and simulation tools</li> <li>- Completed a System Requirements Review for the planned CSM weaponized PDV flight demonstration</li> <li>- Awarded the initial phase of the PDV development contract covering efforts through Preliminary Design Review</li> </ul> <p><i>FY 2010 Plans:</i> FY2010-2011 activities will: conduct the HTV-2 flight experiments; finalize design concept for the CSM Payload Delivery Vehicle to include thermal protection materials, guidance systems, mission planning, and command and control; complete qualification of a Minotaur launch vehicle for a CPGS mission analysis of launch system infrastructure requirements utilizing other ballistic missile propulsion programs, and mature/demonstrate technologies associated the high speed demonstration of conventional munitions. The available resources for this sub-project will be utilized to procure the PDV, warhead and booster to support the planned CSM weaponized flight test.</p> <p><i>FY 2011 Base Plans:</i> FY2010-2011 activities will: conduct the HTV-2 flight experiments; finalize design concept for the CSM Payload Delivery Vehicle to include thermal protection materials, guidance systems, mission planning, and command and control; complete qualification of a Minotaur launch vehicle for a CPGS mission analysis of launch system infrastructure requirements utilizing other ballistic missile propulsion programs, and mature/demonstrate technologies associated the high speed demonstration of</p>					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604165D8Z: <i>Prompt Global Strike</i>	<b>PROJECT</b> P165: <i>Prompt Global Strike</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>support of the Air Force CPGS project, develops and demonstrates the capability of an HGB based Alternative Payload Delivery Vehicle (APDV) through a two-flight test schedule. The objectives of this subproject are:</p> <ul style="list-style-type: none"> <li>- Demonstrate the maturity of technologies related to thermal management, precise navigation and control, and in-flight communications with a hypersonic object.</li> <li>- Demonstrate the successful delivery of an operationally useful payload weight at operational/ intercontinental distances.</li> <li>- Document the applicability of the proven AHW technologies to a family of CPGS concepts and implementations.</li> <li>- Document the design of the AHW HGB to support future acquisition activities as required.</li> <li>- Execute the initial integration and flight demonstration phase (Flight 1A) of the AHW including fabrication, assembly and integration of a single AHW flight vehicle in preparation for a flight test in FY11.</li> </ul> <p>The AHW HGB vehicle will be launched from the Pacific Missile Range Facility utilizing a Strategic Targets System (STARS) booster stack, separate from the launch vehicle, and fly a hypersonic glide trajectory to impact on the Reagan Test Site at Kwajalein Atoll, demonstrating flight systems integration, gathering thermal protection system performance data to assist in anchoring analytical models, and demonstrating advanced aerodynamic control features.</p> <p><i>FY 2011 Base Plans:</i> The current focus of this sub-project in FY2010-2011 is on the advanced hypersonic weapon effort. This effort researches hypersonic aerodynamics and control systems to enable a wide variety of future capabilities not currently available for rapid global response. The AHW, as a risk mitigation effort in support of the Air Force CPGS project, develops and demonstrates the capability of an HGB based Alternative Payload Delivery Vehicle (APDV) through a two-flight test schedule. The objectives of this subproject are:</p>					

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604165D8Z: <i>Prompt Global Strike</i>	<b>PROJECT</b> P165: <i>Prompt Global Strike</i>
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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></p> <ul style="list-style-type: none"> <li>- Perform range modifications in preparation for technology demonstrations. Activities will include the upgrade of the TP01 launch pad which has not been maintained</li> <li>- Build targets to support technology demonstrations</li> <li>- Purchase range assets to support technology demonstrations, which include ships and aircraft to receive in-flight telemetry data transmitted by the PDV (store and burst mode)</li> </ul> <p><i>FY 2011 Base Plans:</i></p> <ul style="list-style-type: none"> <li>- Perform range modifications in preparation for technology demonstrations. Activities will include the upgrade of the TP01 launch pad which has not been maintained</li> <li>- Build targets to support technology demonstrations</li> <li>- Purchase range assets to support technology demonstrations, which include ships and aircraft to receive in-flight telemetry data transmitted by the PDV (store and burst mode)</li> </ul>					
<p>OSD CPGS Studies</p> <p>This sub-project supports emergent CPGS study efforts. In addition, it also supports application of the Prompt Global Strike Analysis of Alternatives results, requirements development, CPGS basing alternatives, analysis and defining of mission enabling technologies, and measures to avoid conventional missile launch ambiguity. Finally, it supports administrative activities associated with the management and execution of this PE.</p> <p><i>FY 2009 Accomplishments:</i></p> <ul style="list-style-type: none"> <li>- Continued development of Mission Planning Assessment Tool</li> <li>- Completed PGS Adjunct studies to further refine the capabilities of CSM and AHW</li> <li>- List of range safety constraints and compatibility/impact on weaponized test objectives</li> </ul>	5.163	7.923	10.278	0.000	10.278

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604165D8Z: <i>Prompt Global Strike</i>	<b>PROJECT</b> P165: <i>Prompt Global Strike</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p><i>FY 2010 Plans:</i> This sub-project supports emergent CPGS study efforts. In addition, it also supports application of the Prompt Global Strike Analysis of Alternatives results, requirements development, CPGS basing alternatives, analysis and defining of mission enabling technologies, and measures to avoid conventional missile launch ambiguity. Finally, it supports administrative activities associated with the management and execution of this PE.</p> <p><i>FY 2011 Base Plans:</i> In FY2010-2011 the OSD CPGS studies activity will complete the study of strategic policy compliance to include CPGS basing alternatives and measures to avoid misinterpretation of intent; policy compliance, and operational requirements validation. The activity will conduct studies associated with mission planning systems and battle damage assessment. It will further develop and implement measures of system design performance to evaluate the performance of the primary and alternative PDV design, as well as booster, and basing considerations. This activity will also perform analysis of technology readiness of key aspects of the CPGS designs.</p>						
Accomplishments/Planned Programs Subtotals		69.636	165.563	239.861	0.000	239.861
<b>C. Other Program Funding Summary (\$ in Millions)</b>						
N/A						
<b>D. Acquisition Strategy</b>						
This PE provides resources for technical studies, as well as design, development and test activities; project support; combatant requirements application; and systems design analyses necessary to establish and execute an integrated Conventional Prompt Global Strike program. These efforts will produce: a demonstration and application of advanced technologies to support a combatant command materiel solution requirement; a DoD-wide coordinated assessment of kinetic non-nuclear system and operations concepts in a manner that supports planning, budgeting, and execution of further system concept development and procurement by the Services; resources for technical and operations projects and research, development and test and evaluation in such areas as PGS risk mitigation, strategic policy compliance, mission planning, reentry system thermal protection, advanced propulsion, advanced payload delivery and dispensing mechanisms, weapon system						

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604165D8Z: <i>Prompt Global Strike</i>	<b>PROJECT</b> P165: <i>Prompt Global Strike</i>
command and control, advanced non-nuclear warheads, modeling and simulation, launch system infrastructure, and other enabling capabilities that address emerging mission requirements.		
<b>E. Performance Metrics</b> N/A		

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604165D8Z: <i>Prompt Global Strike</i>	<b>PROJECT</b> P165: <i>Prompt Global Strike</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			
Hypersonic Glide Experiments and Concept Demonstration Development/Support	Allot	SPACE AND MISSILE CENTER LOS ANGELES, CA	41.981	91.124	Sep 2010	136.583	Sep 2011	0.000		136.583	0	269.688	Continuing
Alternative Reentry System/Warhead Engineering and Delivery Vehicle Options/Development	Allot	SPACE AND MISSILE DEFENSE CENTER HUNTSVILLE, AL	13.900	46.569	Sep 2010	69.000	Sep 2011	0.000		69.000	0	129.469	Continuing
Test Range Development	Allot	SPACE AND MISSILE CENTER LOS ANGELES, CA	8.590	20.285	Sep 2010	24.000	Sep 2011	0.000		24.000	0	52.875	Continuing
OSD CPGS Studies	Allot	OFFICE OF THE SECRETARY OF DEFENSE WASHINGTON, DC	5.165	7.585	Sep 2010	10.278	Sep 2011	0.000		10.278	0	23.028	Continuing
<b>Subtotal</b>			69.636	165.563		239.861		0.000		239.861	0.000	475.060	

**Remarks**

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**Exhibit R-4, RDT&E Schedule Profile:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604165D8Z: <i>Prompt Global Strike</i>	<b>PROJECT</b> P165: <i>Prompt Global Strike</i>
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	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Navy Range Safety Demo			■																									
DARPA Flight Test 1							■																					
DARPA Flight Test 2											■																	
Army AHW											■																	
USAF CSM Demo Flt															■													

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**Exhibit R-4A, RDT&E Schedule Details:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604165D8Z: <i>Prompt Global Strike</i>	<b>PROJECT</b> P165: <i>Prompt Global Strike</i>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Navy Range Safety Demo	3	2009	3	2009
DARPA Flight Test 1	3	2010	3	2010
DARPA Flight Test 2	2	2011	2	2011
Army AHW	3	2011	3	2011
USAF CSM Demo Flt	2	2012	2	2012

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604709D8Z: <i>Joint Robotics EMD</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	5.420	5.086	4.155	0.000	4.155	3.126	2.986	3.028	3.157	Continuing	Continuing
609: <i>Joint Robotics EMD</i>	5.420	5.086	4.155	0.000	4.155	3.126	2.986	3.028	3.157	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

(U) This Program Element (PE) was established in response to Congressional guidance to consolidate DoD robotic programs on unmanned ground systems and related robotic technologies in order to increase focus of the Services' robotic programs on operational requirements. Technologies in the PE support the continued development of technologies in Budget Activity 3 and 4 (PEs 0603711D8Z and 0603709D8Z) for technology transitions and transformations and closing warfighter requirement capability gaps. By exercising its oversight role through a technology advisory board, O-6 Council and Senior Steering Group (Flag level), Joint Ground Robotics applies this PE to enable coordination between the Services and places emphasis on interoperability and commonality among unmanned ground systems. This PE supports the effort to overcome technology barriers in thrust areas of unmanned ground system technologies to include Autonomous & Tactical Behaviors, Manipulation Technologies, Collaborative Operations, Interoperability, Man-portable Unmanned Ground System Technologies, and Technology Transition/Transformation. The purpose is to further the development and fielding of a family of affordable and effective mobile ground robotic systems, develop and transition technologies necessary to meet evolving user requirements, and serve as a catalyst for insertion of robotic systems and technologies into the force structure. Through application of funds against the thrust areas of unmanned ground system technologies, in execution this PE supports the integration of technologies into representative models or prototype systems in a high fidelity and realistic operating environment and expedites technology transition from the laboratory to operational use. Emphasis is on proving component and subsystem maturity prior to integration in major and complex systems and may involve risk reduction initiatives. Within this PE, funded efforts will continue the delivery of responses to advanced technology needs directed at enhancing the warfighters' capabilities identified during concept development, operational assessments and field feedback of current unmanned systems.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2011 Office of Secretary Of Defense	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604709D8Z: <i>Joint Robotics EMD</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	5.694	5.127	0.000	0.000	0.000
Current President's Budget	5.420	5.086	4.155	0.000	4.155
Total Adjustments	-0.274	-0.041	4.155	0.000	4.155
• Congressional General Reductions		0.000			
• 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	-0.037	0.000			
• Other Program Adjustments	-0.237	-0.041	4.155	0.000	4.155

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604709D8Z: <i>Joint Robotics EMD</i>	<b>PROJECT</b> 609: <i>Joint Robotics EMD</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
609: <i>Joint Robotics EMD</i>	5.420	5.086	4.155	0.000	4.155	3.126	2.986	3.028	3.157	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

(U) This Program Element (PE) was established in response to Congressional guidance to consolidate DoD robotic programs on unmanned ground systems and related robotic technologies in order to increase focus of the Services' robotic programs on operational requirements. Technologies in the PE support the continued development of technologies in Budget Activity 3 and 4 (PEs 0603711D8Z and 0603709D8Z) for technology transitions and transformations and closing warfighter requirement capability gaps. By exercising its oversight role through a technology advisory board, O-6 Council and Senior Steering Group (Flag level), Joint Ground Robotics applies this PE to enable coordination between the Services and places emphasis on interoperability and commonality among unmanned ground systems. This PE supports the effort to overcome technology barriers in thrust areas of unmanned ground system technologies to include Autonomous & Tactical Behaviors, Manipulation Technologies, Collaborative Operations, Interoperability, Man-portable Unmanned Ground System Technologies, and Technology Transition/Transformation. The purpose is to further the development and fielding of a family of affordable and effective mobile ground robotic systems, develop and transition technologies necessary to meet evolving user requirements, and serve as a catalyst for insertion of robotic systems and technologies into the force structure. Through application of funds against the thrust areas of unmanned ground system technologies, in execution this PE supports the integration of technologies into representative models or prototype systems in a high fidelity and realistic operating environment and expedites technology transition from the laboratory to operational use. Emphasis is on proving component and subsystem maturity prior to integration in major and complex systems and may involve risk reduction initiatives. Within this PE, funded efforts will continue the delivery of responses to advanced technology needs directed at enhancing the warfighters' capabilities identified during concept development, operational assessments and field feedback of current unmanned systems.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Autonomous and Tactical Behaviors  Development of vehicle onboard intelligence and tactical behaviors for greater autonomy. These technologies will increase the warfighters' ability to accomplish military task with greater effectiveness, while simultaneously reducing their risk to exposure and harm.	1.389	1.709	1.703	0.000	1.703

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense				<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0604709D8Z: <i>Joint Robotics EMD</i>		<b>PROJECT</b> 609: <i>Joint Robotics EMD</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
3 percent using the same sensors used to build the model; and (4) demonstrate an application that allows the operator to view the model and the manipulator/robot in its actual position from various perspectives and allows the operator to control the manipulator in an effective manner from the virtual scene.								
<p>Man Portable UGS Technologies</p> <p>Increase warfighter capability by transferring and developing technologies of immediate impact on man-portable robotic systems - e.g., obstacle detection/obstacle avoidance (ODOA) and collaborative behaviors for small vehicles. Certain missions and mission environments (urban, unimproved surface, mountainous, subterranean) require the use of man-portable robots in support of dismounted operations. Technologies that can be scaled to low size, weight, space, and power density will enable robotic solutions to capability needs in dismounted operation areas and challenging environments.</p> <p><i>FY 2010 Plans:</i> * Man-Portable Intelligence gathering, Surveillance, and Reconnaissance (ISR) Robot. will fabricate three additional replica prototypes, deliver prototype system(s) to no less than two separate users for early evaluation conduct user trials to evaluate concept, design, and functional performance, begin warfighter experiment, and deliver final report. This project has moved from PE0603709D8Z as the TRL level has matured.</p> <p><i>FY 2011 Base Plans:</i> * Man-Portable (ISR) will participate in the warfighter experiment and deliver final report.</p>				0.000	0.920	0.280	0.000	0.280
<p>Manipulation Technologies</p> <p>Incorporate existing technologies, enable greater range of robotic manipulation, support the development of mobile manipulation, and improve manipulator performance. Development of these technologies will enable unmanned systems to conduct highly dexterous tasks that today are</p>				0.000	0.000	0.400	0.000	0.400

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604709D8Z: <i>Joint Robotics EMD</i>	<b>PROJECT</b> 609: <i>Joint Robotics EMD</i>
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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> Funding will be utilized to assist in transition or transformation of the following but not limited to:</p> <ul style="list-style-type: none"> <li>* Own the Night v2</li> <li>* Convoy Active Safety Technologies (CAST)</li> </ul> <p><i>FY 2011 Base Plans:</i> Funding will be utilized to assist in transition or transformation of the following but not limited to:</p> <ul style="list-style-type: none"> <li>* Remote Check point</li> </ul>					
<b>Accomplishments/Planned Programs Subtotals</b>	5.420	5.086	4.155	0.000	4.155

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

Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• 0603709D8Z: <i>Joint Robotics Program</i>	11.086	15.279	9.878		9.878	12.175	12.392	11.675	11.299	Continuing	Continuing
• 0603711D8Z: <i>Joint Robotics Program/Autonomous Systems</i>	8.535	11.020	9.943		9.943	11.048	11.343	11.526	11.733	Continuing	Continuing

**D. Acquisition Strategy**

N/A

**E. Performance Metrics**

1. Technologies to be funded & developed are reviewed by Joint Capability Area focused working groups and the Joint Staff Functional Capabilities Boards to determine progress, transition plans, and relevance of each project.
2. Project plans are submitted, evaluated and analyzed by the Joint Robotics Ground Enterprise (JGRE) management and technical staff for risk and progress.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604709D8Z: <i>Joint Robotics EMD</i>	<b>PROJECT</b> 609: <i>Joint Robotics EMD</i>
<p>3. Project progress toward goals and milestones is assessed during mid-year and end-of-year reviews.</p> <p>4. Technologies developed by the JGRE are tracked and documented using the DoD Technical Readiness Level (TRL) scale for developing TRL 3 or 4 technologies to TRL 6 and adhering to the integrated baselines with regard to cost and schedule.</p>		

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604709D8Z: <i>Joint Robotics EMD</i>	<b>PROJECT</b> 609: <i>Joint Robotics EMD</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			
Joint Ground Robotics EMD	MIPR	TBD TBD	5.086	5.086	Jan 2010	4.155	Jan 2010	0.000		4.155	Continuing	Continuing	Continuing
<b>Subtotal</b>			5.086	5.086		4.155		0.000		4.155			

**Remarks**

Project Cost Totals	Total Prior Years Cost	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
	5.086	5.086	4.155	0.000	4.155			

**Remarks**

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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2011 Office of Secretary Of Defense		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604709D8Z: <i>Joint Robotics EMD</i>	<b>PROJECT</b> 609: <i>Joint Robotics EMD</i>

	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Advanced EOD Robot System					■	■	■	■																				
Convoy Active Safety Technology (CAST)					■	■	■	■																				
Autonomous Range Clearance					■	■	■	■																				
Robotic Firefighting					■	■	■	■																				
Human Presence and Detection					■																							
VANE					■	■	■	■																				
JGRE Support					■																							

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2011 Office of Secretary Of Defense		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604709D8Z: <i>Joint Robotics EMD</i>	<b>PROJECT</b> 609: <i>Joint Robotics EMD</i>

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Advanced EOD Robot System	1	2010	4	2010
Convoy Active Safety Technology (CAST)	1	2010	4	2010
Autonomous Range Clearance	1	2010	4	2010
Robotic Firefighting	1	2010	4	2010
Human Presence and Detection	1	2010	1	2010
VANE	1	2010	4	2010
JGRE Support	1	2010	1	2010

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b>				<b>R-1 ITEM NOMENCLATURE</b>							
0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				PE 0604771D8Z: <i>Common Joint Tactical Information</i>							
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	19.873	20.466	20.954	0.000	20.954	21.254	21.776	22.071	22.305	Continuing	Continuing
<i>771: Link-16 Tactical Data Link (TDL) Transformation</i>	19.873	20.466	20.954	0.000	20.954	21.254	21.776	22.071	22.305	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

The P771 program was developed to transform Joint Tactical Data Links (TDLs) (primarily the J Series of Link 16, Link 22, and Variable Message Format (VMF)) to comply with the Department's Net-Centric vision. The program encapsulates the Department's needs for joint and combined network-enabled capabilities for TDLs and is being expanded to assess and transform Joint data link communications, such as the Multifunctional Advanced Data Link (MADL), Common Data Link (CDL), and Network Enabled Weapons (NEW), to the net centric standards, and to ensure interoperability and seamless integration with Joint communication systems. The implementation of these network capabilities into the data link environment will enhance the decision cycle between sensor-to-shooter; providing information-superiority, shared environment that enhances combat power by increasing speed of command, higher tempo of operations, greater lethality, increased survivability, and self synchronization. This transformation must balance the needs of the warfighters with the requirements for net centric operations

The funds provided by this budget request were used in 2009 to ensure the timely implementation of net centric goals by incorporating these network-enabling capabilities into the Joint Tactical Data Enterprise Services (TDES) Migration Plan (JTMP). The 2008 JTMP and the 2010 update will be used as a baseline to support the Office of the Secretary of Defense (OSD) in further analyzing the validated warfighter capability needs for the primary TDL, MADL, and CDL communications across the full set of mission areas in order to identify possible solutions to meet those needs across the range of Doctrine, Organization, Training, Material, Leadership, Personnel and Facilities (DOTMLPF) and assess the synchronization planning and capability delivery management activities to support Joint Net-Centric Operations Capability Portfolio Management (NC CPM) objectives. In addition the funds were used to develop an integrated joint airborne architecture, ensuring adherence to the GIG enterprise wide technical baseline. The NC CPM will work with the Services in this near-term analysis and with our Allied/Coalition partners in future analysis to validate the acquisitions and fielding plans needed for net centric goals. In addition, an Advanced Tactical Data Link (ATDL) assessment was started to evaluate various data link alternatives for contested and anti access airspace scenarios. This study will be expanded in 2010 and 2011 to incorporate the CDL family of tactical Intelligence, Surveillance, and Reconnaissance (ISR) communications systems, including the systems used with Unmanned Aerial Systems (UAS) and the Integrated Broadcast Service (IBS), with subsequent year's funding being used to expand the JTMP to include the results of this CDL analysis. A final area to be added will be to ensure that TDLs systems are properly integrated with the other systems part of the net centric architecture, utilizing a new analysis tool the Integrated Master Schedule (IMS).

The program will continue to fund the development of spectrum management and oversight for the TDES systems, and to fund for the coordination of these development efforts with the Services and other US and International spectrum management agencies, including the Federal Aviation Agency (FAA) and National

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b>	<b>R-1 ITEM NOMENCLATURE</b>
0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i>	PE 0604771D8Z: <i>Common Joint Tactical Information</i>
BA 5: <i>Development &amp; Demonstration (SDD)</i>	

Telecommunications and Information Administration (NTIA), to obtain Link 16 spectrum certification. In addition, funding will continue to be used to support the Defense Information System's Agency's (DISA) and Services' interoperable improvement efforts and processes in the development of common standards and protocols. This effort includes initiating the Joint Interoperability Enhancement Process (IEP) that allows operators, engineers, and program managers to verify capabilities and identify issues in a design with Joint / Allied units prior to system fielding, or with fielded systems to identify required systems changes for systems upgrade planning. DISA and Joint Forces Command (JFCOM) will lead the effort to transform the current standards and interoperability management tools to a common set of Joint network-enabled standards to ensure adherence to the GIG enterprise wide technical baseline and for implementation of future TDES capabilities. These joint standards, protocols, and processes will be used for implementation and testing to ensure the TDES capabilities are synchronized with the development and integration timelines of other planned network-enabled Global Information Grid (GIG) initiatives. The threats to the networking waveforms and the Joint NET CENTRIC migration will also be looked at in cooperation with the Intelligence agencies.

**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	20.487	20.633	0.000	0.000	0.000
Current President's Budget	19.873	20.466	20.954	0.000	20.954
Total Adjustments	-0.614	-0.167	20.954	0.000	20.954
• Congressional General Reductions		0.000			
• 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			
• Program Adjustment	-0.614	-0.167	20.954	0.000	20.954

**Change Summary Explanation**

FY 2009: Program adjustment -0.614 million.  
 FY 2010: FFRDC reductions -0.081 million, Economic Assumptions -0.086 million.  
 FY 2011: Program adjustment 20.954 million.

**C. Accomplishments/Planned Program (\$ in Millions)**

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604771D8Z: <i>Common Joint Tactical Information</i>
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**C. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Common Joint Tactical Information Initiatives  <i>FY 2009 Accomplishments:</i> – Provided Spectrum Support and oversight for TDES systems: provided department subject matter experts and representation to the national an international spectrum management boards and forums to ensure Joint Service access to TDES related spectrum to support worldwide operations and training in CONUS – Data Link Migration Engineering Support: 1) Updated 2008 TDES migration plan 2) developed modeling and simulation capability to support data link technical and operational capability assessments including integration to other components of the GIG – Net centric engineering: 1) conducted an ad hoc mobile net-centric tactical wireless architecture assessments 2) provided oversight, and develop net-centric architectures which will address the wireless and mobility aspects of IP 3) updated Information FSA analysis – GIG Engineering support: Developed analytic tools to support technical and performance analysis including 1) developed initial modeling and simulation tool for integrating TDES with other related network systems 2) updated capabilities of the IMS tool for new systems and host on classified and unclassified server platforms 3) analyzed NC CPM programs and capabilities dependencies and integration points and ensure their adherence to the GIG enterprise-wide technical architecture. – Joint Initiatives: Advanced Tactical Data Link (ATDL) Assessment Update to include: Refined analysis of total aerial network requirements, such as system throughput, single user throughput, performance in a jammed environment, latency, LPI/LPD/LPJ performance for non-low observable aircraft, and security. Incorporating: helicopters, ship /maritime MCO, phase 4 operations (stabilization and reconstruction), and platforms with Link 16 & ATDL into the study; and initiate MIDS JTRS/JTRS migration plan – Joint TDES migration: Technical oversight, planning and coordination of joint TDL interoperability and transformation including: 1) Provided insight of functionalities needed for technical data exchange in a warfighting environment; 2) Planned implementation of tactical information integration and configuration management; 3) Develop an ad hoc mobile net-centric tactical wireless architecture	19.873	20.466	20.954	0.000	20.954

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2011 Office of Secretary Of Defense	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604771D8Z: <i>Common Joint Tactical Information</i>
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**C. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>for 2020; 4)Assessed data link interoperability and networking performance; 5)Lead Joint team with OSD, JCS, DISA, COCOMs, Services, and Agencies for TDES migration to include integration and synchronization of NC CPM capabilities; 6) lead TDES teams to address transformation of the tactical gateways and the JINTACCS process</p> <ul style="list-style-type: none"> <li>– Joint and international engineering: 1) development of approved standards, protocols and processes incorporating end-to-end implementation and testing across programs 2) Conducted risk assessments and independent Program Assessments for NC Portfolio programs and capabilities 3 ) conducted risk assessments and Independent Program Assessments for NC programs</li> <li>– Joint Interoperability Enhancement Process (IEP): 1) conducted analytic evaluations to define and plan implementation of TDES technologies to include tactical information integration and configuration management 2) developed policy-based network management preferred system concept and methodology for enterprise situational awareness.</li> </ul> <p><i>FY 2010 Plans:</i></p> <ul style="list-style-type: none"> <li>– Provide Spectrum Support and oversight for TDES systems: Conduct analysis and provide department subject matter experts and representation to the national and international spectrum management boards and forums to ensure Joint Service access to TDES related spectrum to support worldwide operations and training in CONUS</li> <li>– Data Link Migration engineering support: Publish updated 2010 TDES migration plan including ISR and starting to include selected Allied data; using modeling and simulation capability to assess advanced data link capability integration to the GIG and the technical capabilities and the operational benefits of the advanced technologies.</li> <li>– Net Centric Engineering: Maintain and update the necessary Net Centric architecture and capabilities definition documents to include the following: 1) update Net Centric Architectures to reflect developments in waveform, enterprise services, information assurance, and knowledge management; 2) verify proper network performance; 3) Complete Information FSA analysis;</li> <li>– GIG Engineering support: Develop analytic tools to support technical and performance analysis including :1) model and simulate various conflict scenarios, showing network performance when</li> </ul>					

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604771D8Z: <i>Common Joint Tactical Information</i>
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**C. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>transitioning between aerial layer of network and GIG; 2)Update the IMS to reflect all airborne both manned and UAV) platforms as well as ground mobile networking systems; 3) conduct analysis to verify development of CDL backbone and Information Assurance (IA) technologies permit rapid, seamless exchange of large ISR data files from tactical edge to GIG and back.</p> <ul style="list-style-type: none"> <li>- Joint Initiatives: Advanced Tactical Data Link (ATDL) Assessment Updates to include: review of DoD efforts to develop an ATDL with greater system throughput and performance in a jammed environment; determination of which aircraft and other platforms should receive an ATDL; need for gateways to allow aircraft on ATDL to remain interoperable with aircraft that will notbe upgraded, within DoD and among allies</li> <li>- Joint TDES migration: Technical oversight, planning and coordination of joint TDL interoperability and transformation including: Continue the expansion of the TDES community participation including the incorporation of the ISR and UAS communities, and beginning the incorporation of Allied partners into the JTMP process.</li> <li>- Joint and International engineering: model and simulate various coalition aerial networks, showing interoperability between US aircraft in US-only nets, US aircraft in coalition networks, and allied aircraft ; oversight for the integration of data link interoperability with Allied systems</li> <li>- Joint Interoperability Enhancement Process (IEP): Update policy, directives and the analytic evaluation process to define and plan : 1) implementation of TDES technologies to include tactical information integration and configuration management 2) continues to develop policy-based network management preferred system concept and methodology for enterprise situational awareness</li> </ul> <p><i>FY 2011 Base Plans:</i></p> <ul style="list-style-type: none"> <li>- Provide Spectrum Support and oversight for TDES systems: Conduct analysis and provide department subject matter experts and representation to the national and international spectrum management boards and forums to ensure Joint Service access to TDES related spectrum to support worldwide operations and training in CONUS</li> </ul>					

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604771D8Z: <i>Common Joint Tactical Information</i>
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**C. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul style="list-style-type: none"> <li>- Data Link Migration Engineering Support: 1) Update 2010 TDES migration plan 2) develop modeling and simulation capability to support data link technical and operational capability assessments including integration to other components of the GIG</li> <li>- Net Centric Engineering: Maintain and update the necessary Net Centric architecture and capabilities definition documents to include the following: 1) update Net Centric Architectures to reflect developments in waveform, enterprise services, information assurance, and knowledge management; 2) verify proper network performance; 3) Complete Information FSA analysis;</li> <li>- GIG Engineering support: Develop analytic tools to support technical and performance analysis including :1) model and simulate various conflict scenarios, showing network performance when transitioning between aerial layer of network and GIG; 2)Update the IMS to reflect all airborne both manned and UAV platforms as well as ground mobile networking systems; 3) conduct analysis to verify development of CDL backbone and IA technologies permit rapid, seamless exchange of large ISR data files from tactical edge to GIG and back.</li> <li>- Joint Initiatives: Advanced Tactical Data Link (ATDL) Assessment Updates to include: review of DoD efforts to develop and test an ATDL with greater system throughput and performance in a jammed environment; assessments of Service plans to field aircraft and other platforms with an ATDL; assess the plan to field gateways to allow aircraft on ATDL to remain interoperable with aircraft that won't be upgraded, within DoD and Allies; and assess Allied participation alternatives for ATDL networks.</li> <li>- Joint TDES migration: Technical oversight, planning and coordination of joint TDL interoperability and transformation including: Continue the expansion of the TDES community participation including the incorporation of the ATDL with the associated gateway efforts and the enhanced Joint and Allied partnership within the JTMP process.</li> <li>- Joint and International engineering: model and simulate various coalition aerial networks, showing interoperability between US aircraft in US-only nets, US aircraft in coalition networks, and allied aircraft ; oversight for the integration of data link interoperability with Allied systems</li> <li>- Joint Interoperability Enhancement Process (IEP): Implement in the Joint community and standardize within Service processes the policy, directives and the analytic evaluation process to define and plan : 1) expansion of TDES technologies to include tactical information integration and</li> </ul>					

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604771D8Z: <i>Common Joint Tactical Information</i>
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<b>C. Accomplishments/Planned Program (\$ in Millions)</b>	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
configuration management 2) continue to develop policy-based network management preferred system concept and methodology for enterprise situational awareness  <i>FY 2011 OCO Plans:</i> N/A					
<b>Accomplishments/Planned Programs Subtotals</b>	19.873	20.466	20.954	0.000	20.954

**D. Other Program Funding Summary (\$ in Millions)**  
N/A

**E. Acquisition Strategy**  
 In executing JTDL tasking, existing cost-plus contracts will be utilized.  
 -driven reviews in support of the JCIDS, acquisition and PPBE processes

**F. Performance Metrics**  
 Enterprise-Wide Alignment: Accelerate DoD information age transformation to increase the effectiveness and efficiency of the warfighting, intelligence and business missions.  
 Measures:  
 - Timely development and issuance of policy and guidance  
 - Instantiation of enterprise-wide system engineering for the Global Information Grid across DoD

Portfolio Management: Provide for the timely and effective delivery of key Net-Centric capabilities through portfolio management  
 Measures:  
 - Key milestones completed for major net-centric acquisitions  
 - Number of major systems through net-centric event

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605027D8Z: <i>OUSD(C) IT Development Initiative</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	0.000	4.961	5.000	0.000	5.000	5.000	5.000	3.000	0.000	Continuing	Continuing
927: <i>Next Generation Resource Management System</i>	0.000	4.961	5.000	0.000	5.000	5.000	5.000	3.000	0.000	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

The Department's budget focuses on institutionalizing and financing our capabilities to fight the wars we are in today and the scenarios we are most likely to face in the years ahead, while at the same time providing a hedge against other risks and contingencies. It also begins a fundamental overhaul of the DoD's approach to procurement, acquisition, and contracting. As such, the complex details of budgeting and tracking of funds become increasingly critical to senior leader decision making and to provide accountability to the taxpayer. Incorporating information technology toward current and emerging business processes manifesting into a state-of-the-art system of systems will result in increasing efficiencies, timely diagnostics, and reducing lifecycle costs to maintain, sustain and repair.

Today, the Office of the Under Secretary of Defense Comptroller OUSD(C) and the Cost Analysis and Program Evaluation (CAPE) uses at least six distinct automated systems (Comptroller Information System (CIS), PBD Wizard, Program Resource Collection Process (PRCP), GWOT Resource Information Database (GRID)/ Supplemental Resource Collection Process (SRCP), Budget Exhibits Generator and Standard Data Collection System (SDCS) to formulate, justify, and execute DoD budgets. These six or more systems interact with at least several computer-based systems controlled by external organizations and agencies. These systems manage very similar financial information, yet each uses its own scheme for representing information. Much of the information managed by these systems is redundant. Cross-system data representations and redundancies make it difficult to exchange and to reconcile information. The capabilities provided by Comptroller systems, in some cases, fail to deliver services needed by its users, or fail to operate in ways that complement current and emerging business practices. They fail to give executives information in a comprehensible form, making it difficult to draw conclusions. Data disparities and functional redundancy make these systems more costly to keep than they need to be

There is a critical need for the development of a state-of-the-art information technology system to modernize and replace multiple, antiquated legacy systems and processes used to formulate, justify, present and defend the entire Department of Defense Budget in the Office of the Under Secretary of Defense (Comptroller) (OUSD(C)) to meet Title 10 and Title 31 mission and reporting requirements. The Comptroller's plan for mitigating the deficiencies and capability gaps associated with current systems is development of the Next Generation Resource Management System.

This initiative exploits emerging technology, processes, trends, capabilities, and techniques to incorporate state-of-the-art information technology enabling the ability, agility, and level of fidelity to collect, process, administrate and report resource management data and to automate business processes within a more robust analytical

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b>	<b>R-1 ITEM NOMENCLATURE</b>
0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i>	PE 0605027D8Z: <i>OUSD(C) IT Development Initiative</i>
BA 5: <i>Development &amp; Demonstration (SDD)</i>	

environment within the Office of the Under Secretary of Defense (Comptroller) OUSD(C). Not funding this effort increases the risks of critical system failures delaying programming/budget formulation and reporting. Funded efforts will improve the timeliness of resource management reviews and decisions for senior leaders and Congress

**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	0.000	5.000	0.000	0.000	0.000
Current President's Budget	0.000	4.961	5.000	0.000	5.000
Total Adjustments	0.000	-0.039	5.000	0.000	5.000
• Congressional General Reductions		0.000			
• 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			
• Program Adjustments	0.000	-0.039	5.000	0.000	5.000

**C. Accomplishments/Planned Program (\$ 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>
Next Generation Resource Management System	0.000	4.961	5.000	0.000	5.000
Plan, develop, test and evaluate the system components (i.e. unified database, expert system, cross domain security, enterprise service bus, applications, services) and supportability requirements in modernizing the budget formulation, programming execution and reporting capabilities for the Department of Defense. Activities will include, but not be limited to, the preparation all documentation required for Clinger-Cohen Compliance and acquisition regulations, developing requests for proposals, and oversight and management of contracts and deliverables.					

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2011 Office of Secretary Of Defense	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605027D8Z: <i>OUSD(C) IT Development Initiative</i>
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**C. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p><i>FY 2009 Accomplishments:</i> None</p> <p><i>FY 2010 Plans:</i> Conduct Business Process Review and Requirements Documentation - 2-4QFY10</p> <p>Request of Proposal – 2QFY10</p> <p>Expectation by end of FY10 is that contractor(s) will have reviewed and documented current and emerging business processes and requirements via interviews with all levels of staff. Product will incorporate recommended business redesign approaches as well as additional analytical capabilities and assessment of suggested strategies, ways and means to program, budget and report DoD funds with greatly enhanced effectiveness and efficiency. The resultant functional requirements and recommended business processes, validated by staff, will form a solid foundation for conducting market research in FY 11 to assess optimal means to exploit emerging technology, processes, trends, capabilities and techniques to incorporate state-of-the-art capabilities in the information technology industry.</p> <p><i>FY 2011 Base Plans:</i> Conduct Market Investigation - 1QFY11</p> <p>Develop Acquisition Documentation and Request of Proposal - 1-2QFY11</p> <p>Contract Award - 3QFY11 for three prototypes for demonstration and testing</p> <p>Expectation by end of FY11 is to down select from three prototypes to a Single Integrator to finish preliminary component and system design and demonstrate a complete operational system that includes a unified data warehouse, user friendly business logic architecture for programming and</p>					

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605027D8Z: <i>OUSD(C) IT Development Initiative</i>
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<b>C. Accomplishments/Planned Program (\$ in Millions)</b>	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
budgeting capabilities, analytics and reports, an expert knowledge-based system incorporating user friendly language interface, cross-domain security capability, and design and demonstration of high quality immersive graphical user interface that promotes learning and productivity.					
<b>Accomplishments/Planned Programs Subtotals</b>	0.000	4.961	5.000	0.000	5.000

**D. Other Program Funding Summary (\$ in Millions)**

N/A

**E. Acquisition Strategy**

Competitive contract for single integrator for design, development, test and evaluation for first two increments resulting in initial operating capability.

Once infrastructure in place, competitive contracts in the out years for individual services/applications.

**F. Performance Metrics**

N/A

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605140D8Z: <i>Trusted Foundry</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	39.464	50.808	35.512	0.000	35.512	35.539	35.819	36.325	36.753	Continuing	Continuing
Trusted Foundry: <i>P014</i>	39.464	50.808	35.512	0.000	35.512	35.539	35.819	36.325	36.753	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

The Department of Defense (DoD) and National Security Agency (NSA) require uninterrupted access to state-of-the-art design and manufacturing processes to produce custom integrated circuits designed specifically for military purposes. Under DODI 5200.39, integrated circuits in critical/essential systems need to be procured from trusted sources in order to avoid counterfeit, tampered, or sabotaged parts. Worldwide competition from foreign state-subsidized manufacturing facilities (foundries) is making fabless semiconductor companies the norm in the U.S. Sophisticated off-shore design and manufacturing facilities with engineering labor rates vastly less than engineering rates in the U.S. have resulted in outsourcing of electronics components and integrated circuits. These trends threaten the integrity and worldwide leadership of the U.S. semiconductor industry by eliminating many domestic on-shore suppliers and reducing access to trusted fabrication sources for advanced technology. These trends are of acute concern to the defense and intelligence community. Secure communications and cryptographic applications depend heavily upon high performance semiconductors where a generation of improvement can translate into a significant force multiplier and capability advantage. Important defense technology investments and demonstrations carry size, weight, power, and performance goals that can only be met through the use of the most sophisticated semiconductors.

The Trusted Foundry program provides DoD and NSA with trusted state-of-the-art microelectronics design and manufacturing capabilities necessary to meet the performance and delivery needs of their customers. The program will also provide the Services with a competitive cadre of trusted suppliers that will meet the needs of their mission critical/essential systems for trusted integrated circuit components. NSA, in their role as the Trusted Access Program Office, has successfully looked to commercial sources to satisfy their requirements. Access to trusted suppliers is imperative to ongoing and future DoD/NSA systems, and most centrally, Trusted Foundry access is absolutely necessary to meet secure communication and cryptographic needs for state-of-the-art semiconductor technologies.

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b>	<b>R-1 ITEM NOMENCLATURE</b>
0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i>	PE 0605140D8Z: <i>Trusted Foundry</i>
BA 5: <i>Development &amp; Demonstration (SDD)</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	42.360	41.223	0.000	0.000	0.000
Current President's Budget	39.464	50.808	35.512	0.000	35.512
Total Adjustments	-2.896	9.585	35.512	0.000	35.512
• Congressional General Reductions		0.000			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		10.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	-0.263	0.000			
• SBIR/STTR Transfer	-1.179	0.000			
• Other Program Adjustments	-1.454	-0.415	35.512	0.000	35.512

**Congressional Add Details (\$ in Millions, and Includes General Reductions)**

**Project:** Trusted Foundry: *P014*

Congressional Add: *Congressional add to the Trusted Foundry Program of \$10M*

Congressional Add Subtotals for Project: Trusted Foundry

Congressional Add Totals for all Projects

<b>FY 2009</b>	<b>FY 2010</b>
0.000	10.000
0.000	10.000
0.000	10.000

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605140D8Z: <i>Trusted Foundry</i>	<b>PROJECT</b> Trusted Foundry: <i>P014</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
Trusted Foundry: <i>P014</i>	39.464	50.808	35.512	0.000	35.512	35.539	35.819	36.325	36.753	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

The Department of Defense (DoD) and National Security Agency (NSA) require uninterrupted access to state-of-the-art design and manufacturing processes to produce custom integrated circuits designed specifically for military purposes. Under DODI 5200.39, integrated circuits in critical/essential systems need to be procured from trusted sources in order to avoid counterfeit, tampered, or sabotaged parts. Worldwide competition from foreign state-subsidized manufacturing facilities (foundries) is making fabless semiconductor companies the norm in the U.S. Sophisticated off-shore design and manufacturing facilities with engineering labor rates vastly less than engineering rates in the U.S. have resulted in outsourcing of electronics components and integrated circuits. These trends threaten the integrity and worldwide leadership of the U.S. semiconductor industry by eliminating many domestic on-shore suppliers and reducing access to trusted fabrication sources for advanced technology. These trends are of acute concern to the defense and intelligence community. Secure communications and cryptographic applications depend heavily upon high performance semiconductors where a generation of improvement can translate into a significant force multiplier and capability advantage. Important defense technology investments and demonstrations carry size, weight, power, and performance goals that can only be met through the use of the most sophisticated semiconductors.

The Trusted Foundry program provides DoD and NSA with trusted state-of-the-art microelectronics design and manufacturing capabilities necessary to meet the performance and delivery needs of their customers. The program will also provide the Services with a competitive cadre of trusted suppliers that will meet the needs of their mission critical/essential systems for trusted integrated circuit components. NSA, in their role as the Trusted Access Program Office, has successfully looked to commercial sources to satisfy their requirements. Access to trusted suppliers is imperative to ongoing and future DoD/NSA systems, and most centrally, Trusted Foundry access is absolutely necessary to meet secure communication and cryptographic needs for state-of-the-art semiconductor technologies.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Trusted Foundry	39.464	40.808	35.512	0.000	35.512

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605140D8Z: <i>Trusted Foundry</i>	<b>PROJECT</b> Trusted Foundry: <i>P014</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>components and services within the complete supply chain will be developed and made available to the defense community.</p> <p><i>FY 2011 Base Plans:</i> Establish a cadre of trusted suppliers for the critical trusted components and services needed for appropriate Defense systems. Enhance Trusted Foundry products to include key specialty processes requested by DoD programs, such as high voltage, extreme environments, and embedded non-volatile memory. Enhance trusted design activities to encompass new processing capabilities. Establish a line of trusted catalog components that can be purchased by Defense contractors.</p>					
<b>Accomplishments/Planned Programs Subtotals</b>	39.464	40.808	35.512	0.000	35.512

	FY 2009	FY 2010
<p>Congressional Add: Congressional add to the Trusted Foundry Program of \$10M</p> <p><i>FY 2010 Plans:</i> Additional funding will be applied to the tasks on the Trusted Foundry program consistent with the intentions of the congress.</p>	0.000	10.000
<b>Congressional Adds Subtotals</b>	0.000	10.000

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

N/A

**D. Acquisition Strategy**

NSA has negotiated a "commercial" capacity type IDIQ contract with IBM with 10 one year options. IBM will provide custom and semi-custom integrated circuit parts in production and prototype quantities to meet DoD/National Security Agency (NSA) leading edge integrated circuit needs. Additional suppliers of behind the leading edge production processes will be developed and accredited by the Defense Microelectronics Activity (DMEA) as Trusted Suppliers to provide program managers the

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b>	<b>R-1 ITEM NOMENCLATURE</b>	<b>PROJECT</b>
0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	PE 0605140D8Z: <i>Trusted Foundry</i>	Trusted Foundry: <i>P014</i>

flexibility to acquire trusted parts appropriate to the minimum risk and vulnerability of their particular system needs. Process IP will be obtained from trusted suppliers to assure the availability of parts over the long term.

**E. Performance Metrics**

N/A

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605140D8Z: <i>Trusted Foundry</i>	<b>PROJECT</b> Trusted Foundry: <i>P014</i>
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**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			
Aggregate Volume Purchase Agreements	MIPR	NSA Washington, DISTRICT OF COLUMBIA	25.982	26.544	Jan 2010	23.210	Jan 2011	0.000		23.210	Continuing	Continuing	Continuing
Form Partnerships with Suppliers to Improve the Infrastructure for Trust	MIPR	NSA Washington, DISTRICT OF COLUMBIA	6.873	7.132	Jan 2010	6.070	Jan 2011	0.000		6.070	Continuing	Continuing	Continuing
Accreditation of Trusted Suppliers	MIPR	NSA Washington, DISTRICT OF COLUMBIA	4.449	4.617	Jan 2010	3.928	Jan 2011	0.000		3.928	Continuing	Continuing	Continuing
Post 2012 Plans and Backup Operations	MIPR	NSA Washington, DISTRICT OF COLUMBIA	1.160	2.515	Jan 2010	2.304	Jan 2011	0.000		2.304	Continuing	Continuing	Continuing
Congressional Add	MIPR	NSA Washington, DISTRICT OF COLUMBIA	0.000	10.000	Jan 2010	0.000		0.000		0.000	Continuing	Continuing	Continuing
<b>Subtotal</b>			38.464	50.808		35.512		0.000		35.512			

**Remarks**

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**Exhibit R-4, RDT&E Schedule Profile: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605140D8Z: <i>Trusted Foundry</i>	<b>PROJECT</b> Trusted Foundry: <i>P014</i>
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	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Funding Received	■	■	■	■																								
Aggregate Volume Purchase Agreements	■	■	■	■	■	■	■	■	■	■	■	■																
Intellectual Property (IP)	■	■	■	■																								
Security Upgrades	■	■	■	■																								
Certify Trusted Suppliers	■	■	■	■																								
Funding Received (estimate)					■	■	■	■	■	■	■	■																
Form Partnerships with Suppliers to Improve the Infrastructure for Trust					■	■	■	■	■	■	■	■																
Accreditation of Trusted Suppliers					■	■	■	■	■	■	■	■																
Post 2012 Plans and Backup Operations					■	■	■	■	■	■	■	■																

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2011 Office of Secretary Of Defense		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605140D8Z: <i>Trusted Foundry</i>	<b>PROJECT</b> Trusted Foundry: <i>P014</i>

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Funding Received	1	2009	4	2009
Aggregate Volume Purchase Agreements	1	2009	4	2011
Intellectual Property (IP)	1	2009	4	2009
Security Upgrades	1	2009	4	2009
Certify Trusted Suppliers	1	2009	4	2009
Funding Received (estimate)	2	2010	4	2011
Form Partnerships with Suppliers to Improve the Infrastructure for Trust	2	2010	4	2011
Accreditation of Trusted Suppliers	2	2010	4	2011
Post 2012 Plans and Backup Operations	2	2010	4	2011

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605648D8Z: <i>Defense Acquisiton Executive (DAE)</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	5.392	4.232	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
P650: <i>Defense Acquisition Executive</i>	5.392	4.232	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

The purpose of the Defense Acquisition Executive (DAE) Pilot Program is to:

- Provide horizontal integration of operationally mature technologies supporting the U.S. Combatant Commands and provides initial sustainment into the joint force, until a Service or Defense Agency is able to maintain sustainment via an established Program of Record (POR).
- Use Defense-Wide Program Elements (PEs) in Research, Development, Test and Evaluation (RDT&E) Budget Activity (BA) 5 for System Development and Demonstration and Major Equipment, Procurement funds (PE 0902198D8Z) for initial acquisition of equipment.

A few of the attributes of the DAE Pilot program are:

- Addresses a 2006 Quadrennial Defense Review (QDR) priority as an enabler to transition products and capabilities to the U.S. Combatant Commands and Joint/Coalition Warfighters.
- Provides sustainment for critical operational "joint" capabilities of TRL 7 or greater maturity.
- Integrates into programs beyond Milestone B accelerating a mature technology during the System Development and Demonstration phase, providing an avenue for operationally mature prototypes.
- Fully integrates capabilities into an existing or new system being deployed resulting in greater success during Milestone C decision.
- Joint Automated Deep Operations Coordination System (JADOCS) was first DAE project. JADOCS integrates 20 Service and Defense Agency C4ISR systems creating an interoperable, joint Common Operating Picture (COP) and coordination capabilities that enable time-sensitive targeting. Since 2006 the DAE Pilot program has supported core JADOCS programs across the U.S. Combatant Commands as it prepares to transition to the Department's Enterprise C2 System/POR (currently envisioned to be GCCS-J).
- FY 2010 will support Agile Transportation 21 (AT21). AT21 is an operational logistics system at U.S. Transportation Command that has been identified for sustainment and transition to a new joint POR via the DAE Pilot.
- FY 2011 the Defense Acquisition Executive Pilot funding will transfer to the JCTD BA3 PE.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2011 Office of Secretary Of Defense	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605648D8Z: <i>Defense Acquisiton Executive (DAE)</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	5.851	4.267	0.000	0.000	0.000
Current President's Budget	5.392	4.232	0.000	0.000	0.000
Total Adjustments	-0.459	-0.035	0.000	0.000	0.000
• Congressional General Reductions		0.000			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	-0.035			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	-0.325	0.000			
• SBIR/STTR Transfer	-0.123	0.000			
• Other Adjustments	-0.011	0.000	0.000	0.000	0.000

**Change Summary Explanation**

In FY 2011 the Defense Acquisition Executive (DAE) Pilot program funding will be transferred to the JCTD BA3 PE 0603648D8Z.

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605648D8Z: <i>Defense Acquisition Executive (DAE)</i>	<b>PROJECT</b> P650: <i>Defense Acquisition Executive</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
<i>P650: Defense Acquisition Executive</i>	5.392	4.232	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**

The purpose of the Defense Acquisition Executive (DAE) Pilot Program is to:

- Provide horizontal integration of operationally mature technologies supporting the U.S. Combatant Commands and provides initial sustainment into the joint force, until a Service or Defense Agency is able to maintain sustainment via an established Program of Record (POR).
- Use Defense-Wide Program Elements (PEs) in Research, Development, Test and Evaluation (RDT&E) Budget Activity (BA) 5 for System Development and Demonstration and Major Equipment, Procurement funds (0902198D8Z) for initial acquisition of equipment.

A few of the attributes of the DAE Pilot program are:

- Addresses a 2006 Quadrennial Defense Review (QDR) priority as an enabler to transition products and capabilities to the U.S. Combatant Commands and Joint/Coalition Warfighters.
- Provides sustainment for critical operational "joint" capabilities of TRL 7 or greater maturity.
- Integrates into programs beyond Milestone B accelerating a mature technology during the System Development and Demonstration phase, providing an avenue for operationally mature prototypes.
- Fully integrates capabilities into an existing or new system being deployed resulting in greater success during Milestone C decision.
- Joint Automated Deep Operations Coordination System (JADOCS) was first DAE project. JADOCS integrates 20 Service and Defense Agency C4ISR systems creating an interoperable, joint Common Operating Picture (COP) and coordination capabilities that enable time-sensitive targeting.
- The DAE Pilot program supports core JADOCS programs across the U.S. Combatant Commands as it prepares to transition to the Net Enabled Command Capability (NECC) POR.
- The DAE Pilot Program in FY 2010 and FY 2011 will support Agile Transportation 21 (AT21). AT21 is an operational logistics system at U.S. Transportation Command that has been identified for sustainment and transition to a new joint POR via the DAE Pilot.

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

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605648D8Z: <i>Defense Acquisiton Executive (DAE)</i>	<b>PROJECT</b> P650: <i>Defense Acquisition Executive</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Joint Automated Deep Operations Coordination System (JADOCS)</p> <p>The Joint Automated Deep Operations Coordination System (JADOCS) is the Department's "go to war" system for targeting and fire support coordination. It is the first DAE pilot program the Department is sponsoring under this innovative process that will maintain the development of a capability coming out of a successful Advanced Concept Technology Demonstration (ACTD), but is not yet ready for a Service program of record. The outcome anticipated in JADOCS is a fully functioning, C4ISR capability that is seamlessly joint, integrating approximately 20 different Service and Agency systems into one common operational picture for the Combatant Commander (CoCOM). The Joint Automated Deep Operations Coordination System (JADOCS) is a successful product of a series of previous ACTDs, most notably the Theater Precision Strike Operations (TPSO) and Counter-Multiple Rocket Launcher (C-MRL) ACTDs. JADOCS has evolved into a joint warfighter system application with over 2,000 workstations and 3,000 users worldwide. It is presently embedded in the architecture at USCENTCOM, USPACOM, USFK, and USEUCOM, but has not been formally designated a program of record. JADOCS provides a critical warfighting capability for the CoComs, including use in OIF and OEF as a residual leave behind capability from the ACTD. This system was previously employed in U.S. Tsunami relief humanitarian efforts and recently began to support USNORTHCOM for C2 automation of Defense Support to Civil Authorities. JADOCS is the system used for Time Sensitive Targeting coordination within the USCENTCOM AOR. The JADOCS capability includes software, tactics, techniques, and procedures (TTP), and field support. JADOCS is managed by PEO C3Ts, PM Battle Command Fire Support Command and Control Program Office. The initial Automated Deep Operations Coordination System (ADOCS) system was renamed as the Joint Automated Deep Operations Coordination System (JADOCS) in FY 2005. In October 2005, the Army accepted joint responsibility to begin transition of JADOCS functionality into PM Battle Command Fire Support Command and Control and is being modernized and integrated into the Department's Enterprise C2 System/POR (currently envisioned to be GCCS-J). Until the transition is complete in 2009, JADOCS will continue to meet the critical requirements of the CoCom by providing enhanced automation support to command centers and component headquarters for horizontal and vertical interoperability of C4ISR systems in the areas of</p>	5.392	0.000	0.000	0.000	0.000

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605648D8Z: <i>Defense Acquisiton Executive (DAE)</i>	<b>PROJECT</b> P650: <i>Defense Acquisition Executive</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Strike Planning, Situational Awareness, Joint and Combined Interoperability, Joint Targeting, Force Transition in War, and Defense Support to Civil Authorities. The funds identified in the DAE Pilot program in FY 2007 through FY 2010 will enable modernization of the JADOCs architecture to ensure compatibility with the Army Battle Command System and the Department's Enterprise C2 System/POR (currently envisioned to be GCCS-J); continuing the JADOCs business model of responding to evolving urgent warfighter requirements with operational capabilities, and ensuring JADOCs remains a joint versus Service specific capability. In FY 2007 developed and fielded new operational capabilities in response to a USCENTCOM Urgent Needs Statement; Increased capability will address asymmetric threats faster. Provided prototype set of the Department's Enterprise C2 System/POR (currently envisioned to be GCCS-J); provided second generation CDE capability.</p> <p><i>FY 2009 Accomplishments:</i> Refined CENTCOM Urgent Needs Statement capabilities for improved targeting in an asymmetric warfighting environment; provided enhanced technical capability for the Department's Enterprise C2 System/POR (currently envisioned to be GCCS-J) program of record. Sustain operational use of JADOCs. Complete Military Utility Assessment of new CENTCOM targeting capabilities will be assessed. Continue final development preparation for transition to the Army.</p>					
<p>Agile Transportation for the 21st Century (AT21)</p> <p>The DAE Pilot Program in FY 2010 will support AT21 development, testing and accreditation activities. AT21 will implement standardized, repeatable business processes for transportation planning and transportation management with supporting information technology solutions at U.S. Transportation Command (USTRANSCOM) that have been identified for sustainment and transition to a new joint Program of Record (POR) via the DAE Pilot. The Commander, USTRANSCOM, as Distribution Process Owner, is responsible for the Defense Transportation System (DTS), which executes via a myriad of stove piped processes for managing movement requirements, lift asset availability, and execution planning. The DTS lacks an automated capability to match global movement requirements</p>	0.000	4.232	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense				<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0605648D8Z: <i>Defense Acquisiton Executive (DAE)</i>		<b>PROJECT</b> P650: <i>Defense Acquisition Executive</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>against available lift assets to produce an optimized transportation schedule that meets warfighter delivery requirements. There has been no DOD tool suite implemented that works across the Joint Planning and Execution Community to help produce enterprise executable distribution plans. The AT21 ACTD, conducted in 2003 – 2005, successfully demonstrated the use of commercial-off-the-shelf (COTS) technologies that automate and streamline business processes and demonstrate commercial best practices for transportation management.</p> <p>AT21 will provide continuous visibility, collaboration, automated processes, and alerts supporting transportation planning. When fully transitioned, it will provide opportunities to streamline cargo movement by optimizing capacity throughout the distribution network. To date, its Turbo Planner tool, developed in the ACTD, reduces administrative time in developing, reviewing, and adjudicating adaptive plans and crisis orders for the Joint Operation Planning and Execution System. USTRANSCOM transitioned the ACTD collaborative TPFDD planning tool, TransViz, in FY05 and initiated AT21 as a new program acquisition in FY06. TransViz subsequently transitioned to Global Command and Control System - Joint (GCCS-J) in 2007. The TransViz collaboration functionality is already in use in the USTRANSCOM Deployment and Distribution Operations Center, at U.S. Central Command (USCENTCOM), USCENTCOM Forward, USEUCOM and USSOUTHCOM in support of real-world deployment planning. TransViz is now a mature operational capability used by the U.S. Transportation Command and will be included in the Adaptive Planning and Execution environment.</p> <p>USTRANSCOM is currently conducting an acquisition for business process improvement and COTS configuration to provide transportation business process management using supporting COTS in FY10 – FY12 and anticipates contract award in 2nd QTR FY10. Program planning is underway to begin strategic transportation scheduling/optimization and theater capability development efforts in FY11.</p> <p><i>FY 2010 Plans:</i> FY 2010 Plans: By August 2010, AT21 will provide initial capability in support of strategic-level deployment planning for the Warfighter. The DAE Pilot funds will fund the AT21 Enterprise</p>								

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605648D8Z: <i>Defense Acquisiton Executive (DAE)</i>	<b>PROJECT</b> P650: <i>Defense Acquisition Executive</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>Integration Laboratory (EIL), which will ensure the capability is fully integrated functionally with the Joint Deployment Distribution Enterprise (JDDE), and technically, with the net-centric enterprise architecture.</p> <p>The AT21 EIL will provide a development, analysis and operational evaluation environment in which users and technical assessment personnel will evaluate AT21 capability development components in parallel with time-consuming certification and accreditation activities. The basis of the AT21 EIL is for the government to conduct and simulate real-world operations in as close to an operational setting as practicable to enable data, interface, technology installation, test, and evaluation activities to occur in a lower-risk setting and in parallel with user evaluation(s) thus reducing the time necessary to deploy the operational capability.</p> <p>Engineering support will configure and implement the technical environment required to incrementally test software releases for COTS business process management capability. Specifically, the engineering team will: Facilitate and coordinate with ongoing JDDE/command initiatives being conducted by USTRANSCOM, Transportation Component Commands, and supporting organizations to understand test objectives; develop technical specifications for hardware/software procurement in partnership with TCJ6 engineers for low and high-side; configuration. These funds will procure specified hardware/software; Office Automation Software; Server/Storage Hardware; BPM Software; Guard Configuration. Procure Space for Servers in Demilitarized Zone (DMZ) Install hardware/software identified in this paragraph; and test connectivity for the user community. Develop test plans and schedules; Support evaluation of the prototypes in an AT21 EIL environment by evaluating "goodness," suitability, and relevance to task/mission; provide training to government evaluators; provide technical support for the AT21 EIL environment; and utilize representative data to assess applicability to the JDDE. The developers will document findings in a technical assessment report; and document technical lessons learned.</p>						
Accomplishments/Planned Programs Subtotals		5.392	4.232	0.000	0.000	0.000

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

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u> <u>Base</u>	<u>FY 2011</u> <u>OCO</u>	<u>FY 2011</u> <u>Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 0902198D8Z: <i>JCTD Procurement</i>	1.957	1.938	1.920		1.920	1.940	1.964	1.999	2.035	Continuing	Continuing

**D. Acquisition Strategy**

The DAE Pilot will review and select the most promising "joint unique" JCTDs or ACTDs that do not neatly fit under a Service area of responsibility and provide resources to enable the smooth transition of a critical capability to the warfighter. The DAE will provide an avenue for joint and transformational capabilities that are not easily resourced by any one Service. The DAE pilot program aims to continue a logical progression of program phases and development in order to be suitable for full production and deployment to the warfighter. The DAE Pilot is part of the new JCTD model established in the FY 2006 President's Budget. Only the JCTDs that demonstrate the highest military utility and "operational like" maturity will be considered for the transition funding in the DAE BA5 PE. Many JCTDs will transition smoothly into a well identified program of record and not require funding from the DAE Pilot which is one of two components to the transition arm of the JCTD model. The DAE Pilot program will support selected joint capability technologies that are being integrated into programs that have passed Milestone B and are conducting engineering and manufacturing development to meet validated joint needs. The aim is to fully integrate these more mature capabilities into either an existing system or a new system being deployed. The result should be a successful Milestone C decision. With strong support from CoComs, ACTDs have enhanced joint capabilities providing an "on ramp" to conventional acquisition processes for joint needs in a system that emphasizes Service-sponsored core military capabilities. JCTDs will concentrate that effort with continued emphasis on transitioning demonstration-proven capabilities into Programs of Record (PoR) for sustainment of residuals and rapid acquisition and fielding of production models. Fitting the JCTD model strategy, the Joint Automated Deep Operations Coordination System (JADOCS) ACTD was selected as the first DAE Pilot project in FY 2006. JADOCS is under the purview of the Joint Precision Strike Demonstration (JPSD) program office and is providing new, enhanced automation support to command centers and component headquarters for horizontal and vertical interoperability of approximately twenty (20) C4ISR systems in the areas of Strike Planning, Situational Awareness, Joint and Combined Interoperability, and Force Transition in War. Currently, this joint capability has not been absorbed into a program of record prior to FY 2008. To the joint warfighter, JADOCS has become a critical "go to war" planning and engagement execution tool. It continues to be used in OEF and OIF. The JADOCS prototype system is operationally deployed in four CoCom theaters. It is integrated with each Military Service and several Defense Agencies, with a wide range of real-world applications, from the tactical to the strategic level. JADOCS has not been supported by the Services as a program of record; however, it has evolved into a joint warfighting system deployed to over 900 locations and employed by over 5,000 joint operators worldwide. While still a prototype, it is presently embedded in the C2 architecture at USCENTCOM, USPACOM, USFK, and USEUCOM.

The DAE Pilot Program in FY 2010 will support Agile Transportation 21 (AT21). AT21 is an operational logistics system at U.S. Transportation Command that has been identified for sustainment and transition to a new joint POR via the DAE Pilot.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense		<b>DATE:</b> February 2010
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**E. Performance Metrics**

I. System Integration Lab Configuration

Provide engineering support to configure and implement the technical environment required to incrementally test software releases for COTS business process management capability. Specifically, the engineering team will:

- 1.1. Facilitate and coordinate with ongoing command initiatives being conducted by USTRANSCOM, Transportation Component Commands, and supporting contractors to understand test objectives.
- 1.2. Develop technical specifications for hardware/software procurement in partnership with TCJ6 engineers for low and high-side configuration. Once approved by the government, procure specified hardware/software.
  - 1.2.1 Office Automation Software
  - 1.2.2 Server/Storage Hardware
  - 1.2.3 BPM Software
  - 1.2.4 Guard Configuration
- 1.3. Identify initial test data requirements / system feeds in partnership with TCJ6 engineers. Configured lab environment approved by TCJ6 and ready to conduct functional/ technical testing.

II. System Integration Lab Installation

- 2.1. Procure Space for Servers in Demilitarized Zone (DMZ)
  - 2.1. Install hardware/software identified in 1.2.
- 2.2. Test connectivity for user community  
User Community will have access to BPM Software Suite

III. Establish Data Feeds

- 3.1 Receive data sets from the IDE environment for inclusion in the Test Vignettes
  - 3.1.1 Receive IGC Data
  - 3.1.2 Receive Additional SMS data
  - 3.1.3 Receive CAMPS DataAutomated Daily Data Feed Recieved

IV. Test Vignettes

- 4.1. Develop test plans and schedules.

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<p>4.2. Support evaluation of the prototypes in a "lab" environment by evaluating "goodness," suitability, and relevance to task/mission; provide training to government evaluators; provide technical support for the lab environment; and utilize representative data to assess applicability to the JDDE. Document findings in a technical assessment report.</p> <p>4.3. Document technical lessons learned. Technical documentation for each test cycle, per the test schedule.</p>		

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

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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			
System Integration Laboratory	TBD/TBD	USTRANSCOM Scott AFB	0.000	2.000	Jan 2010	0.000		0.000		0.000	Continuing	Continuing	Continuing
<b>Subtotal</b>			0.000	2.000		0.000		0.000		0.000			

**Remarks**  
Transportation Component Commands, and supporting organizations to understand test objectives; develop technical specifications for hardware/software procurement in partnership with TCJ6 engineers for low and high-side; configuration. Once approved by the government, procure specified hardware/software; Office Automation Software; Server/Storage Hardware; BPM Software; Guard Configuration.

**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			
<b>Subtotal</b>			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 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605648D8Z: <i>Defense Acquisiton Executive (DAE)</i>	<b>PROJECT</b> P650: <i>Defense Acquisition Executive</i>
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**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			
Test and Evaluation	TBD/TBD	USTRANSCOM Scott AFB	0.000	2.232	Jan 2010	0.000		0.000		0.000	Continuing	Continuing	Continuing
<b>Subtotal</b>			0.000	2.232		0.000		0.000		0.000			

**Remarks**  
provide engineering support to configure and implement the technical environment required to incrementally test software releases for COTS business process management capability. Specifically, the engineering team will: Facilitate and coordinate with ongoing JDDE/command initiatives being conducted by USTRANSCOM, Transportation Component Commands, and supporting organizations

**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			
<b>Subtotal</b>			0.000	0.000		0.000		0.000		0.000			

**Remarks**

Project Cost Totals	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			
Project Cost Totals	0.000	4.232		0.000		0.000		0.000			

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**Exhibit R-3, RDT&E Project Cost Analysis:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605648D8Z: <i>Defense Acquisition Executive (DAE)</i>	<b>PROJECT</b> P650: <i>Defense Acquisition Executive</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
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**Remarks**

AT21 System Integration Laboratory (SIL) will provide an experimentation and operational evaluation environment in which users and technical assessment personnel would explore AT21 capability development components in parallel with time-consuming certification and accreditation activities. The basis of the EIL is for the government to conduct and simulate real-world operations in as close to an operational setting as practicable to enable data, interface, technology installation, test, and evaluation activities to occur in a lower-risk setting and in parallel with user evaluation(s) thus reducing the time necessary to deploy the operational capability.

Funds will provide engineering support to configure and implement the technical environment required to incrementally test software releases for COTS business process management capability. Specifically, the engineering team will: Facilitate and coordinate with ongoing JDDE/command initiatives being conducted by USTRANSCOM.

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**Exhibit R-4, RDT&E Schedule Profile: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605648D8Z: <i>Defense Acquisition Executive (DAE)</i>	<b>PROJECT</b> P650: <i>Defense Acquisition Executive</i>
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Event Name	FY 09				FY 10				FY 11				FY 12				FY 13				FY 14				FY 15			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
External Testing																												
Fielding Release																												
Internal Testing																												
Planning																												
Software Development																												
Support																												

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**Exhibit R-4A, RDT&E Schedule Details: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605648D8Z: <i>Defense Acquisiton Executive (DAE)</i>	<b>PROJECT</b> P650: <i>Defense Acquisition Executive</i>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Planning	1	2010	1	2010
Software Development	1	2010	2	2010
Internal Testing	2	2010	4	2010
External Testing	3	2010	4	2010
Fielding Release	4	2010	4	2010
Support	1	2009	4	2010

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0807708D8Z: <i>Wounded, Ill and Injured 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	15.645	1.596	1.590	0.000	1.590	1.579	1.574	1.590	1.600	Continuing	Continuing
877: <i>Wounded, Ill and Injured Program</i>	15.645	1.596	1.590	0.000	1.590	1.579	1.574	1.590	1.600	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

Case Management Systems IM/IT. Funding includes development of web-based tools for use in overseeing the Service member recovery and facilitating resolution of transition process issues. In FY 2008, the Departments of Defense and VA made significant progress leveraging the Veterans Tracking Application with access to existing Department of Defense Case Management (CM) tools and resources. The work will continued through FY 2009 with a prototype dashboard that leverages existing case management tools and resources in a single sign on construct. The work will continue in FY 2010 to include further enhancements of the prototype and integration of case management models. The Department of Defense's request includes funding for development of content management systems. Funding also includes further development of an on-going initiative to provide authorized Reserve Component medical personnel with the capability to read and document medical encounter information and order necessary medical tests, consults and procedures throughout a Service Member's continuum of care with AHLTA. Funding for establishing this capability across the Reserve Component will pay for the acquisition of hardware, development, testing, and implementation of remote access capability that includes remote access gateways, servers, associated licenses and capacity planning studies.

Justification: Non-medical Care Managers are responsible for provide oversight of welfare and quality of life issues. They assist the service member and family in resolving problems involving financial, administrative, personnel, and other non-medical issues that may occur during the recovery, rehabilitation and reintegration phases across the continuum of care. Full funding will provide the capability for DoD Case Managers to view non-clinical data on a Wounded Warriors from one location. FY 2009 funding began the implementation of the July 2007 Dole-Shalala Recommendations and initial development of the 2008 NDAA required comprehensive policy.

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0807708D8Z: <i>Wounded, Ill and Injured Program</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	15.645	1.609	0.000	0.000	0.000
Current President's Budget	15.645	1.596	1.590	0.000	1.590
Total Adjustments	0.000	-0.013	1.590	0.000	1.590
• Congressional General Reductions		0.000			
• 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			
• Other Program Adjustments	0.000	-0.013	1.590	0.000	1.590

**Change Summary Explanation**

None

**C. Accomplishments/Planned Program (\$ 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>
Case Management Systems IM/IT  Funding facilitates the discovery, analysis, and integration of existing DoD and VA web-based tools, and the development of a single application that will be used across the agencies to oversee the Service member recovery and facilitating resolution of transition process issues.  <i>FY 2009 Accomplishments:</i> In FY 2008, the Department of Defense and VA leveraged the Veterans Tracking Application with access to existing Department of Defense Case Management (CM) tools and resources. The work continued through FY 2009 with a prototype dashboard that leverages existing case management tools and resources in a single sign on construct.	15.645	0.976	0.970	0.000	0.970

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0807708D8Z: <i>Wounded, Ill and Injured Program</i>
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**C. 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 funding will pay for further enhancements of the prototype and integration of case management models. The Department of Defense's request includes funding for development of content management systems. Funding also includes further development of an on-going initiative to provide authorized Reserve Component medical personnel with the capability to read and document medical encounter information and order necessary medical tests, consults and procedures throughout a Service Member's continuum of care with AHLTA. Funding for establishing this capability across the Reserve Component will pay for the incremental acquisition of hardware, development, testing, and implementation of remote access capability that includes remote access gateways, servers, associated licenses and capacity planning studies.</p> <p><i>FY 2011 Base Plans:</i> Continues to funds the Reserve Component incremental implementation of remote access to AHLTA.</p>					
<p>Case Management Systems - Wounded, Ill, and Injured</p> <p>Non-Clinical Case Management Benefits Portal Development. This initiative provides public and secure web access to benefits and services supporting Wounded Warriors through a secure/interactive Web-based portal tailored to the needs of the Wounded Warrior, identifying both VA/DoD benefits and services important to a Wounded Warrior's recovery plan. The Portal customizes benefits information based upon user profiles to include display of benefits to support stage recovery and leverages existing VA/DoD business services/systems to create "One Pathway" for the Wounded Warrior so that they may more actively participate in their clinical recovery plan, and interfaces with their Individual Recovery Plan. In FY 2008 the Department of Defense and Veteran Affairs (DoD/VA) established a Portal presence with links to MyHealth-Vet, eLearning LMS, DoD's content management system, DoD's endeca search engine and pre-negotiated access for all members with the establishment of secure, single sign-on infrastructure.</p>	0.000	0.496	0.490	0.000	0.490

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0807708D8Z: <i>Wounded, Ill and Injured Program</i>
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**C. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p><i>FY 2009 Accomplishments:</i> Migration from links and viewable information toward the final product, implementation of common governance framework, single sign-on and tailored benefits access across federal agencies and civil sector based on user's profiles.</p> <p><i>FY 2010 Plans:</i> Content management, sustainment, and extensions to include additional portals as appropriate will be accomplished.</p> <p><i>FY 2011 Base Plans:</i> Content management, sustainment, and extensions to include additional portals as appropriate will be accomplished.</p>					
<p>Case Management Oversight - Wounded, Ill, and Injured</p> <p>Funds the OSD oversight arm of the development and implementation of comprehensive, uniform applications and standards across the Services and Agencies. The CMO staff provides policy, program and developmental oversight, strategic communications and relations, and ensures that Congressional reporting requirements are met. Pays for five (5) contractors to provide study and contract support functions to comply with the implementation of the Dole-Shalala (DS) Report and the 2008 NDAA.</p> <p><i>FY 2009 Accomplishments:</i> Funds the OSD oversight arm of the development and implementation of comprehensive, uniform applications and standards across the Services and Agencies. The CMO staff will provide policy, program and developmental oversight, strategic communications and relations, and will ensure that Congressional reporting requirements are met. Pays for five (5) contractors to provide study and contract support functions to comply with the implementation of the Dole-Shalala (DS) Report and the 2008 NDAA.</p>	0.000	0.124	0.130	0.000	0.130

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0807708D8Z: <i>Wounded, Ill and Injured Program</i>
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<b>C. Accomplishments/Planned Program (\$ in Millions)</b>	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p><i>FY 2010 Plans:</i> Sustains study and contract support functions to comply with the implementation of the Dole-Shalala (DS) Report and the 2008 NDAA.</p> <p><i>FY 2011 Base Plans:</i> Sustains study and contract support functions to comply with the implementation of the Dole-Shalala (DS) Report and the 2008 NDAA.</p>					
<b>Accomplishments/Planned Programs Subtotals</b>	15.645	1.596	1.590	0.000	1.590

**D. Other Program Funding Summary (\$ in Millions)**

N/A

**E. Acquisition Strategy**

N/A

**F. Performance Metrics**

N/A

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603757D8Z: <i>TRAINING TRANSFORMATION (T2)</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	54.380	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
758: <i>JOINT NATIONAL TRAINING CAPABILITY (JNTC)</i>	31.554	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
759: <i>JOINT TRAINING CAPABILITY ANALYSIS OF ALTERNATIVES (TCAoA)</i>	3.550	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
761: <i>JOINT SIMULATION SYSTEMS (JSS)</i>	9.276	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
764: <i>IRREGULAR WARFARE (IW)</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
769: <i>JOINT KNOWLEDGE DEVELOPMENT &amp; DISTRIBUTION CAPABILITY (JKDDC)</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
760: <i>JOINT COMBINED TRAINING CENTRE (JCTC)</i>	10.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

\*\*The PE will change to 0804767D8Z in FY10 and out. \*\*

These programs are part of a coordinated effort to develop and deploy capabilities for rapidly linking and integrating Live, Virtual, and Constructive (LVC) forces for Services, Combatant Commanders (COCOMs), coalition, and other government agencies. These programs will create a realistic battlespace environment in which to train as a Joint Warfighting force to meet emerging mission requirements including the Long War. These investments support the Secretary of Defense's (SECDEF) Training Transformation (T2) initiative to enable and enhance Joint Warfighting readiness by training as we intend to fight. The elements associated with this coordinated effort consist of:

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2011 Office of Secretary Of Defense		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603757D8Z: <i>TRAINING TRANSFORMATION (T2)</i>	
<ul style="list-style-type: none"><li>- Joint National Training Capability (JNTC)</li><li>- Training Capability Analysis of Alternatives (TCAoA)</li><li>- Joint Simulation Systems (JSS)</li><li>- Irregular Warfare (IW)</li><li>- Joint Knowledge Development &amp; Distribution Capability (JKDDC)</li></ul> <p>JNTC: Initially established in 2003, JNTC continues to develop and integrate Advanced Training Technologies (ATT) into a seamless Joint training environment. JNTC establishes the overarching Joint framework and context necessary for COCOMs and Services to achieve a Joint training environment through an integrated network of training sites and nodes. JNTC provides the common standards, architecture, and development processes required to link Joint training programs. By leveraging existing training programs or initiating specific actions, JNTC is providing credible opposing force capabilities and expanded access to assets typically unavailable to the training audience by integrating virtual or constructive representations of these capabilities. This furthers the integration of Joint training objectives into Service training events, while capturing the objective data necessary to provide a complete and accurate after action review. This program develops and enhances current and future Joint training enterprise capabilities.</p> <p>TCAoA: The TCAoA effort focuses on comparing current training capabilities with training requirements in order to identify gaps in our current Joint training capability, to identify alternatives for resolution and to assess the cost and effectiveness of these alternatives. Specifically, the TCAoA focuses on: (1) developing and integrating enhancements to the existing and programmed constructive simulations, (2) pursuing selected alternative training methodologies, (3) developing an innovative acquisition prototype, (4) developing solutions to implement recommendations from the Joint Staff's comprehensive study to re-engineer Joint training and (5) developing a clear management and oversight structure to meet future Joint training requirements. These efforts provide solutions to the 35 gaps and seams in Joint and Service training requirements identified by the COCOM's in the SECDEF 2004 TCAoA study. These efforts increase warfighter Joint training capabilities with improved constructive simulations and streamlined acquisition processes, leveraging industry training methodologies and technologies to provide on-demand Joint training tailorable to COCOM requirements for Joint Task Force headquarters staffs and individuals.</p> <p>JSS: This effort provides warfighters with enhanced Joint Live, Virtual, and Constructive (JLVC) based training capabilities resident in the Joint Force Trainer Toolkit (JFTT). The JFTT is a set of training enablers, and "certified systems" that are interoperable and acceptable for usage within the Joint training environment. The JFTT is a one-stop shop that enables Services, COCOMS, Agencies and Coalition partners to deliver trained, capable, and interoperable joint forces.</p> <p>Irregular Warfare (IW): 85% of the casualties in Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF) are from direct fire and improvised explosive devices in an IW environment. This research and development effort is aimed at closing training gaps at the tactical and operational level that will ensure our ground forces receive immersive pre-deployment training on par with that provided to our air, maritime, and Special Forces. The effort will research, develop and integrate technologies to enhance training for General Purpose Forces (GPF) to conduct IW operations through enhanced interagency teams, human terrain/cueing/profiling training, cultural awareness training, mixed reality training, and distributed training.</p>		

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603757D8Z: <i>TRAINING TRANSFORMATION (T2)</i>
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JKDDC Advanced Technologies: JKDDC's requirement is to develop a Joint Individual Training Toolkit of web enabled individual and small group training products and services. Products and services developed in response to JKDDC stakeholder (COCOMs, Services, and Combat Support Agencies) prioritized training requirements. JKDDC supports a career-long joint learning continuum, joint professional military education and tailored common training standards to Service members for tasks that are jointly executed, resulting in trained, capable, and interoperable joint forces. This supports advanced technology development and enhancement for the Joint Advanced Distributive Learning training community. JKDDC advanced technology initiatives principally include the Virtual Cultural Awareness Training (VCAT) web-based gaming and Immersive Learning Environments (ILES) small group training requirements, both accessible via the Joint Knowledge Online (JKO) Learning Management System (LMS). This capability facilitates the training and preparation of tens of thousands of military and civilian personnel deployed to combat theaters of operation prior to serving in their assigned Joint Task Force (JTF) billets. Specifically, VCAT supports one of the top three identified training shortcomings of returning warriors from United States Central Command (CENTCOM) based JTFs cultural awareness training. Joint Task Force 'Battle Staffs' will be adequately trained, warriors as individuals and the staffs collectively, based on ILES development, overcoming existent training inadequacies for joint warriors. Significant training deficiencies will be mitigated in critical 'go to war' tasks.

**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	58.009	0.000	0.000	0.000	0.000
Current President's Budget	54.380	0.000	0.000	0.000	0.000
Total Adjustments	-3.629	0.000	0.000	0.000	0.000
• Congressional General Reductions		0.000			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	-2.246	0.000			
• SBIR/STTR Transfer	-1.383	0.000			

**Congressional Add Details (\$ in Millions, and Includes General Reductions)**

**Project:** 758: *JOINT NATIONAL TRAINING CAPABILITY (JNTC)*

Congressional Add: *Integrated Analysis Environment*

Congressional Add: *Agile Software Capability Interventions*

Congressional Add: *Indiana complex Operations Partnership*

	<u>FY 2009</u>	<u>FY 2010</u>
	1.200	0.000
	1.600	0.000
	2.000	0.000

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603757D8Z: <i>TRAINING TRANSFORMATION (T2)</i>
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<u><b>Congressional Add Details (\$ in Millions, and Includes General Reductions)</b></u>	<b>FY 2009</b>	<b>FY 2010</b>
Congressional Add: <i>Playas Training &amp; Research Center</i>	4.800	0.000
Congressional Add Subtotals for Project: 758	9.600	0.000
<b>Project: 760: JOINT COMBINED TRAINING CENTRE (JCTC)</b>		
Congressional Add: <i>New Mexico University for Defense &amp; Public Policy</i>	10.000	0.000
Congressional Add Subtotals for Project: 760	10.000	0.000
Congressional Add Totals for all Projects	19.600	0.000

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY			R-1 ITEM NOMENCLATURE				PROJECT				
0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>			PE 0603757D8Z: <i>TRAINING TRANSFORMATION (T2)</i>				758: <i>JOINT NATIONAL TRAINING CAPABILITY (JNTC)</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
758: <i>JOINT NATIONAL TRAINING CAPABILITY (JNTC)</i>	31.554	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**

DoD directed United States Joint Forces Command (USJFCOM) to establish the Joint National Training Center Advanced Training Technology (JNTC/ATT) to develop future training concepts and capabilities. The mission is to develop robust RDT&E capabilities that integrate Live, Virtual, and Constructive (LVC) elements into a seamless Joint training environment. JNTC creates Joint warfighting conditions through a networked collection of interoperable training sites, ranges, and nodes that synthesize personnel, doctrine, and technology to deliver and achieve "Joint Context" for COCOM and Service training requirements. JNTC provides research and development (R&D) within an LVC distributed test-bed supporting the advancement of training technologies in the context of a Joint integrated battle space. The test bed operates as a continuous training R&D environment, providing the foundation for a distributed and deployable Mission Rehearsal System, integrating live Intelligence, Surveillance and Reconnaissance feeding the Common Operational Picture. These funds provide critical Joint/Coalition Service members and interagency partner's enhanced training to allow requisite enhancements to existing training systems, capabilities, and technologies. These enhancements improve training efficiencies and provide an integrated LVC environment. This capability precludes the necessity for conducting large-scale live exercises to achieve the SECDEF's T2 vision.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
P758 Joint National Training Center (JNTC)	21.954	0.000	0.000	0.000	0.000
<i>FY 2009 Accomplishments:</i> <ul style="list-style-type: none"> <li>• Completed deployable spiral 2 (tactical data link and voice/video capability) to provide an enterprise solution to enable near-real time and post event assessment of the Joint Warfighter's performance.</li> <li>• Continued to develop and integrate Chemical, Biological, Radiological, Nuclear, and Explosive capabilities into the Joint training environment.</li> </ul>					

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603757D8Z: <i>TRAINING TRANSFORMATION (T2)</i>	<b>PROJECT</b> 758: <i>JOINT NATIONAL TRAINING CAPABILITY (JNTC)</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul style="list-style-type: none"> <li>• Continued development and transition of an enhanced Computer Network Defense solution that enhances security during high risk events.</li> <li>• Certified eight Training Systems for interoperability with and integration into the Joint Training Enterprise thereby reducing costs and exercise preparation time.</li> <li>• Released Joint Rapid Scenario Generation target and infrastructure service for use in the Joint Training Enterprise. This activity will reduce training event support costs to Joint Forces Command, Combatant Commands and Service training elements by reducing or eliminating the need for duplicative target and infrastructure data producing services.</li> <li>• Released Joint Live Virtual Constructive Federation versions 2 and 3.</li> <li>• Implemented Net-Centric Enterprise Services (NCES) information exchanges with external commands, departments, and agencies by publishing and subscribing to information through web services.</li> <li>• OPFOR Capabilities: Concluded development and integration of the OPFOR Command &amp; Control (C2) network on the Fallon Range complex. Develop and integrate an OPFOR Command &amp; Control (C2) Network meeting Navy/USMC Joint Task Force Exercise requirements for the entire East Coast Range Complex. Upgrade Battlefield Communications Simulation System (BCSS) to provide additional Blue Force (BLUFOR) Intelligence, Surveillance &amp; Reconnaissance (ISR) training, tactics &amp; procedures (TTPs) opportunities. Transition upgrades into additional systems being procured for Air Force and Navy training programs. Continue developing traffic simulation algorithms and detailed behavioral models for the Information Operations Traffic Generator while expanding its use throughout the IO Range Network. Continue concealment, countermeasures and decoy (CCD) equipment capabilities and technologies development. Initiate transition planning for CCD technologies into training events. Initiate NextGen Multi-Spectral Threat Emitter system development. Continue developing and integrating full effective radiated power (ERP), reactive response, mobility and remote Command &amp; Control (C2) capabilities into existing systems. Transition these upgraded production variants into training events. Initiate Man Portable Air Defense System upgrade to a two color, Ultra-violet (UV) and Infrared (IR), capability for stimulating additional aircraft survivability equipment systems.</li> </ul>					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603757D8Z: <i>TRAINING TRANSFORMATION (T2)</i>	<b>PROJECT</b> 758: <i>JOINT NATIONAL TRAINING CAPABILITY (JNTC)</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<ul style="list-style-type: none"> <li>• Continued the development of the collaborative information environment tools, ensuring integration with the Net Centric Enterprise Services and products. Develop transition plans for the developed systems to integrate into Net Centric Enterprise Service solutions for Information/Knowledge Management Capabilities.</li> <li>• Completed research, planning and engineering to transition JTEN to NextGen JTEN and complete Global Information Grid (GIG) alignment of the JTEN.</li> <li>• Completed research to identify customer off the shelf/government off the shelf alternative means of extending the JTEN to remote/austere locations and locations where security constraints do not permit persistent installation of JTEN service delivery points.</li> <li>• Researched communication technologies that will facilitate the distribution of mixed reality training around the globe - moving electrons instead of people to ensure the warfighter's last training experience is as close to the real thing as possible.</li> <li>• Continued research and development efforts to mitigate or resolve identified Joint training cross-domain information sharing issues/shortfalls/gaps.</li> <li>• Developed and tested coalition training network reference architecture with the Navy and the Air Force.</li> </ul>						
Accomplishments/Planned Programs Subtotals		21.954	0.000	0.000	0.000	0.000
		<b>FY 2009</b>	<b>FY 2010</b>			
Congressional Add: Integrated Analysis Environment <i>FY 2009 Accomplishments:</i> Funding for Joint Forces Command		1.200	0.000			
Congressional Add: Agile Software Capability Interventions		1.600	0.000			

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603757D8Z: <i>TRAINING TRANSFORMATION (T2)</i>	<b>PROJECT</b> 758: <i>JOINT NATIONAL TRAINING CAPABILITY (JNTC)</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010
<i>FY 2009 Accomplishments:</i> Funding for Joint Forces Command		
Congressional Add: Indiana complex Operations Partnership <i>FY 2009 Accomplishments:</i> Funding for Joint Forces COmmand	2.000	0.000
Congressional Add: Playas Training & Research Center <i>FY 2009 Accomplishments:</i> Funding for Joint Forces Command	4.800	0.000
Congressional Adds Subtotals	9.600	0.000

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

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u> <u>Base</u>	<u>FY 2011</u> <u>OCO</u>	<u>FY 2011</u> <u>Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u> <u>Continuing</u>
• 0603757D8Z: <i>JNTC O&amp;M Funding</i>	58.464										

**D. Acquisition Strategy**

N/A

**E. Performance Metrics**

The USJFCOM Joint Warfighting Center (JWFC) Joint Force Trainer Enterprise Resource Planning Board (JFT ERPB) established in FY07 reviews all RDT&E equities. The JFT ERPB consists of senior technical, operational, program manager, and stake holder representatives within the Joint Force Trainer Community. The board's responsibilities encompass merging and prioritizing technical training requirements. It apportions work to the RDT&E elements based on an assessment of where the work is best accomplished. The board will evaluate the efficacy of development efforts based on performance metrics and will vote on whether or not to continue the

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense		<b>DATE:</b> February 2010
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<p>effort. This process will ensure the Joint Force Trainer capabilities development effort synchronizes with warfighter requirements. Performance metrics include, but are not limited to; time, money, realism, and fidelity as defined below:</p> <ul style="list-style-type: none"><li>• Time – Will the effort enable the Joint Force Trainer to prepare and execute training more timely than current capabilities allow?</li><li>• Cost – Will the effort enable the Joint Force Trainer to prepare and execute training at a more effective and efficient cost than current capabilities allow?</li><li>• Realism – Will the effort enable the Joint Force Trainer to create a training environment that is closer to the real world environment than current capabilities allow?</li><li>• Fidelity – Will the effort enable the Joint Force Trainer to create more detailed capabilities in the training environment than current capabilities allow?</li></ul> <p>The ERPB is the strategic management forum where the outcomes of performance relative to our external customers, stakeholders, and strategic stewardship of resources are the focus of discussion. Performance against the targets will be assessed and reported monthly, briefed quarterly to the ERPB, and rolled up into the JWFC Joint Training End-of-Fiscal Year Performance Report to ensure transparency and accountability.</p>		

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense								<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603757D8Z: <i>TRAINING TRANSFORMATION (T2)</i>				<b>PROJECT</b> 759: <i>JOINT TRAINING CAPABILITY ANALYSIS OF ALTERNATIVES (TCAoA)</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
759: <i>JOINT TRAINING CAPABILITY ANALYSIS OF ALTERNATIVES (TCAoA)</i>	3.550	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**

Joint Force Trainer supports development capabilities in Joint simulations to eliminate training gaps identified by the COCOMs and in accordance with SECDEF's T2 objectives. In accordance with the Unified Command Plan (2006), USJFCOM JWFC leads the development and implementation of system architectures that directly support distributed Joint training requirements of the other COCOMs, Joint Task Forces, and Defense Agencies. The underlying premise of TCAoA centers on privatization of training support and development with the competitive market forces driving the development of technologies to reduce the cost of training. The creation of a JFCOM Joint Oversight Board establishes a governance process to review the effectiveness of the tools and the providers. Management of the toolkit, which is a set of capabilities, and system certified technologies that are interoperable and acceptable for usage within the Joint training environment. This Joint Force Trainer Toolkit supports Joint Exercises, Doctrine, Lessons Learned, Distributed Learning and Modeling & Simulation will be a government-led Consortium with industry and academia that ensures the tools in the toolkit comply with the requirements of the common architecture. A number of emerging technologies from Industry, Government and Academic sources that offer the greatest potential to reengineer Joint training are considered for training use. These technologies include Light Simulations, Light Federations, Story-Driven Training, Massively-Multi-player Games, Training Objective Driven Simulation, Embedded Training, and Joint Community Unique Simulations

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

	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
P759 Joint Capability Analysis of Alternatives (TCAoA)	3.550	0.000	0.000	0.000	0.000
<i>FY 2009 Accomplishments:</i>					
• Provided additional CERFP recertification training to the CERFP teams at Columbus, Ohio [March], Omaha, Nebraska [June], and Arden Hills, Minnesota [September].					

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul style="list-style-type: none"> <li>• Established open standards for data models and federation object models to reduce integration costs.</li> <li>• Developed prototype COCOM training capabilities based on the following technologies; Massively Multiplayer Games, Story-Driven Training, and Light Simulations/Federations.</li> <li>• Developed a use case for training United States Africa Command (AFRICOM) staff in mission rehearsal using non-kinetic scenarios.</li> <li>• Developed criteria for training situations and metrics for evaluation of training.</li> <li>• Integrated Real World software virtual environment into the Small Unit Immersive Training Environment (SUITE) Joint Capability Technology Demonstration (JCTD).</li> </ul>					
<b>Accomplishments/Planned Programs Subtotals</b>	3.550	0.000	0.000	0.000	0.000

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

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• 0603757D8Z: <i>Joint TRaining Capability Analysis of Alternatives (TCAoA)</i>	0.000									Continuing	Continuing

**D. Acquisition Strategy**

N/A

**E. Performance Metrics**

The USJFCOM Joint Warfighting Center (JWFC) Joint Force Trainer Enterprise Resource Planning Board (JFT ERPB) established in FY07 reviews all RDT&E equities. The JFT ERPB consists of senior technical, operational, program manager, and stake holder representatives within the Joint Force Trainer Community. The board's responsibilities encompass merging and prioritizing technical training requirements. It apportions work to the RDT&E elements based on an assessment of where the work is best accomplished. The board will evaluate the efficacy of development efforts based on performance metrics and will vote on whether or not to continue the effort. This process will ensure the Joint Force Trainer capabilities development effort synchronizes with warfighter requirements. Performance metrics include, but are not limited to; time, money, realism, and fidelity as defined below:

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense		<b>DATE:</b> February 2010
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<ul style="list-style-type: none"><li>• Time – Will the effort enable the Joint Force Trainer to prepare and execute training more timely than current capabilities allow?</li><li>• Cost – Will the effort enable the Joint Force Trainer to prepare and execute training at a more effective and efficient cost than current capabilities allow?</li><li>• Realism – Will the effort enable the Joint Force Trainer to create a training environment that is closer to the real world environment than current capabilities allow?</li><li>• Fidelity – Will the effort enable the Joint Force Trainer to create more detailed capabilities in the training environment than current capabilities allow?</li></ul> <p>The ERPB is the strategic management forum where the outcomes of performance relative to our external customers, stakeholders, and strategic stewardship of resources are the focus of discussion. Performance against the targets will be assessed and reported monthly, briefed quarterly to the ERPB, and rolled up into the JWFC Joint Training End-of-Fiscal Year Performance Report to ensure transparency and accountability.</p>		

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603757D8Z: <i>TRAINING TRANSFORMATION (T2)</i>	<b>PROJECT</b> 761: <i>JOINT SIMULATION SYSTEMS (JSS)</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
761: <i>JOINT SIMULATION SYSTEMS (JSS)</i>	9.276	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**

In accordance with Secretary of Defense tasking JSS will fund research, development, testing and integration of enhancements to Joint simulations that eliminate COCOM identified training shortfalls. USJFCOM leads the development, integration, and operation of systems and architectures that directly support distributed Joint training requirements of other COCOMs, Joint Task Forces, and Defense Agencies. To that end, JSS provides the Joint training environment with the ability to insert emerging research and development technology to enhance existing systems in Joint, Live, Virtual and Constructive (JLVC).

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
P761 Joint Simulation System <i>FY 2009 Accomplishments:</i>	9.276	0.000	0.000	0.000	0.000
<ul style="list-style-type: none"> <li>• Released version 2.0 of the Joint Multi-Resolution Model Federation as part of the Joint Trainer Toolkit. This capability will improve tactical-to-operation level of warfare interactions and incorporate additional logistics and intelligence functionality.</li> <li>• Enhanced logistics modeling-and-simulation capabilities to fully support global deployment requirements of U.S. Transportation Command.</li> <li>• Implemented a civilian infrastructure model in the Joint Theater Level Simulation.</li> <li>• Implemented a psychological operations capability in the Joint, Live, Virtual, and Constructive Federation.</li> <li>• Established data services for terrain, targeting, and infrastructure, to provide faster and higher-fidelity mission rehearsals.</li> </ul>					
Accomplishments/Planned Programs Subtotals	9.276	0.000	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense		<b>DATE:</b> February 2010
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**C. Other Program Funding Summary (\$ in Millions)**

N/A

**D. Acquisition Strategy**

N/A

**E. Performance Metrics**

The USJFCOM Joint Warfighting Center (JWFC) Joint Force Trainer Enterprise Resource Planning Board (JFT ERPB) established in FY07 reviews all RDT&E equities. The JFT ERPB consists of senior technical, operational, program manager, and stake holder representatives within the Joint Force Trainer Community. The board's responsibilities encompass merging and prioritizing technical training requirements. It apportions work to the RDT&E elements based on an assessment of where the work is best accomplished. The board will evaluate the efficacy of development efforts based on performance metrics and will vote on whether or not to continue the effort. This process will ensure the Joint Force Trainer capabilities development effort synchronizes with warfighter requirements. Performance metrics include, but are not limited to; time, money, realism, and fidelity as defined below:

- Time – Will the effort enable the Joint Force Trainer to prepare and execute training more timely than current capabilities allow?
- Cost – Will the effort enable the Joint Force Trainer to prepare and execute training at a more effective and efficient cost than current capabilities allow?
- Realism – Will the effort enable the Joint Force Trainer to create a training environment that is closer to the real world environment than current capabilities allow?
- Fidelity – Will the effort enable the Joint Force Trainer to create more detailed capabilities in the training environment than current capabilities allow?

The ERPB is the strategic management forum where the outcomes of performance relative to our external customers, stakeholders, and strategic stewardship of resources are the focus of discussion. Performance against the targets will be assessed and reported monthly, briefed quarterly to the ERPB, and rolled up into the JWFC Joint Training End-of-Fiscal Year Performance Report to ensure transparency and accountability.

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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
764: <i>IRREGULAR WARFARE (IW)</i>	0.000	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**

There is an immediate and critical need to develop immersive training solutions for small combat units to conduct Irregular Warfare (IW) operations in complex urban and restrictive terrain environments. The U.S. military's dominance in traditional modes of combat has pushed its adversaries toward irregular and asymmetric tactics. Moreover, the threat environment is becoming increasingly complex due to mega-urbanization, the presence of large numbers of noncombatants in any military action, and the evolving dynamics of the information environment. Meeting the challenges of the current and future IW environment requires more tactically-enhanced small combat units. Hence, the Department of Defense must prepare small combat unit leaders/leader teams to make tactical and ethical decisions that carry significant strategic implications. Additionally, leaders and staffs at all levels must understand their role in supporting this type of fight: one that can move from non-kinetic to kinetic and back in seconds, and one where the people are the battlefield and not just collateral actors. Accordingly, DoD must specifically train and broadly educate its joint forces to understand cultures and populations, to thrive in chaotic environments, to recognize and respond creatively to dynamic and demanding situations, and to operate with coalition, interagency, and host nation partners as the norm and not the exception. To accomplish IW training objectives, the Department requires training facilities that fully immerse the lower-level units in a live, virtual, and constructive training environment that replicates as closely as possible the conditions of today's and tomorrow's battlefield. These training facilities must allow the unit to utilize the full range of assets that will be available to them in actual missions including their individual equipment, individual and crew-served weapons, command and control systems, navigation systems, and target location/designation systems. It will link joint enablers such as Intelligence, Surveillance & Reconnaissance (ISR) and joint fires from many different locations across the joint force, as well as link training units' company, battalion, and regiment/brigade, which may also be conducting immersion training simultaneously. The need is to identify those common training needs and solutions that require a Joint approach across the Services. The strategy will be to leverage and integrate the existing and emerging Coalition, Inter-agency, Service and COCOM capabilities that can address the needs of the warfighter to train in an IW environment.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
P764 Irregular Warfare	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 2009 Accomplishments:</i> N/A					
Accomplishments/Planned Programs Subtotals	0.000	0.000	0.000	0.000	0.000

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

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• 0603757D8Z: <i>IW O&amp;M Funding</i>	0.000									Continuing	Continuing
• 0603757D8Z - : <i>IW Procurement funding</i>	0.000									Continuing	Continuing

**D. Acquisition Strategy**

N/A

**E. Performance Metrics**

The USJFCOM Joint Warfighting Center (JWFC) Joint Force Trainer Enterprise Resource Planning Board (JFT ERPB) established in FY07 reviews all RDT&E equities. The JFT ERPB consists of senior technical, operational, program manager, and stake holder representatives within the Joint Force Trainer Community. The board's responsibilities encompass merging and prioritizing technical training requirements. It apportions work to the RDT&E elements based on an assessment of where the work is best accomplished. The board will evaluate the efficacy of development efforts based on performance metrics and will vote on whether or not to continue the effort. This process will ensure the Joint Force Trainer capabilities development effort synchronizes with warfighter requirements. Performance metrics include, but are not limited to; time, money, realism, and fidelity as defined below:

- Time – Will the effort enable the Joint Force Trainer to prepare and execute training more timely than current capabilities allow?
- Cost – Will the effort enable the Joint Force Trainer to prepare and execute training at a more effective and efficient cost than current capabilities allow?
- Realism – Will the effort enable the Joint Force Trainer to create a training environment that is closer to the real world environment than current capabilities allow?
- Fidelity – Will the effort enable the Joint Force Trainer to create more detailed capabilities in the training environment than current capabilities allow?

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b>	<b>R-1 ITEM NOMENCLATURE</b>	<b>PROJECT</b>
0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	PE 0603757D8Z: <i>TRAINING TRANSFORMATION (T2)</i>	764: <i>IRREGULAR WARFARE (IW)</i>

The ERPB is the strategic management forum where the outcomes of performance relative to our external customers, stakeholders, and strategic stewardship of resources are the focus of discussion. Performance against the targets will be assessed and reported monthly, briefed quarterly to the ERPB, and rolled up into the JWFC Joint Training End-of-Fiscal Year Performance Report to ensure transparency and accountability.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense								<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603757D8Z: <i>TRAINING TRANSFORMATION (T2)</i>				<b>PROJECT</b> 769: <i>JOINT KNOWLEDGE DEVELOPMENT &amp; DISTRIBUTION CAPABILITY (JKDDC)</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
769: <i>JOINT KNOWLEDGE DEVELOPMENT &amp; DISTRIBUTION CAPABILITY (JKDDC)</i>	0.000	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**

The Departments requirement is to develop a Joint Individual Training Toolkit of web enabled individual and small group training products and services. Products and services are developed in response to JKDDC stakeholder (COCOMs, Services, and Combat Support Agencies) prioritized training requirements. JKDDC supports a career-long joint learning continuum, joint professional military education and tailored common training standards to Service members for tasks that are jointly executed, resulting in trained, capable, and interoperable joint forces. This supports advanced technology development and enhancement for the Joint Advanced Distributive Learning training community. JKDDC advanced technology initiatives principally include the Virtual Cultural Awareness Training (VCAT) web-based gaming and Immersive Learning Environments (ILES) small group training requirements, both accessible via the Joint Knowledge Online (JKO) Learning Management System (LMS). This capability facilitates the training and preparation of tens of thousands of military and civilian personnel deployment to combat theaters of operation prior to serving in their assigned Joint Task Force (JTF) billets. Specifically, VCAT supports one of the top three identified training shortcomings of returning warriors from United States Central Command (CENTCOM) based JTFs (cultural awareness training). JTF 'battle staffs' will be adequately trained, warriors as individuals and the staffs collectively, based on ILES development, overcoming existent training inadequacies for joint warriors. Significant training deficiencies will be mitigated in critical 'go to war' tasks.

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

	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
P769 Joint Knowledge Development & Distribution Capability (JKDDC)	0.000	0.000	0.000	0.000	0.000
<i>FY 2009 Accomplishments:</i> N/A					
<b>Accomplishments/Planned Programs Subtotals</b>	0.000	0.000	0.000	0.000	0.000

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603757D8Z: <i>TRAINING TRANSFORMATION (T2)</i>	<b>PROJECT</b> 769: <i>JOINT KNOWLEDGE DEVELOPMENT &amp; DISTRIBUTION CAPABILITY (JKDDC)</i>
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**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u> <u>Base</u>	<u>FY 2011</u> <u>OCO</u>	<u>FY 2011</u> <u>Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 0603757D8Z: <i>JKDDC O&amp;M Funding</i>	10.004									Continuing	Continuing
• 0306757D8Z-: <i>JKDD Procurement Funding</i>	0.000									Continuing	Continuing

**D. Acquisition Strategy**

N/A

**E. Performance Metrics**

The USJFCOM Joint Warfighting Center (JWFC) Joint Force Trainer Enterprise Resource Planning Board (JFT ERPB) established in FY07 reviews all RDT&E equities. The JFT ERPB consists of senior technical, operational, program manager, and stake holder representatives within the Joint Force Trainer Community. The board's responsibilities encompass merging and prioritizing technical training requirements. It apportions work to the RDT&E elements based on an assessment of where the work is best accomplished. The board will evaluate the efficacy of development efforts based on performance metrics and will vote on whether or not to continue the effort. This process will ensure the Joint Force Trainer capabilities development effort synchronizes with warfighter requirements. Performance metrics include, but are not limited to; time, money, realism, and fidelity as defined below:

- Time – Will the effort enable the Joint Force Trainer to prepare and execute training more timely than current capabilities allow?
- Cost – Will the effort enable the Joint Force Trainer to prepare and execute training at a more effective and efficient cost than current capabilities allow?
- Realism – Will the effort enable the Joint Force Trainer to create a training environment that is closer to the real world environment than current capabilities allow?
- Fidelity – Will the effort enable the Joint Force Trainer to create more detailed capabilities in the training environment than current capabilities allow?

The ERPB is the strategic management forum where the outcomes of performance relative to our external customers, stakeholders, and strategic stewardship of resources are the focus of discussion. Performance against the targets will be assessed and reported monthly, briefed quarterly to the ERPB, and rolled up into the JWFC Joint Training End-of-Fiscal Year Performance Report to ensure transparency and accountability.

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603757D8Z: <i>TRAINING TRANSFORMATION (T2)</i>	<b>PROJECT</b> 760: <i>JOINT COMBINED TRAINING CENTRE (JCTC)</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
760: <i>JOINT COMBINED TRAINING CENTRE (JCTC)</i>	10.000	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**

Supports USPACOM execution of SECDEF initiative with Australian Defence Forces to strengthen bilateral cooperation by enhancing the Joint Combined Training Capability (JCTC). Provides for design and implementation of prototype solutions for US-Australian forces to train at instrumented Force-on-Force, Joint Fires, and Electronic Warfare ranges in Australia that will be fully interoperable with and extend the capabilities of USJFCOM's Joint National Training Capability.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
P760 Joint Combined Training Center (JCTC) <i>FY 2009 Accomplishments:</i> FY 2009 Accomplishments: Planned activities: <ul style="list-style-type: none"> <li>• Conduct a technical study to determine the next phases for developing the Shoal Water Bay Training Area (SWBTA) for instrumented, live, force-on-force engagements and training by U.S. and Australia Defense Forces (ADF).</li> <li>• Complete site surveys, technical research, and prototype designs for fully instrumented, remotely observable joint fires ranges with distributed control measures at the Bradshaw Field Training Area (BFTA) in Northern Australia and the Cutana Training Area (CUTA) in Southern Australia.</li> <li>• Conduct a telecommunications study to develop a technical solution to connect BFTA's synthetic environment to the Australian Defense Training and Experimentation Network (DTEN) and USJFCOM's Joint Training and Experimentation Network (JTEN) in support of US-Australian forces training and exercising in Australia or distributively throughout the Pacific theater.</li> </ul>	0.000	0.000	0.000	0.000	0.000

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603757D8Z: <i>TRAINING TRANSFORMATION (T2)</i>	<b>PROJECT</b> 760: <i>JOINT COMBINED TRAINING CENTRE (JCTC)</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul style="list-style-type: none"> <li>• Conduct a follow-on telecommunications study to develop a technical solution to link multiple synthetic environments created throughout Australia (including SWBTA, BFTA, and CUTA) with the Australian DTEN and USJFCOM JTEN in support of US-Australian forces training and exercising in Australia or distributively throughout the Pacific theater.</li> <li>• Provide technical advice and assistance to develop a deployable Exercise Control Center to command and control activities of US-Australian forces training and exercising in Australia or distributively throughout the Pacific theater.</li> </ul>					
<b>Accomplishments/Planned Programs Subtotals</b>	0.000	0.000	0.000	0.000	0.000

	FY 2009	FY 2010
Congressional Add: New Mexico University for Defense & Public Policy <i>FY 2009 Accomplishments:</i> Funding for Joint Forces Command	10.000	0.000
<b>Congressional Adds Subtotals</b>	10.000	0.000

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

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• 0603757D8Z: <i>JCTC O&amp;M Funding</i>	2.160									Continuing	Continuing

**D. Acquisition Strategy**

N/A

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603757D8Z: <i>TRAINING TRANSFORMATION (T2)</i>	<b>PROJECT</b> 760: <i>JOINT COMBINED TRAINING CENTRE (JCTC)</i>

**E. Performance Metrics**

The USJFCOM Joint Warfighting Center (JWFC) Joint Force Trainer Enterprise Resource Planning Board (JFT ERPB) established in FY07 reviews all RDT&E equities. The JFT ERPB consists of senior technical, operational, program manager, and stake holder representatives within the Joint Force Trainer Community. The board's responsibilities encompass merging and prioritizing technical training requirements. It apportions work to the RDT&E elements based on an assessment of where the work is best accomplished. The board will evaluate the efficacy of development efforts based on performance metrics and will vote on whether or not to continue the effort. This process will ensure the Joint Force Trainer capabilities development effort synchronizes with warfighter requirements. Performance metrics include, but are not limited to; time, money, realism, and fidelity as defined below:

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- Cost – Will the effort enable the Joint Force Trainer to prepare and execute training at a more effective and efficient cost than current capabilities allow?
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- Fidelity – Will the effort enable the Joint Force Trainer to create more detailed capabilities in the training environment than current capabilities allow?

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b>			<b>R-1 ITEM NOMENCLATURE</b>								
0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>			PE 0604774D8Z: <i>Defense Readiness Reporting System (DRRS)</i>								
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	11.300	15.247	5.113	0.000	5.113	6.825	6.602	6.698	6.788	Continuing	Continuing
<i>774: Defense Readiness Reporting System (DRRS)</i>	11.300	15.247	5.113	0.000	5.113	6.825	6.602	6.698	6.788	Continuing	Continuing

**Note**

Estimates for FY2011 thru FY2015 were modified to reflect the economic adjustment change imposed in Dec '09.

**A. Mission Description and Budget Item Justification**

This funding supports Defense Planning Guidance (DPG) directing the Department of Defense (DoD) components to develop guidelines and procedures for a comprehensive readiness reporting system that evaluates readiness on the basis of the actual missions and capabilities assigned to the forces. The Defense Readiness Reporting System (DRRS) establishes a capabilities-based, adaptive, near real-time readiness information system for the DoD. This system is being designed to measure the readiness of military forces and supporting infrastructure to meet missions and goals assigned by the Secretary of Defense. DRRS also hosts information and applications used to support Joint Forces Command (JFCOM), Transportation Command (TRANSCOM), Special Operations Command (SOCOM) and Strategic Command (STRATCOM) in their roles as the Joint Force Providers.

The transformation of readiness reporting into a new comprehensive readiness system presents a number of significant challenges. First, there are thousands of new potential reporting entities to include in DRRS, such as Combatant Commands, Joint Task Forces, Services, Active and Reserve component units, installations, depots, ports, and major elements of the industrial base. These entities must not only define and implement reporting based on specific readiness metrics, but they must make their readiness status continuously available in near real time to DRRS. Second, the current National Military Strategy (NMS) makes substantially more complex demands on readiness reporting.

Instead of basing readiness on traditional MTW-based scenarios, the NMS asks us to contemplate readiness for an entire range of operational forms, and to design DRRS to assess global readiness impact based on our integrated ability to project and sustain a mix of constructed forces in simultaneous engagements. Finally, Operation Iraqi Freedom and Operation Enduring Freedom sourcing challenges mean that force managers need applications that will query the entire Department for suitable, available organizations to meet current needs. The need for these applications and the underlying data are a top priority for the DRRS project.

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604774D8Z: <i>Defense Readiness Reporting System (DRRS)</i>
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The realization of DRRS requires integrating a host of key technologies in order to achieve an information system that supports distributed, collaborative, and dynamic readiness reporting in addition to continuous tool-based assessment. The primary technical goal is the creation of a highly reliable and securely integrated readiness data environment to leverage and extend current readiness information systems. This system is based on intelligent agents, dynamic databases, semantic middleware, and publish/subscribe concepts; providing a logically uniform view into the multiple databases and information sources that feed DRRS. Crucially, through this type of advanced information environment, we dramatically expand the range of readiness queries that DRRS can be able to handle. This environment supports a suite of analysis tools that allow users to explore the consequences of readiness deficiencies in terms of the ability to generate forces and assess transportation feasibility as it pertains to specific scenarios. These tools and tool suites harness the power of the information environment to make possible the kind of quick-turnaround, excursion-driven readiness assessment that is at the heart of DRRS.

**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	11.322	13.121	0.000	0.000	0.000
Current President's Budget	11.300	15.247	5.113	0.000	5.113
Total Adjustments	-0.022	2.126	5.113	0.000	5.113
• Congressional General Reductions		0.000			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		2.126			
• Congressional Directed Transfers		0.000			
• Reprogrammings	-0.022	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Program Adjustments	0.000	0.000	5.113	0.000	5.113

**Congressional Add Details (\$ in Millions, and Includes General Reductions)**

**Project:** 774: *Defense Readiness Reporting System (DRRS)*

Congressional Add: *DRRS*

Congressional Add Subtotals for Project: 774

	<u>FY 2009</u>	<u>FY 2010</u>
	0.000	2.126
	0.000	2.126

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604774D8Z: <i>Defense Readiness Reporting System (DRRS)</i>
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<b><u>Congressional Add Details (\$ in Millions, and Includes General Reductions)</u></b>	<b>FY 2009</b>	<b>FY 2010</b>
Congressional Add Totals for all Projects	0.000	2.126

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY			R-1 ITEM NOMENCLATURE				PROJECT				
0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>			PE 0604774D8Z: <i>Defense Readiness Reporting System (DRRS)</i>				774: <i>Defense Readiness Reporting System (DRRS)</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
774: <i>Defense Readiness Reporting System (DRRS)</i>	11.300	15.247	5.113	0.000	5.113	6.825	6.602	6.698	6.788	Continuing	Continuing
Quantity of RDT&E Articles											

**Note**

Economic adjustment changes for FY2011 thru FY2015

**A. Mission Description and Budget Item Justification**

This funding supports Defense Planning Guidance (DPG) directing the Department of Defense (DoD) components to develop guidelines and procedures for a comprehensive readiness reporting system that evaluates readiness on the basis of the actual missions and capabilities assigned to the forces. The Defense Readiness Reporting System (DRRS) establishes a capabilities-based, adaptive, near real-time readiness information system for the DoD. This system is being designed to measure the readiness of military forces and supporting infrastructure to meet missions and goals assigned by the Secretary of Defense. DRRS also hosts information and applications used to support Joint Forces Command (JFCOM), Transportation Command (TRANSCOM), Special Operations Command (SOCOM) and Strategic Command (STRATCOM) in their roles as the Joint Force Providers.

The transformation of readiness reporting into a new comprehensive readiness system presents a number of significant challenges. First, there are thousands of new potential reporting entities to include in DRRS, such as Active and Reserve component units, agencies, Combatant Commanders, installations, depots, ports, and major elements of the industrial base. These new entities must not only define and implement reporting based on specific readiness metrics, but they must make their readiness status continuously available in near real time to DRRS. Second, the current National Military Strategy makes substantially more complex demands on readiness reporting. Instead of basing readiness on traditional MTW-based scenarios, the NMS asks us to contemplate readiness for an entire range of operational forms, and to design DRRS to assess global readiness impact based on our integrated ability to project and sustain a mix of constructed forces in simultaneous engagements. Finally, OIF/OEF sourcing challenges mean that force managers need applications that will query the entire Department for suitable, available organizations to meet current needs. The need for these applications and the underlying data are a top priority for the DRRS project.

The realization of DRRS will require integrating a host of key technologies in order to achieve an information system that will support massive-scale distributed, collaborative dynamic readiness reporting and continuous tool-based assessment. The primary technical goal is the creation of a high-reliability, secure integrated readiness data environment that will leverage and extend current readiness information systems. This system will be based on intelligent agents, dynamic databases, semantic middleware, and publish/subscribe concepts; and will provide a logically uniform view into the multiple databases and information sources that will feed

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604774D8Z: <i>Defense Readiness Reporting System (DRRS)</i>	<b>PROJECT</b> 774: <i>Defense Readiness Reporting System (DRRS)</i>
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DRRS. Crucially, through this type of advanced information environment, we will dramatically expand the range of readiness queries that DRRS will be able to handle. Coupled to this data environment will be a set of high-speed scenario-oriented tools that support ad hoc queries and drilldown, and an advanced workflow system that can assemble existing and new scenario and assessment tools into high-level task-specific query processes. These tools and tool suites will harness the power of the information environment to make possible the kind of quickturnaround, excursion-driven readiness assessment that is at the heart of DRRS.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
774 Defense Readiness reporting System	11.300	13.121	5.113	0.000	5.113
<p><i>FY 2009 Accomplishments:</i></p> <ul style="list-style-type: none"> <li>• Complete transition from legacy SORTS reporting to DRRS.</li> <li>• Integrate with GFM tools and applications such as JCRM, CFAST, and JOPES.</li> <li>• Continue development and fielding of the Global Visibility Tool to support GFM</li> <li>• Continue Software lifecycle support</li> <li>• Continue refinement of data architecture</li> <li>• Data quality improvement</li> <li>• Data latency improvement</li> <li>• Continue improvement of readiness reporting of the Afghanistan National Army</li> <li>• Continue development and fielding of capabilities identified in FY 2008</li> <li>• Begin development to integrate with Interagency readiness and preparedness systems outside DoD.</li> </ul> <p><i>FY 2010 Plans:</i></p> <ul style="list-style-type: none"> <li>• Continue development and fielding of the Global Visibility Tool to support GFM</li> <li>• Continue Software lifecycle support</li> <li>• Continue refinement of data architecture</li> <li>• Data quality improvement</li> <li>• Data latency improvement</li> <li>• Continue development and integration with Interagency readiness and preparedness systems outside DoD.</li> <li>• Expand readiness reporting capability and integration with coalition forces and allies</li> </ul>					

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604774D8Z: <i>Defense Readiness Reporting System (DRRS)</i>	<b>PROJECT</b> 774: <i>Defense Readiness Reporting System (DRRS)</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 Base Plans:</i> <ul style="list-style-type: none"> <li>• Continue Software lifecycle support</li> <li>• Continue refinement of data architecture</li> <li>• Data quality improvement</li> <li>• Data latency improvement</li> <li>• Continue development and integration with Interagency readiness and preparedness systems outside DoD.</li> <li>• Expand readiness reporting capability and integration with coalition forces and allies</li> </ul>					
<b>Accomplishments/Planned Programs Subtotals</b>	11.300	13.121	5.113	0.000	5.113

	FY 2009	FY 2010
Congressional Add: DRRS  <i>FY 2010 Plans:</i> Additional funding will allow for swxpert readiness data specialists to create an analytical structure to exploit the data being made available by DRRS.	0.000	2.126
<b>Congressional Adds Subtotals</b>	0.000	2.126

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

N/A

**D. Acquisition Strategy**

N/A

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604774D8Z: <i>Defense Readiness Reporting System (DRRS)</i>	<b>PROJECT</b> 774: <i>Defense Readiness Reporting System (DRRS)</i>

**E. Performance Metrics**

- Ability of Combatant Commands to assess current operations and war plans based on actual forces that would be assigned
- Mapping of Joint Capability Areas (JCAs) to joint services and agency tasks to usable total force and mission capability assessments
- Complete the integration of active Guard and Reserve
- Expanding readiness assessments to all DoD organizations, including installations and facilities
- Transition to one readiness reporting system for DoD.

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604875D8Z: <i>Joint Systems Architecture Development</i>							
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	18.027	11.248	8.052	0.000	8.052	6.346	6.594	6.837	7.066	Continuing	Continuing
P875: <i>Joint Systems Architecture Development</i>	13.656	4.395	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
P876: <i>Portfolio Systems Acquisition (PSA)</i>	4.371	6.853	8.052	0.000	8.052	6.346	6.594	6.837	7.066	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

The Quadrennial Defense Review (QDR) and acquisition reform initiatives call for top down, national security strategy-driven capabilities-based planning. Department of Defense (DoD) Instruction 5000.2 and Chairman of the Joint Chiefs of Staff Instruction 3170.01 promulgate capabilities-based requirements and acquisition processes. The Joint System Architecture Development (JSAD) program enables collaborative efforts to achieve these goals. These efforts include providing support to conduct warfighting capability-based analyses; performing assessments of joint capability areas and joint integrating concepts; developing and supporting needed sets of system and system-related data; creating integrated roadmaps to support acquisition investment decisions; and performing assessments of major defense acquisition programs and major automated information systems in a capability area context. Activities in the JSAD project are divided into three areas: (1) capability-based analyses; (2) roadmaps; and (3) support tools and guidance. Capability-based analyses provides analysis of the different technology, functionality, and integration impacts of systems on warfighting capability. Acquisition roadmaps guide systems development and associated investment plans. JSAD support tools and guidance initiatives develop systems data, and tools, exploit modeling and simulation and architecture efforts to improve DoDs overall assessment capability. These efforts guide the development and improve the testing and fielding of integrated systems of systems in order to achieve Joint mission capabilities. The QDR also lays out the need for an institutional reorientation or shift in emphasis from organization-specific to enterprise-wide approaches. This means: (1) horizontal integration within the Department and unity of effort through greater interagency collaboration; (2) engaging in a coordinated and portfolio-based approach to planning, programming, budgeting and execution; and (3) significant reforms at the governance, management and execution levels. To accomplish this direction, there needs to be a focused goal and concerted emphasis on shifting from systems acquisition to capabilities-based portfolio management (or portfolio systems acquisition). Starting in FY 2008, this program enables collaborative efforts to implement the QDR direction outlined above in order to achieve portfolio systems acquisition goals. The program is broken up into two focus areas (Portfolio Management and Reform Initiatives) and consolidates work previously performed under various other Program Elements.

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604875D8Z: <i>Joint Systems Architecture Development</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	14.310	15.247	0.000	0.000	0.000
Current President's Budget	18.027	11.248	8.052	0.000	8.052
Total Adjustments	3.717	-3.999	8.052	0.000	8.052
• Congressional General Reductions		0.000			
• 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	-0.399	0.000			
• Other Program Adjustments	1.616	-3.999	8.052	0.000	8.052
• February 2009 IR Congressional Add	2.500	0.000	0.000	0.000	0.000

**Congressional Add Details (\$ in Millions, and Includes General Reductions)**

**Project:** P875: *Joint Systems Architecture Development*

Congressional Add: *MEDAL*

	<u>FY 2009</u>	<u>FY 2010</u>
	2.500	0.000
Congressional Add Subtotals for Project: P875	2.500	0.000
Congressional Add Totals for all Projects	2.500	0.000

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604875D8Z: <i>Joint Systems Architecture Development</i>	<b>PROJECT</b> P875: <i>Joint Systems Architecture 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
<i>P875: Joint Systems Architecture Development</i>	13.656	4.395	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**

Due to the Weapon System Acquisition Reform Act of 2009 which directed the Secretary of Defense to appoint a Director for Systems Engineering reporting to the Undersecretary of Defense for Acquisition, Technology and Logistics (USD(AT&L)) and a Director of Developmental Test and Evaluation also reporting to the USD(AT&L), in FY 2011, Systems Engineering efforts have been transferred to a new Systems Engineering Program Element (0605142D8Z).

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Systems Engineering (FY 09 - FY 11) and Joint Advanced Concepts (FY 09) Initiatives  <i>FY 2009 Accomplishments:</i> - Developed Acquisition Guidance business process re-engineering model to support early acquisition guidance development. Published guidance on application of early systems engineering, and developed training packages for Defense Acquisition University (DAU) Program Management (PM) curriculum. - Developed guidebook for program protection planning; piloted its use on Acquisition Category Identification (ACAT ID) programs; developed draft Defense Federal Acquisition Regulation Supplement (DFARS) rule for protection of unclassified information on major programs; published Acquisition, Technology & Logistics (AT&L) policy memo requiring protection. - Transitioned research on interdependency cost and risk to the Service cost analysis centers. Published papers on interdependency research; piloted on ACAT ID programs. - Published systemic root cause analysis report documenting major causes of program failure, and presenting corrective action plans.	11.156	4.395	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense				<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0604875D8Z: <i>Joint Systems Architecture Development</i>		<b>PROJECT</b> P875: <i>Joint Systems Architecture Development</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
The USD(AT&L) initiated implementation of the Act by establishing a new office of the Director, Systems Engineering, and a new Office of the Director, Developmental Test and Evaluation and reallocating resources from the former office of the Director, Systems and Software Engineering.								
Accomplishments/Planned Programs Subtotals				11.156	4.395	0.000	0.000	0.000
				<b>FY 2009</b>	<b>FY 2010</b>			
Congressional Add: MEDAL <i>FY 2009 Accomplishments:</i> Congress authorized and appropriated funds for "Managing and Extending DoD Asset Lifestyles." Funds were originally appropriated in the AT&L Corrosion (0604016D8Z) account; however, upon further review the Corrosion Program Manager and Acquisition Resource Analysis (ARA) determined this funding was better suited in a different account - ARA completed an internal reprogramming to transfer the funds to an account under A&T purview (0604875D8Z).  Funds reprogrammed from 0604016D8Z (Corrosion) to 0604875D8Z (JSAD).				2.500	0.000			
Congressional Adds Subtotals				2.500	0.000			
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A								
<b>D. Acquisition Strategy</b> Not applicable.								
<b>E. Performance Metrics</b> Not applicable.								

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY			R-1 ITEM NOMENCLATURE				PROJECT				
0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>			PE 0604875D8Z: <i>Joint Systems Architecture Development</i>				P876: <i>Portfolio Systems Acquisition (PSA)</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
P876: <i>Portfolio Systems Acquisition (PSA)</i>	4.371	6.853	8.052	0.000	8.052	6.346	6.594	6.837	7.066	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

The Departments 2005 Quadrennial Defense Review (QDR) laid out the need for an institutional reorientation or shift in emphasis from organization-specific to enterprise-wide approaches. This meant: (1) horizontal integration within the Department and unity of effort through greater interagency collaboration; (2) engaging in a coordinated and portfolio-based approach to planning, programming, budgeting and execution; and (3) significant reforms at the governance, management and execution levels. To accomplish this direction, there needed to be a focused goal and concerted emphasis on shifting from acquisition of individual systems to portfolio management (or portfolio systems acquisition). This program enables collaborative efforts to implement the QDR direction outlined above and to achieve portfolio systems acquisition goals. The program is broken up into two focus areas (Portfolio Management and Reform Initiatives) and consolidates work previously performed under various other Program Elements.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Portfolio Systems Acquisition Initiatives	4.371	6.853	8.052	0.000	8.052
<i>FY 2009 Accomplishments:</i> -Assessed aircraft portfolio in support of decreased cycle times, decreased costs, and improved performance. -Completed the 2009 Unmanned Aircraft Systems roadmap. Initiated work on the next version, which will be expanded into an integrated Unmanned Systems roadmap. -Participated in Unmanned Systems portfolio reviews. -Provided analytical support to the Unmanned Aircraft Systems Task Force, Airspace Integration Integrated Process Team (IPT).					

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604875D8Z: <i>Joint Systems Architecture Development</i>	<b>PROJECT</b> P876: <i>Portfolio Systems Acquisition (PSA)</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul style="list-style-type: none"> <li>-Conduct system support and analyses of rotary wing aviation programs.</li> <li>-Prepare annual NATO stockpile guidance and analyses support.</li> <li>-Assess progress of enhanced DoD fuze enabling technologies.</li> <li>-Perform joint service insensitive munitions analyses.</li> <li>-Provide technical expertise for strategy development, making recommendations on programmatic direction, and for developing DoD positions relating to Global Nuclear Defense.</li> <li>-Coordinate issues related to DoD equities with Global Nuclear Defense throughout the Department and with the interagency.</li> <li>-Articulate DoD courses of action and views on homeland defense implementation and compliance issues in multiple bilateral and multilateral fora.</li> <li>-Continue implementation support of program management initiatives.</li> <li>-Provide analytical support to the Homeland Defense Coordinator function within OUSD(AT&amp;L).</li> <li>-Conduct analyses of warfare areas to reduce duplication and identify opportunities for cost savings.</li> <li>-Provide analytical support on technical and policy studies for Global Nuclear Defense issues.</li> <li>- Support development of US/UK Ground Moving Target Indicator (GMTI) collector interoperability.</li> </ul> <p><i>FY 2011 Base Plans:</i> See above.</p>					
<b>Accomplishments/Planned Programs Subtotals</b>	4.371	6.853	8.052	0.000	8.052

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

N/A

**D. Acquisition Strategy**

Not applicable.

**E. Performance Metrics**

Not applicable.

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b>				<b>R-1 ITEM NOMENCLATURE</b>							
0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>				PE 0604940D8Z: <i>Central Test and Evaluation Investment Program (CTEIP)</i>							
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	143.612	160.959	162.286	0.000	162.286	165.007	158.842	156.055	157.994	Continuing	Continuing
940: <i>Central Test and Evaluation Investment Program (CTEIP)</i>	143.612	160.959	162.286	0.000	162.286	165.007	158.842	156.055	157.994	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

Since its inception in FY 1990, this program element has been used to fund the development of critically needed, high priority Test and Evaluation (T&E) capabilities for joint/multi-Service requirements. The Central Test and Evaluation Investment Program (CTEIP) uses a corporate investment approach to combine Service, Defense, and other government agencies T&E needs, maximize opportunities for joint efforts, and avoid unwarranted duplication of test capabilities. CTEIP focuses investments on projects that will have high productivity returns on investment. Projects under the CTEIP Program Element (PE) support two basic tasks: investments to improve the test capabilities base (Joint Improvement and Modernization (JIM) projects) and development of near-term solutions to test capability shortfalls in support of ongoing operational test programs (Resource Enhancement Project (REP)).

The JIM funds critically needed T&E investments in the major functional areas of test mission command, control, communications and instrumentation; electronic warfare systems; threat and computational simulation test and evaluation; space systems T&E; weapons effects test capabilities; targets; and physical and environmental test capabilities. Examples of project subject matter include: automated data collection, processing, display, and archiving; smart munitions testing; modeling and simulation (M&S); advanced electronic combat systems; low-observable technologies and signature measurements; targets and target control; time-space-position-information; end-game measurement; testing of advanced materials application; test design; and advanced sensors and space systems. CTEIP continues as the focal point for fostering common architectures throughout the test and training communities to enhance the sharing of resources and links between test and training ranges.

CTEIP has provided special focus to institutionalize the use of M&S as a practical test tool; to link ranges through internetting to enhance inter-range and inter-Service cooperation and resource sharing; and, to ensure development and acquisition of common instrumentation necessary for a more efficient test infrastructure.

Analyses of alternative solutions are conducted for each investment project to validate T&E requirements, to define integrated support systems, and to determine overall cost effectiveness of the proposed test investments. The use of Department of Defense (DoD)-wide criteria for requirement validation, prioritization, and risk assessment ensures an effective test resource investment program.

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604940D8Z: <i>Central Test and Evaluation Investment Program (CTEIP)</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	152.013	145.052	0.000	0.000	0.000
Current President's Budget	143.612	160.959	162.286	0.000	162.286
Total Adjustments	-8.401	15.907	162.286	0.000	162.286
• Congressional General Reductions		0.000			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		17.220			
• Congressional Directed Transfers		0.000			
• Reprogrammings	-5.762	0.000			
• SBIR/STTR Transfer	-2.639	0.000			
• Other Program Adjustments	0.000	-1.313	162.286	0.000	162.286

**C. Accomplishments/Planned Program (\$ 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>
Central Test and Evaluation Investment Program	143.612	160.959	162.286	0.000	162.286
<i>FY 2009 Accomplishments:</i>					
JIM Projects:					
- Completed concept development and initiated systems development for the Objective Helicopter Icing Spray System project to provide an enhanced capability to perform in-flight icing and rain testing for low-speed air vehicles.					
- Completed concept development and initiated system development for the Space Threat Assessment Testbed project to provide a capability to conduct subsystem and system level combined natural and man-made space environmental effects testing of critical space assets.					
- Completed the Infrared Sensor Stimulator product improvement and continued development of the Advanced Radar Environment Stimulator, under the Joint Installed Systems Test Facility Product					

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**C. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Improvements project, to provide improved installed systems capabilities needed to support next generation aircraft testing.</p> <ul style="list-style-type: none"> <li>- Completed concept development for the Integrated Network Enhanced Telemetry project to develop a network-enhanced telemetry capability for T&amp;E ranges and facilities.</li> <li>- Completed the Joint Gulf Range Complex Test and Training Interdependency Initiative project to explore opportunities for common infrastructure development for test and training participants at the Joint Gulf Range Complex.</li> <li>- Completed risk reduction for the Subminiature Flight Safety System project to provide a warhead compatible, universal, subminiature low-cost flight termination system.</li> <li>- Completed the Range Tactical Data Link and Relay Capability project to provide cross-range interoperability and establish a joint tactical data link test and training capability at selected ranges.</li> <li>- Completed system design for the Hypersonic Propulsion Test Capability project to provide a variable Mach number aerodynamic propulsion test capability at the Arnold Engineering Development Center.</li> <li>- Continued the Directed Energy Test and Evaluation Capability project to provide improved test and evaluation capabilities for directed energy weapons.</li> <li>- Continued validation of flight test procedures and unmanned aerial vehicle (UAV) operations in the U.S. National Airspace alongside manned aircraft, under the UAV Systems Operations and Validation Program.</li> <li>- Continued the Advanced SAM Hardware Simulator Development – Integrated Technical Evaluation Assessing Multiple Sources (ITEAMS) project to develop a detailed design of a threat radar system using available scientific and technical intelligence data.</li> <li>- Continued the Pacific Range Interoperability Test and Evaluation Capability project to enhance interoperability between test and training assets in the Pacific and other DoD ranges and facilities.</li> <li>- Continued the Joint Gulf Range Complex Upgrade project to provide upgraded range control capabilities at the Gulf Range.</li> <li>- Continued systems development of the Joint C4ISR Interoperability Test and Evaluation Capability project to develop a capability to test increasingly complex multi-discipline data fusion concepts.</li> </ul>					

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**C. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul style="list-style-type: none"> <li>- Continued the Joint Advanced Missile Instrumentation project to develop and demonstrate time-space-position information, flight termination / safe and arm, and telemetry functions on advanced missile platforms.</li> <li>- Continued systems development of the Soft Impact Location Capability project to provide the necessary instrumentation, signal processing, communication, and data processing capabilities to detect and locate projectile and missile weapons within an 800m by 800m impact area.</li> <li>- Continued systems development for the Horizontal Fast Rise Electromagnetic Pulse (EMP) Pulser project to provide the required EMP testing environment for large aircraft under test.</li> <li>- Continued the Joint Mobile Infrared Countermeasures Test System project to provide infrared spectrum test instrumentation for open air ranges.</li> <li>- Continued risk reduction for the Common Range Integrated Instrumentation System project to develop a common range instrumentation system to address next generation range data requirements. Completed the Rapid Prototype Initiative to address near term testing requirements for the ground combat vehicles.</li> <li>- Continued system development for the Advanced Communications Environment –Faithful Timeslot Messaging project to adapt the current Joint Communications Simulator antenna pattern and propagation effects to provide timeslot dependent attenuation of Link 16 terminal output.</li> <li>- Continued the Test and Training Enabling Architecture Software Development Activity to promote integrated testing and simulation-based acquisition through the use of a logical range consisting of distributed live, virtual, and constructive elements tied together by a common architecture.</li> <li>- Continued the Tri-Service and CTEIP support projects.</li> <li>- Continued threat system simulator development efforts to improve integration, reduce potential duplication in threat and target development, and ensure that accurate, cost-effective representations of threat systems are available to support testing.</li> <li>- Continued system development of the Towed Airborne Plume Simulator project to provide a capability to test airborne infrared countermeasure systems in a dynamic threat environment, to include realistic clutter background.</li> </ul>					

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**C. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul style="list-style-type: none"> <li>- Initiated the Range Element - Network Enterprise Technology project to provide the Combat Readiness Training Center and the 46th TW with multi-mission critical data link capabilities to support testing of net-centric aircraft and weapons.</li> <li>- Initiated the Gulf Range Mobile Instrumentation Capability project to provide new distributed testing capabilities.</li> <li>- Initiated pre-development planning activities for the Multi-Level Secure (MLS) Joint/Coalition Network Environment project to develop a standardized, DoD multi-level secure and cross-domain data management T&amp;E network architecture.</li> <li>- Initiated pre-development planning activities for the Next Generation Electronic Warfare Environment Generator project to provide electronic warfare simulation capabilities for testing future Electronic Attack and Electronic Support Measures systems.</li> </ul> <p>Resource Enhancement Project:</p> <ul style="list-style-type: none"> <li>- Completed the fabrication, range integration, and validation on the AGM-88E Anti-Radiation Missile Air Defense Array Test Tool subproject.</li> <li>- Completed the system integration, test, and validation on the Chemical Agent Plume Tracking Capability subproject.</li> <li>- Completed the development and acceptance testing on the Consolidated Enterprise Network Test and Evaluation Range subproject.</li> <li>- Completed the shipboard installation and at-sea verification efforts of the Digital Remote Interface Vector Equipment System.</li> <li>- Completed system integration and testing for the Net-Ready Operational Test and Evaluation Support subproject.</li> <li>- Completed the development and concept demonstration of the Infantry Automatic Rifle Test Resource Unit Fire Hit Discriminator subproject test capability.</li> <li>- Conducted acceptance testing for the Volumetric Influence Processor subproject.</li> <li>- Continued manufacturing efforts and subsystem level testing on the Submarine Launched Countermeasure Emulator subproject.</li> </ul>					

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2011 Office of Secretary Of Defense	<b>DATE:</b> February 2010
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**C. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul style="list-style-type: none"> <li>- Continued the development on the Tactical End-to-End Closed Loop Simulation subproject.</li> <li>- Initiated the development of the Precision Target Signatures subproject to support Future Combat System of Systems force-on-force operational test events.</li> <li>- Initiated the development of the Net-Centric Test Agent Capability subproject to provide the capability to support the Operational Test and Evaluation of the Net-Centric Enterprise Service.</li> <li>- Initiated the development of the Threat Model Analysis subproject to support the Initial Operational Test and Evaluation for the F-22 program.</li> <li>- Initiated the development of the 25K Transportable Target Launch subproject to assess the PATRIOT Advanced Capability-3s effectiveness against near simultaneous engagements with multiple targets</li> <li>- Initiated the development of the Multi-Spectral Sea and Land Target Simulator subproject to provide portable Infrared and Ultraviolet open-air missile simulators to test the MV-22 and the MH60 IR and UV Missile Warning Systems.</li> </ul> <p><i>FY 2010 Plans:</i> JIM Projects:</p> <ul style="list-style-type: none"> <li>- Complete the Directed Energy Test and Evaluation Capability project to provide improved test and evaluation capabilities for directed energy weapons.</li> <li>- Complete systems development of the Soft Impact Location Capability project to provide the necessary instrumentation, signal processing, communication, and data processing capabilities to detect and locate projectile and missile weapons within an 800m by 800m impact area.</li> <li>- Complete systems development for the Horizontal Fast Rise Electromagnetic Pulse (EMP) Pulser project to provide the required EMP testing environment for large aircraft under test.</li> <li>- Complete system development for the Advanced Communications Environment –Faithful Timeslot Messaging project to adapt the current Joint Communications Simulator antenna pattern and propagation effects to provide timeslot dependent attenuation of Link 16 terminal output.</li> </ul>					

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2011 Office of Secretary Of Defense	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604940D8Z: <i>Central Test and Evaluation Investment Program (CTEIP)</i>
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<b>C. Accomplishments/Planned Program (\$ in Millions)</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<ul style="list-style-type: none"> <li>- Complete system development of the Towed Airborne Plume Simulator project to provide a capability to test airborne infrared countermeasure systems in a dynamic threat environment, to include realistic clutter background.</li> <li>- Complete risk reduction and initiate systems development for the Common Range Integrated Instrumentation System project to develop a common range instrumentation system to address next generation range data requirements.</li> <li>- Complete the Joint Mobile Infrared Countermeasures Test System project to provide infrared spectrum test instrumentation for open air ranges.</li> <li>- Complete the Range Element - Network Enterprise Technology project to provide the Combat Readiness Training Center and the 46th TW with multi-mission critical data link capabilities to support testing of net-centric aircraft and weapons.</li> <li>- Complete the Gulf Range Mobile Instrumentation Capability project to provide new distributed testing capabilities.</li> <li>- Complete validation of flight test procedures and unmanned aerial vehicle (UAV) operations in the U.S. National Airspace alongside manned aircraft, under the UAV Systems Operations and Validation Program.</li> <li>- Complete the Advanced SAM Hardware Simulator Development – Integrated Technical Evaluation Assessing Multiple Sources (ITEAMS) project to develop a detailed design of a threat radar system using available scientific and technical intelligence data.</li> <li>- Complete the Pacific Range Interoperability Test and Evaluation Capability project to enhance interoperability between test and training assets in the Pacific and other DoD ranges and facilities.</li> <li>- Complete the Joint Gulf Range Complex Upgrade project to provide upgraded range control capabilities at the Gulf Range.</li> <li>- Continue systems development of the Joint C4ISR Interoperability Test and Evaluation Capability project to develop a capability to test increasingly complex multi-discipline data fusion concepts.</li> <li>- Continue system development for the Space Threat Assessment Testbed project to provide a capability to conduct subsystem and system level combined natural and man-made space environmental effects testing of critical space assets.</li> </ul>					

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2011 Office of Secretary Of Defense	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604940D8Z: <i>Central Test and Evaluation Investment Program (CTEIP)</i>
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**C. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul style="list-style-type: none"> <li>- Continue systems development for the Objective Helicopter Icing Spray System project to provide an enhanced capability to perform in-flight icing and rain testing for low-speed air vehicles.</li> <li>- Continue the Joint Advanced Missile Instrumentation project to develop and demonstrate time-space-position information, flight termination / safe and arm, and telemetry functions on advanced missile platforms.</li> <li>- Continue development of the Advanced Radar Environment Stimulator, under the Joint Installed Systems Test Facility Product Improvements project, to provide improved installed systems capabilities needed to support next generation aircraft testing.</li> <li>- Continue the Test and Training Enabling Architecture Software Development Activity to promote integrated testing and simulation-based acquisition through the use of a logical range consisting of distributed live, virtual, and constructive elements tied together by a common architecture.</li> <li>- Continue the Tri-Service and CTEIP support projects.</li> <li>- Continue threat system simulator development efforts to improve integration, reduce potential duplication in threat and target development, and ensure that accurate, cost-effective representations of threat systems are available to support testing.</li> <li>- Continue the Multi-Level Secure (MLS) Joint/Coalition Network Environment project to develop a standardized, DoD multi-level secure and cross-domain data management T&amp;E network architecture.</li> <li>- Continue the Next Generation Electronic Warfare Environment Generator project to provide electronic warfare simulation capabilities for testing future Electronic Attack and Electronic Support Measures systems.</li> <li>- Initiate systems development for the Integrated Network Enhanced Telemetry project to develop a network-enhanced telemetry capability for T&amp;E ranges and facilities.</li> <li>- Initiate system development for the Subminiature Flight Safety System project to provide a warhead compatible, universal, subminiature low-cost flight termination system.</li> <li>- Initiate development of a Joint Urban Test Capability to provide capabilities for testing in a realistic urban environment.</li> <li>- Initiate the Joint Unmanned Aerial Systems (UAS) Mission Environment project to develop a capability for testing UAS in realistic system of systems environments.</li> </ul>					

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2011 Office of Secretary Of Defense	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604940D8Z: <i>Central Test and Evaluation Investment Program (CTEIP)</i>
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**C. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul style="list-style-type: none"> <li>- Initiate the Joint Distributed Infrared Countermeasures (IRCM) Ground Test System project to provide an end-to-end ground test system enabling complete testing of IRCM systems.</li> <li>- Initiate development of new mobile instrumentation capabilities to support end-to-end testing of advanced infrared countermeasure systems and missile warning systems.</li> </ul> <p>Resource Enhancement Project:</p> <ul style="list-style-type: none"> <li>- Complete validation testing for the Precision Target Signatures subproject.</li> <li>- Complete project demonstration for the Net-Centric Test Agent Capability subproject.</li> <li>- Complete system fabrication and acceptance testing of the Infantry Automatic Rifle Test Resource Unit Fire Hit Discriminator subproject test capability.</li> <li>- Complete verification and validation efforts for the Submarine Launched Countermeasure Emulator subproject.</li> <li>- Complete development of the Threat Model Assessment Program subproject.</li> <li>- Complete the end-to-end closed loop verification, validation and accreditation for the Tactical End-to-End Closed Loop Simulation subproject.</li> <li>- Complete systems requirements analysis and initiate the design of the Multi-Spectral Sea and Land Target Simulator subproject.</li> <li>- Complete requirements analysis and initiate the hardware development efforts for the 25K Threat Target Launcher subproject.</li> <li>- Initiate development of the Battle Command Network Integration and Simulation subproject to provide the capability to test the interoperability and network connectivity transmission capabilities of the Joint Tactical Radio System Ground Mobile Radio.</li> <li>- Initiate the development of the Operational Command and Control Instrumentation subproject to provide the capability to assess the National Capital Region Integrated Air Defense System's ability to effectively facilitate positive command and control over ground based air defense systems.</li> </ul> <p><i>FY 2011 Base Plans:</i> JIM Projects:</p>					

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2011 Office of Secretary Of Defense	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604940D8Z: <i>Central Test and Evaluation Investment Program (CTEIP)</i>
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**C. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul style="list-style-type: none"> <li>- Complete development of the Advanced Radar Environment Stimulator, under the Joint Installed Systems Test Facility Product Improvements project, to provide improved installed systems capabilities needed to support next generation aircraft testing.</li> <li>- Complete the Joint Advanced Missile Instrumentation project to develop and demonstrate time-space-position information, flight termination / safe and arm, and telemetry functions on advanced missile platforms.</li> <li>- Continue systems development of the Joint C4ISR Interoperability Test and Evaluation Capability project to develop a capability to test increasingly complex multi-discipline data fusion concepts.</li> <li>- Continue systems development for the Objective Helicopter Icing Spray System project to provide an enhanced capability to perform in-flight icing and rain testing for low-speed air vehicles.</li> <li>- Continue system development for the Space Threat Assessment Testbed project to provide a capability to conduct subsystem and system level combined natural and man-made space environmental effects testing of critical space assets.</li> <li>- Continue systems development for the Common Range Integrated Instrumentation System project to develop a common range instrumentation system to address next generation range data requirements.</li> <li>- Continue systems development for the Integrated Network Enhanced Telemetry project to develop a network-enhanced telemetry capability for T&amp;E ranges and facilities.</li> <li>- Continue the Test and Training Enabling Architecture Software Development Activity to promote integrated testing and simulation-based acquisition through the use of a logical range consisting of distributed live, virtual, and constructive elements tied together by a common architecture.</li> <li>- Continue the Tri-Service and CTEIP support projects.</li> <li>- Continue threat system simulator development efforts to improve integration, reduce potential duplication in threat and target development, and ensure that accurate, cost-effective representations of threat systems are available to support testing.</li> <li>- Continue system development for the Subminiature Flight Safety System project to provide a warhead compatible, universal, subminiature low-cost flight termination system.</li> <li>- Continue development of a Joint Urban Test Capability to provide capabilities for testing in a realistic urban environment.</li> </ul>					

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604940D8Z: <i>Central Test and Evaluation Investment Program (CTEIP)</i>
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**C. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul style="list-style-type: none"> <li>- Continue the Multi-Level Secure (MLS) Joint/Coalition Network Environment project to develop a standardized, DoD multi-level secure and cross-domain data management T&amp;E network architecture.</li> <li>- Continue the Joint Unmanned Aerial Systems (UAS) Mission Environment project to develop a capability for testing UAS in realistic system of systems environments.</li> <li>- Continue the Joint Distributed Infrared Countermeasures (IRCM) Ground Test System project to provide an end-to-end ground test system enabling complete testing of IRCM systems.</li> <li>- Continue the Next Generation Electronic Warfare Environment Generator project to provide electronic warfare simulation capabilities for testing future Electronic Attack and Electronic Support Measures systems.</li> <li>- Continue development of new mobile instrumentation capabilities to support end-to-end testing of advanced infrared countermeasure systems and missile warning systems.</li> <li>- Initiate the Advanced Diagnostics for Augmentors and Combustors project to transition advanced combustion diagnostics to propulsion ground test facilities and to facilitate improvement and validation of combustion modeling and simulation tools with resulting data.</li> <li>- Initiate the Polarization Projection Capability for Space Sensor Simulation Testing project to develop a baseline capability for realistic testing of polarimetric sensors in a controlled space simulation environment.</li> </ul> <p>Resource Enhancement Project:</p> <ul style="list-style-type: none"> <li>- Complete integration and testing for the Battle Command Network Integration and Simulation subproject.</li> <li>- Complete the validation testing for the 25K Transportable Target Launcher subproject.</li> <li>- Complete system fabrication and conduct acceptance tests for the Multi-Spectral Sea and Land Target Simulator subproject.</li> <li>- Complete the validation, verification and accreditation for the Operational Command and Control Instrumentation System subproject.</li> <li>- Complete Verification and Validation for the Submarine Launched Countermeasure Emulator subproject.</li> </ul>					

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604940D8Z: <i>Central Test and Evaluation Investment Program (CTEIP)</i>
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<b>C. Accomplishments/Planned Program (\$ in Millions)</b>	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul style="list-style-type: none"> <li>- Initiate development of instrumented facilities to evaluate our next generation of sensors, weapons, platforms, and C4ISR systems in a realistic urban environment.</li> <li>- Initiate development of hardware simulators to test missile warning systems of new generation electronic warfare (EW) suites in a dynamic environment.</li> <li>- Initiate the development of non-intrusive instrumentation to address near term OT capability shortfalls to evaluate advanced sensor system performance in harsh environments.</li> </ul>					
<b>Accomplishments/Planned Programs Subtotals</b>	143.612	160.959	162.286	0.000	162.286

**D. Other Program Funding Summary (\$ in Millions)**

N/A

**E. Acquisition Strategy**

N/A

**F. Performance Metrics**

Percentage of CTEIP projects that were developed and delivered to the DoD test community over the past five years.

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604942D8Z: <i>Assessments &amp; Evaluations</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	0.000	0.000	2.500	0.000	2.500	2.600	2.700	2.800	2.900	Continuing	Continuing
P805: <i>Assessments &amp; Evaluations</i>	0.000	0.000	2.500	0.000	2.500	2.600	2.700	2.800	2.900	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

This program is reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress. For further information, please contact the Director of Special Programs, OUSD(AT&L)/DSP at (703) 697-1282.

**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	0.000	0.000	0.000	0.000	0.000
Current President's Budget	0.000	0.000	2.500	0.000	2.500
Total Adjustments	0.000	0.000	2.500	0.000	2.500
• Congressional General Reductions		0.000			
• 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			
• Other Program Adjustments	0.000	0.000	2.500	0.000	2.500

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense								<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604942D8Z: <i>Assessments &amp; Evaluations</i>				<b>PROJECT</b> P805: <i>Assessments &amp; Evaluations</i>				
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	
P805: <i>Assessments &amp; Evaluations</i>	0.000	0.000	2.500	0.000	2.500	2.600	2.700	2.800	2.900	Continuing	Continuing	
Quantity of RDT&E Articles												
<b>A. Mission Description and Budget Item Justification</b>												
This program is reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress. For further information, please contact the Director of Special Programs, OUSD(AT&L)/DSP at (703) 697-1282.												
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>												
						<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>		
Assessments & Evaluations						0.000	0.000	2.500	0.000	2.500		
<i>FY 2009 Accomplishments:</i> Not applicable. Information is Classified.												
<i>FY 2010 Plans:</i> Not applicable. Information is Classified.												
<i>FY 2011 Base Plans:</i> No applicable, Information is Classified.												
Accomplishments/Planned Programs Subtotals						0.000	0.000	2.500	0.000	2.500		
<b>C. Other Program Funding Summary (\$ in Millions)</b>												
N/A												
<b>D. Acquisition Strategy</b>												
N/A												

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604942D8Z: <i>Assessments &amp; Evaluations</i>	<b>PROJECT</b> P805: <i>Assessments &amp; Evaluations</i>

**E. Performance Metrics**

Not applicable. Classified

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604943D8Z: <i>Thermal Vicar</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	9.452	11.352	8.851	0.000	8.851	9.098	9.423	9.565	9.701	Continuing	Continuing
P943: <i>Thermal Vicar</i>	9.452	11.352	8.851	0.000	8.851	9.098	9.423	9.565	9.701	Continuing	Continuing

**Note**

For FY2010, Congress appropriated an additional \$2.400 for "Joint Gulf Range Complex Testing and Training" which properly belongs in Line 131, Joint Mission Environment Test and Capability (JMETC).

**A. Mission Description and Budget Item Justification**

This program is reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress. For further information, please contact the Director of Special Programs, OUSD(AT&L)/DSP at (703) 697-1282.

**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	9.605	9.045	0.000	0.000	0.000
Current President's Budget	9.452	11.352	8.851	0.000	8.851
Total Adjustments	-0.153	2.307	8.851	0.000	8.851
• Congressional General Reductions		0.000			
• 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	-0.134	0.000			
• Other Program Adjustment	-0.019	2.307	8.851	0.000	8.851

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604943D8Z: <i>Thermal Vicar</i>	<b>PROJECT</b> P943: <i>Thermal Vicar</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
P943: <i>Thermal Vicar</i>	9.452	11.352	8.851	0.000	8.851	9.098	9.423	9.565	9.701	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

This program is reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress. For further information, please contact the Director of Special Programs, OUSD(AT&L)/DSP at (703) 697-1282.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Thermal Vicar Not applicable. Information is Classified.  <i>FY 2009 Accomplishments:</i> Not applicable. Information is Classified.  <i>FY 2010 Plans:</i> Not applicable. Information is Classified.  <i>FY 2011 Base Plans:</i> Not applicable. Information is Classified.	9.452	11.352	8.851	0.000	8.851
Accomplishments/Planned Programs Subtotals	9.452	11.352	8.851	0.000	8.851

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604943D8Z: <i>Thermal Vicar</i>	<b>PROJECT</b> P943: <i>Thermal Vicar</i>

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

N/A

**D. Acquisition Strategy**

Not applicable.

**E. Performance Metrics**

Not applicable.

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b>			<b>R-1 ITEM NOMENCLATURE</b>								
0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>			PE 0605100D8Z: <i>Joint Mission Environment Test Capability (JMETC)</i>								
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	8.286	9.379	10.287	0.000	10.287	10.494	10.763	10.920	11.070	Continuing	Continuing
100: <i>Joint Mission Environment Test Capability (JMETC)</i>	8.286	9.379	10.287	0.000	10.287	10.494	10.763	10.920	11.070	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

The Joint Mission Environment Test Capability (JMETC) Program provides the infrastructure for distributed testing and evaluation (T&E) of systems during development. The JMETC program implements the infrastructure capabilities defined in the DoD's "Testing in a Joint Environment Roadmap" to provide acquisition program managers a robust nation-wide capability to "test like we fight." JMETC provides a persistent distributed T&E capability that otherwise would not be readily available to Service/Component acquisition programs. This program is funded within the RDT&E Management Support Budget Activity because it is intended to provide test capability in support of RDT&E programs.

JMETC creates a common corporate capability to link live systems with virtual and constructive representations to generate a realistic joint mission test environment for the system(s) being tested. JMETC is a widely applicable, persistent, service provider for Department acquisition and net-centric programs. Key JMETC products include readily available connectivity over existing Department networks, standard data transport solutions, tools and utilities for planning and conducting distributed integrations, and a reuse repository. This common integration capability, through the use of the Test and Training Enabling Architecture (TENA), provides compatibility between JMETC and the Joint National Training Capability (JNTC), streamlining reuse of technical resources across test and training communities. In turn, this enables combined test and training exercises. JMETC capabilities will migrate, along with other RDT&E capabilities, to a mature Global Information Grid (GIG) Defense Information Systems Network (DISN) Core.

By linking distributed facilities, JMETC allows customers to efficiently evaluate their warfighting capability in a realistic joint environment. This enables a customer-defined joint mission test environment for systems engineering and testing, extensible to training and experimentation, in a timely and cost effective manner.

JMETC's institutional funding builds, maintains, and operates the JMETC, and pays for persistent availability of national connectivity for testing; data communications middleware; identification of interface standards; common software tools and components; and a data archive and reuse repository. It also funds JMETC program management, facilities, equipment, operating costs, and special studies and analysis related to test capabilities and infrastructure. Key attributes of the JMETC include: persistency; interoperability; reuse; various combinations of distributed capabilities (reconfigurable infrastructure to meet customer requirements); modeling and simulation (M&S) linkage; Live-Virtual-Constructive (LVC) test resource integration; and common support to both Service and Joint needs. System engineering, training, and experimentation all benefit from a corporate JMETC developed for T&E.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2011 Office of Secretary Of Defense	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605100D8Z: <i>Joint Mission Environment Test Capability (JMETC)</i>
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The Test Resource Management Center (TRMC) is the Department's lead for the JMETC program, and oversees both its development and its operations.

**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	8.616	9.455	0.000	0.000	0.000
Current President's Budget	8.286	9.379	10.287	0.000	10.287
Total Adjustments	-0.330	-0.076	10.287	0.000	10.287
• Congressional General Reductions		0.000			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	-0.330	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Program Adjustments	0.000	-0.076	10.287	0.000	10.287

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605100D8Z: <i>Joint Mission Environment Test Capability (JMETC)</i>	<b>PROJECT</b> 100: <i>Joint Mission Environment Test Capability (JMETC)</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
100: <i>Joint Mission Environment Test Capability (JMETC)</i>	8.286	9.379	10.287	0.000	10.287	10.494	10.763	10.920	11.070	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

The Joint Mission Environment Test Capability (JMETC) Program provides the infrastructure for distributed testing of systems during development. The JMETC program implements the infrastructure capabilities defined in the Testing in a Joint Environment Roadmap to provide Acquisition Program Managers a robust nation-wide capability to “Test Like We Fight.” JMETC provides a persistent distributed test and evaluation (T&E) capability that otherwise would not be readily available to Service/Component development programs. This program is funded within the RDT&E Management Support Budget Activity because it is intended to provide test capability in support of RDT&E programs.

JMETC creates a common corporate capability to link live systems with virtual and constructive representations to generate a realistic joint mission test environment for the system(s) being tested. JMETC is a widely applicable, persistent, service provider for Department acquisition and net-centric programs. Key JMETC products include readily available connectivity over existing Department networks, standard data transport solutions, tools and utilities for planning and conducting distributed integrations, and a reuse repository. This common integration capability, through the use of the Test and Training Enabling Architecture (TENA), provides compatibility between JMETC and the Joint National Training Capability (JNTC), streamlining reuse of technical resources across test and training communities. In turn, this enables combined test and training exercises. JMETC capabilities will migrate, along with other RDT&E capabilities, to a mature Global Information Grid (GIG) Defense Information Systems Network (DISN) Core.

By linking distributed facilities, JMETC allows customers to efficiently evaluate their warfighting capability in a realistic joint environment. This enables a customer-defined joint mission test environment for systems engineering and testing, extensible to training and experimentation, in a timely and cost effective manner.

JMETC’s institutional funding builds, maintains, and operates the JMETC, and pays for persistent availability of national connectivity for testing; data communications middleware; identification of interface standards; common software tools and components; and a data archive and reuse repository. It also funds JMETC program management, facilities, equipment, operating costs, and special studies and analysis related to test capabilities and infrastructure. Key attributes of the JMETC include: persistency; interoperability; reuse; various combinations of distributed capabilities (reconfigurable infrastructure to meet customer requirements); modeling and simulation (M&S) linkage; Live-Virtual-Constructive (LVC) test resource integration; and common support to both Service and Joint needs. System engineering, training, and experimentation all benefit from a corporate JMETC developed for T&E.

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605100D8Z: <i>Joint Mission Environment Test Capability (JMETC)</i>	<b>PROJECT</b> 100: <i>Joint Mission Environment Test Capability (JMETC)</i>
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The Test Resource Management Center (TRMC) is the Department's lead for the JMETC program, and oversees both its development and its operations.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Joint Mission Environment Test Capability  <i>FY 2009 Accomplishments:</i> <ul style="list-style-type: none"> <li>- Completed initial development and began upgrade of the Reuse Repository to provide general program information; provided lessons learned from previous events; stored software interfaces, tools, utilities, and test metadata; provided capabilities of each site on the JMETC VPN; provided all help desk functions; hosted the portal for the "best of breed" tools process; and provided opportunity for collaboration, making all available to the DoD T&amp;E Community for reuse.</li> <li>- Completed a capabilities based assessment on Joint distributed test infrastructure for implementation of IPv6 at test facilities and laboratories, applicability of Service Oriented Architectures (SOA) to support distributed testing, and the test infrastructure needed for GIG-enabled systems.</li> <li>- Continued to provide support to acquisition programs and events as follows: Joint Persistent Fire 01, Joint Expeditionary Forces Experiment (JEFX) 09-02 and 03, Broad Area Maritime Surveillance System (BAMS) Live, Virtual, Constructive (LVC) Distributed Event (DE) (Unmanned Aircraft Systems in a National Airspace); Joint Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (JC4ISR) Interoperability Test and Evaluation Capability (InterTEC) System Integration Test, Air Force Strategic Integrated M&amp;S Capability Event (SIMACE), Test and Training Enabling Architecture (TENA) Developmental Test, Multi-Service System-of-Systems Test Bed (MSSTB), and the Joint Surface Warfare (JSuW) Joint Capability Technology Demonstration (JCTD).</li> <li>- Continued collaboration with the Air Force Integrated Collaborative Environment (AF-ICE) to leverage efficiencies through use of the provided JMETC products and services infrastructure. Completed integration of AF-ICE test sites into the JMETC Virtual Private Network (VPN).</li> <li>- Continued coordination discussions and plans with the Navy Distributed Engineering Plant (DEP) for supporting their distributed events by providing the necessary infrastructure. JMETC and Navy DEP</li> </ul>	8.286	9.379	10.287	0.000	10.287

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605100D8Z: <i>Joint Mission Environment Test Capability (JMETC)</i>	<b>PROJECT</b> 100: <i>Joint Mission Environment Test Capability (JMETC)</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> N/A					
Accomplishments/Planned Programs Subtotals	8.286	9.379	10.287	0.000	10.287

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

N/A

**D. Acquisition Strategy**

N/A

**E. Performance Metrics**

- Expansion of initial capability to support acquisition program test requirements, providing distributed capability to test systems and demonstrating required joint capability.
- Successful use of integration software compatible with the JNTC and Joint Training infrastructure.
- Number of test sites/locations that are reused to support distributed tests using the JMETC infrastructure.

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605104D8Z: <i>Technical Studies</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	34.073	44.398	49.282	0.000	49.282	47.915	48.507	48.505	49.708	Continuing	Continuing
P421: <i>Technical Studies</i>	34.073	44.398	49.282	0.000	49.282	47.915	48.507	48.505	49.708	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

This program is a key source of funding for the Office of the Secretary of Defense and the Joint Staff for studies, analyses, management, and technical support efforts to improve and support policy development, decision making, management and administration of DoD programs and activities. Studies and analyses will examine current and alternative policies, plans, operations, strategies and budgets, and are essential for understanding and gaining insight into the ever-changing multifaceted international, political, technological, economic, military, and acquisition environments in which defense decisions and international opportunities take place. The need for independent analyses has become particularly acute with the evolution of requirements for planning the reconstitution of assets affected by combat and non-combat operations, and there is a strong need to incorporate the effects of operational analyses in force planning assessments. With the persistently complex security, threat, and economic environment, the need for objective analyses and forward looking planning for the mid and long-term is vital.

Beginning in FY 2010, this program element includes the budget request for the Global Theater Security Cooperation Management Information Systems (TSCMIS) program, which is an existing program that will be executed by the Joint Staff separately from the Technical Studies, Support, and Analysis program. The Global Theater Security Cooperation Management Information Systems program responds to OSD's Guidance for Employment of the Force so that Combatant Commanders, Military Department Chiefs, CSA Directors, and applicable Defense Agency and Field Activity Directors are able to use a tracking mechanism to account for their steady-state activities that is accessible to other DoD components. Together these tracking mechanisms will provide a global view of all steady-state activities conducted by DoD components. The intent of this program is to encourage further development of tracking mechanisms in order to achieve full visibility of Defense Department activities.

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605104D8Z: <i>Technical Studies</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	34.520	44.760	0.000	0.000	0.000
Current President's Budget	34.073	44.398	49.282	0.000	49.282
Total Adjustments	-0.447	-0.362	49.282	0.000	49.282
• Congressional General Reductions		0.000			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	-1.311	0.000			
• SBIR/STTR Transfer	-0.935	0.000			
• Other Program Adjustment	0.000	-0.362	49.282	0.000	49.282
• Congressional General Reductions	-0.201	0.000	0.000	0.000	0.000
• Congressionals Adds	2.000	0.000	0.000	0.000	0.000

**Congressional Add Details (\$ in Millions, and Includes General Reductions)**

**Project:** P421: *Technical Studies*

Congressional Add: *Center for Technology and National Security Policy at the National Defense University*

Congressional Add: *Defense Support to Large Scale Disaster Preparedness*

Congressional Add Subtotals for Project: P421

Congressional Add Totals for all Projects

	<b>FY 2009</b>	<b>FY 2010</b>
	1.200	0.000
	0.800	0.000
	2.000	0.000
	2.000	0.000

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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
P421: <i>Technical Studies</i>	34.073	44.398	49.282	0.000	49.282	47.915	48.507	48.505	49.708	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

This program is a key source of funding for the Office of the Secretary of Defense and the Joint Staff to conduct joint studies, analyses, management, and technical support efforts, to improve and support policy development, decision making, management and administration of DoD programs and activities. Studies and analyses will examine current and alternative policies, plans, operations, strategies and budgets, and are essential for understanding and gaining insight into the ever-changing multifaceted international political, technological, economic, military, and acquisition environments in which defense decisions and international opportunities take place. The need for independent analyses has become particularly acute with the evolution of requirements for planning the reconstitution of assets affected by combat and non-combat operations, and there is a strong need to incorporate the effects of operational analyses in force planning assessments. With the persistently complex current security, threat, and economic environment, the need for objective analyses and forward looking planning for the mid and long-term is vital.

Beginning in FY 2010 this program element includes funding for the Global Theater Security Cooperation Management Information Systems (TSCMIS) Program, which is a separate program from the OSD Technical Studies, Support & Analysis program. TSCMIS is an existing program which provides a global view of all steady-state activities conducted by DoD components and enables that information to be accessible by other DoD components. Proposed enhancements to TSCMIS will enable all of the Services and Combatant Commands to access information in this system and will allow the incorporation of data provided by other interagency partners.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Technical Studies and Analyses Support for the Office of the Secretary of Defense <i>FY 2009 Accomplishments:</i> Technical Support for USD(Acquisition, Technology & Logistics): Studies and analyses of:	32.073	31.935	35.882	0.000	35.882

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>analyses, aircraft industrial base requirements, force structure and infrastructure requirements, depot maintenance requirements, technical studies and analysis to support independent cost estimates, improving cost estimation for software, alternative weapons systems configurations and force levels, weapons system communications requirements, contractor logistics support and performance based logistics analyses, performance analyses of various aviation and ground systems and platforms, and operating and support costs for major defense acquisition programs</p> <p>Technical Support for the USD(Policy): Studies and analyses of:</p> <p>irregular warfare capability and capacity requirements, integration of irregular warfare modeling in campaign analysis planning, improving the effectiveness and efficiency of DoD public outreach efforts, methods to strengthen democracy and promote human rights and civil society in Iraq, protection of space-based assets and space policy and posture analyses, evaluations of various Capability Portfolio Managers and Joint Capability Areas, improving the ability of DoD to build security partnerships, weapons of mass destruction counter-proliferation strategy, policy support for DoD activities in the Caucasus and Caspian regions, development of defense planning scenarios and improving contingency planning, and strategic-level simulations of areas of interest for legislative and executive branch decision-makers</p> <p>Technical Support for the USD(Personnel &amp; Readiness): Studies and analyses in the following areas:</p> <p>Recruiting and retention of active and reserve component members, effectiveness of pre-deployment cultural training, advancing foreign language skills within DoD, military linguist retention and career paths, mid-grade officer personnel requirements, improving family counseling services, impact and effectiveness of the Montgomery GI Bill, domestic violence prevention, expanding the recruiting market to older youths and youths in home schooling, stop-loss personnel policy options assessments,</p>					

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>the effects of pay for performance for civilians, manpower costs assessments, diversity and equal opportunity policy research, and civilian expeditionary workforce requirements and their potential impacts on recruiting and retention</p> <p>Technical Support for the ASD (Networks &amp; Information Integration) and USD(Intelligence): Studies and analyses of:</p> <p>GIG (Global Information Grid) mission assurance architecture and strategy, ongoing evaluations of command and control capabilities to support net-centric operations, DoD Global Positioning System and navigation warfare oversight and planning, defense military intelligence personnel strategy, counterintelligence and human intelligence capabilities, investment strategies and intelligence collection platforms architecture, and architectural improvements to improve capabilities to access and share national and tactical intelligence information in near real-time</p> <p>Technical Support for the Joint Staff conducting joint research with OSD:</p> <p>Studies and analyses with OSD supporting energy efficiency performance, supply chain architecture, Joint IP Modem capabilities employment in satellite communications, improving access to persistent ISR and communications capacity in warfighting operations, and irregular warfighting issues in global counterterrorism and stability operations</p> <p><i>FY 2010 Plans:</i> Technical Support for USD(Acquisition, Technology &amp; Logistics): Studies and analyses of:</p> <p>Rotary wing and other vertical lift aviation platform capabilities, innovative shipbuilding designs and acquisition planning, electronic warfare, joint conventional munitions requirements planning, joint service fuze technology, hard and deeply buried targets, homeland defense and civil support</p>					

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Studies and analyses in the following areas:</p> <p>Counter proliferation requirements analyses, national security policy reviews as required by national and departmental-level guidance, recommendations and analysis regarding military posture, application of innovative battlefield operations to security strategies, maintaining security relationships with allies, operational assessments of irregular warfare capabilities, integration of societal environmental factors in irregular warfare campaign planning, critical defense issues potentially impacting the European theater, policy research and analyses of the Caucasus and Caspian regions, international security policy regarding cybersecurity, DoD space policy, potential effects of pandemic events, and strategic-level simulations of areas of interest for legislative and executive branch decision-makers</p> <p>Technical Support for the USD(Personnel &amp; Readiness): Studies and analyses in the following areas:</p> <p>Effects of incentives and other recent recruiting strategies on personnel readiness and retention, methods to increase the size of the new recruit market, improving DoD foreign language and cultural awareness capabilities, impact of extended and multiple combat deployments on personnel health and retention, manning requirements for mid-grade officers and policy implications, evaluating effectiveness of efforts to balance DoD manpower supply, ramifications of personnel in-sourcing, policies to sustain training ranges and their impacts on quality of overall training, civilian personnel management and development, mitigating hardships among military families, management of reserve components, and providing responses to congressional requests and directives as required</p> <p>Technical Support for the ASD (Networks &amp; Information Integration) and USD(Intelligence): Studies and analyses of:</p>					

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Network approaches and technical solutions in support of net-centric transformation, development of baseline metrics and evaluation standards to ensure appropriate systems support for defense and national leadership, development of approaches for ensuring adequate electromagnetic spectrum access for military operations, DoD facility security and antiterrorism policies, nuclear detonation detection capabilities, Civilian Foreign Area Specialist Program requirements, defense intelligence training requirements, battlespace awareness performance measures, improving accessibility to foreign language translation services, and detection capabilities of space events</p> <p>Technical Support for the Joint Staff conducting joint research with OSD:</p> <p>Studies and analyses with OSD supporting evolving warfighting issues in counterterrorism and stability operations, DoD information assurance, adaptive planning human resource strategy, means to dissuade potential adversaries from obtaining weapons of mass destruction, non-kinetic counterterrorism capabilities, DoD response to pandemics and natural disasters, and participation in other studies directed by the Program Decision Memorandum and the Guidance for Development of the Force</p> <p><i>FY 2011 Base Plans:</i>                      Technical Support for USD(Acquisition, Technology &amp; Logistics):                      Studies and analyses of:</p> <p>Rotary wing aviation capabilities support, innovative shipbuilding designs and acquisition planning, electronic warfare, joint conventional munitions requirements planning, joint service fuze technology, sector-specific industrial base capabilities, sustaining competition among defense suppliers, unmanned terrestrial and airborne platform integration, hard and deeply buried targets, homeland defense and civil support coordination, maritime domain awareness, test and evaluation capabilities and the effects upon acquisition, mitigating systems integration risk, DoD energy policy in acquisition planning, weapons systems safety and reliability, NATO materiel stockpile planning, rocket motor</p>					

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>capabilities for analyses of defense planning scenarios, impact of cultural factors in international security operations planning, operational assessments of irregular warfare capabilities, nuclear weapons employment policy, and strategic-level simulations of areas of interest for legislative and executive branch decision-makers</p> <p>Technical Support for the USD(Personnel &amp; Readiness): Studies and analyses in the following areas:</p> <p>Strategies and analyses of policies to mitigate the long-term effects of extended and multiple personnel deployments on members and their families, effects of incentives on recent recruiting strategies on personnel readiness and retention, impacts of changing roles being assumed by the DoD workforce (e.g. civilian expeditionary requirements), evaluating the effectiveness of training transformation initiatives, effects of workforce aging and retirement on DoD manpower supply and work performance, recruiting and retaining military and civilian personnel in critical occupational specialties, long-term effects of activation on Reserve component members and their employers (including sole proprietorships and small businesses), impact of organizational changes in response to strategic planning initiatives, maintaining quality of life and equal opportunity of the force, management of reserve components, and providing responses to congressional mandates and directives as required</p> <p>Technical Support for the ASD (Networks &amp; Information Integration) and USD(Intelligence): Studies and analyses of:</p> <p>Network approaches and technical solutions in support of net-centric transformation, development of baseline metrics and evaluation standards to ensure appropriate systems support for defense and national leadership, development of approaches for ensuring adequate electromagnetic spectrum access for military operations, improving interoperability of security systems, improving effectiveness of force protection policies, Civilian Foreign Area Specialist Program requirements,</p>					

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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 Project management (\$360K); requirements (\$258K); development (\$5,300K); modification to existing TSCMIS (\$1,545K); TSCMIS personnel (\$4,800K)</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Project management (\$370K); requirements (\$265K); development (\$5,495K); modification to existing TSCMIS (\$2,020K); TSCMIS personnel(\$4,950K)</p>					
<b>Accomplishments/Planned Programs Subtotals</b>	32.073	44.398	49.282	0.000	49.282

	FY 2009	FY 2010
<p>Congressional Add: Center for Technology and National Security Policy at the National Defense University</p> <p><i>FY 2009 Accomplishments:</i> To be performed by National Defense University</p> <p><i>FY 2010 Plans:</i> Pending FY 2010 appropriations</p>	1.200	0.000
<p>Congressional Add: Defense Support to Large Scale Disaster Preparedness</p> <p><i>FY 2009 Accomplishments:</i> To be performed by National Defense University</p> <p><i>FY 2010 Plans:</i> Pending FY 2010 appropriations</p>	0.800	0.000

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605104D8Z: <i>Technical Studies</i>	<b>PROJECT</b> P421: <i>Technical Studies</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010
Congressional Adds Subtotals	2.000	0.000

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

N/A

**D. Acquisition Strategy**

N/A

**E. Performance Metrics**

PE 0605104D8Z    Technical Studies, Support & Analysis

FY 2011 BA: \$49.282M    FY 2011 BA Assoc w/Metrics: \$49.282M    Percent FY 2011 BA Assoc w/Metrics: 100%

This program conducts approximately one-hundred fifty actions per fiscal year to support a wide variety of dynamic goals of the Department and is designed to encourage a collaborative research approach among the components of OSD and the Joint Staff. The research and study projects supported by this program are closely integrated with the strategic goals of the Department of Defense. The focus of studies varies across a wide spectrum including weapons systems cost analysis, strengthening and leveraging alliances, human resource and military personnel management, examination of innovative technologies, application of technology to operational doctrine, and many other issues of timely importance. Most of the actions are long to intermediate-range in outlook, and the program allows high-level managers to plan and to guide their research toward meeting their highest-priority goals and other high-level guidance such as the President's Management Agenda and the National Security Strategy of the United States of America.

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605110D8Z: <i>Militarily Critical Technology 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	4.151	4.874	4.743	0.000	4.743	4.772	4.809	4.867	4.924	Continuing	Continuing
P110: <i>Militarily Critical Technology Support</i>	4.151	4.874	4.743	0.000	4.743	4.772	4.809	4.867	4.924	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

The Militarily Critical Technologies Program (MCTP) provides the development and implementation of DoD technology security policies on international transfers of defense related goods, services, and technologies:

(1) Export Control Program: Provides an ongoing assessment and analysis of goods and technologies. Determines significant advances in the development, production, and use of military capabilities of potential adversaries. Determines goods and technologies being developed worldwide with potential to significantly enhance or degrade U.S. military capabilities in the future. Identified in the Export Administration Act of 1979 and extended by Presidential Directive to review militarily critical goods and technologies and to consider worldwide technology capabilities. Comprised of two sets of documents:

- a) Militarily Critical Technologies List (MCTL): Congressionally mandated source document for identification of leading edge and current technologies monitored worldwide for national security, nonproliferation control of weapons of mass destruction, and advanced conventional weapons.
- b) Developing Science & Technologies List (DSTL): Describes military and proliferation significance of future technologies.

Specific activities include:

- Develop and publish in electronic form (including Internet version, both restricted and public) various editions of the MCTL and DSTL documents that describe the military and proliferation significance of various technologies
- Monitor and assess dual-use and military technologies worldwide.
- Assist in the development of proposals for negotiation in various multilateral export control regimes.
- Provide technical support for the review/revision of the U.S. Munitions List under the Defense Trade Security Initiative.
- Provide analytical support for Congressional reports.
- Continuous technical support to interdepartmental and international processes which develop multinational export control agreements on technologies of concern to DoD.
- Worldwide technology capability assessments for the MCTL and other U.S. international critical technologies efforts.
- Identification and determination of technical parameters for proposals for international control of weapons of mass destruction.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2011 Office of Secretary Of Defense		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605110D8Z: <i>Militarily Critical Technology Support</i>	
<ul style="list-style-type: none"><li>- Technical assessments to support decisions on foreign ownership of U.S. industrial assets and treaty compliance inspections.</li><li>- Identification of foreign technologies of interest to the DoD and opportunities for international cooperative research and development.</li><li>- Identification of Homeland Defense and terrorism applications of militarily critical technologies.</li></ul> <p>(2) The DoD Damage Assessment Management Office (DAMO) Program: The DAMO Program coordinates the impact assessments involving the loss of Controlled Unclassified Information (CUI) resulting from the illicit exfiltration of technical and programmatic data maintained on unclassified Defense Industrial Base (DIB) networks. The DAMO identifies and categorizes the impact of the loss of acquisition information contained on the affected systems, organizes and coordinate the assessments with the affected DoD component and DIB partner, prepares interim and final assessment reports, and establishes a process to appropriately share collected information with all affected components and DIB members. The DAMO provides a triage of data and technical assessments based on the MCTL and coordinates assessments and information across the Services/Programs. The DAMO establishes policy and procedures for conducting damage assessments applicable to all DoD components in concert with FAR and DFAR procedures pertaining to contracts with the DIB.</p> <p>Specific activities include:</p> <ul style="list-style-type: none"><li>- Coordination with DIB partners, Defense Cyber Crime Center (DC3), Military Departments, DoD agencies, Counterintelligence/Law Enforcement Agencies, and Service Acquisition Executives (SAEs) to assess impacts of information compromise.</li><li>- Establish and organize the DAMO to be the centralized office for coordinating damage assessments relating to CUI.</li><li>- Develop and publish DoD policy guidance regarding the conduct of Damage Assessments for all DoD components to implement relating to CUI on defense acquisition programs.</li><li>- Develop, coordinate, implement and update CONOPs and procedures as required.</li><li>- Provide technical expertise and analyses in assessing the impact of data lost as a result of the exfiltration.</li><li>- Develop and implement the DAMO library of assessments maintaining damage assessment reports and ensuring access is available to all with a "need to know" for analytical purposes.</li><li>- Provide analysis to identify trends in the targeting and compromise of defense acquisition information.</li></ul>		

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2011 Office of Secretary Of Defense	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605110D8Z: <i>Militarily Critical Technology Support</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	4.007	4.914	0.000	0.000	0.000
Current President's Budget	4.151	4.874	4.743	0.000	4.743
Total Adjustments	0.144	-0.040	4.743	0.000	4.743
• Congressional General Reductions		0.000			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.250	0.000			
• SBIR/STTR Transfer	-0.106	0.000			
• Other Program Adjustments	0.000	-0.040	4.743	0.000	4.743

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense								<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0605110D8Z: <i>Militarily Critical Technology Support</i>				<b>PROJECT</b> P110: <i>Militarily Critical Technology Support</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
P110: <i>Militarily Critical Technology Support</i>	4.151	4.874	4.743	0.000	4.743	4.772	4.809	4.867	4.924	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

The Militarily Critical Technologies Program (MCTP) provides the development and implementation of DoD technology security policies on international transfers of defense related goods, services, and technologies:

(1) Export Control Program: Provides an ongoing assessment and analysis of goods and technologies. Determines significant advances in the development, production, and use of military capabilities of potential adversaries. Determines goods and technologies being developed worldwide with potential to significantly enhance or degrade U.S. military capabilities in the future. Identified in the Export Administration Act of 1979 and extended by Presidential Directive to review militarily critical goods and technologies and to consider worldwide technology capabilities. Comprised of two sets of documents:

- a) Militarily Critical Technologies List (MCTL): Congressionally mandated source document for identification of leading edge and current technologies monitored worldwide for national security, nonproliferation control of weapons of mass destruction, and advanced conventional weapons.
- b) Developing Science & Technologies List (DSTL): Describes military and proliferation significance of future technologies.

Specific activities include:

- Develop and publish in electronic form (including Internet version, both restricted and public) various editions of the MCTL and DSTL documents that describe the military and proliferation significance of various technologies
- Monitor and assess dual-use and military technologies worldwide.
- Assist in the development of proposals for negotiation in various multilateral export control regimes.
- Provide technical support for the review/revision of the U.S. Munitions List under the Defense Trade Security Initiative.
- Provide analytical support for Congressional reports.
- Continuous technical support to interdepartmental and international processes which develop multinational export control agreements on technologies of concern to DoD.
- Worldwide technology capability assessments for the MCTL and other U.S. international critical technologies efforts.
- Identification and determination of technical parameters for proposals for international control of weapons of mass destruction.

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605110D8Z: <i>Militarily Critical Technology Support</i>	<b>PROJECT</b> P110: <i>Militarily Critical Technology Support</i>
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- Technical assessments to support decisions on foreign ownership of U.S. industrial assets and treaty compliance inspections.
- Identification of foreign technologies of interest to the DoD and opportunities for international cooperative research and development.
- Identification of Homeland Defense and terrorism applications of militarily critical technologies.

(2) The DoD Damage Assessment Management Office (DAMO) Program: The DAMO Program coordinates the impact assessments involving the loss of Controlled Unclassified Information (CUI) resulting from the illicit exfiltration of technical and programmatic data maintained on unclassified Defense Industrial Base (DIB) networks. The DAMO identifies and categorizes the impact of the loss of acquisition information contained on the affected systems, organizes and coordinate the assessments with the affected DoD component and DIB partner, prepares interim and final assessment reports, and establishes a process to appropriately share collected information with all affected components and DIB members. The DAMO provides a triage of data and technical assessments based on the MCTL and coordinates assessments and information across the Services/Programs. The DAMO establishes policy and procedures for conducting damage assessments applicable to all DoD components in concert with FAR and DFAR procedures pertaining to contracts with the DIB.

Specific activities include:

- Coordination with DIB partners, Defense Cyber Crime Center (DC3), Military Departments, DoD agencies, Counterintelligence/Law Enforcement Agencies, and Service Acquisition Executives (SAEs) to assess impacts of information compromise.
- Establish and organize the DAMO to be the centralized office for coordinating damage assessments relating to CUI.
- Develop and publish DoD policy guidance regarding the conduct of Damage Assessments for all DoD components to implement relating to CUI on defense acquisition programs.
- Develop, coordinate, implement and update CONOPs and procedures as required.
- Provide technical expertise and analyses in assessing the impact of data lost as a result of the exfiltration.
- Develop and implement the DAMO library of assessments maintaining damage assessment reports and ensuring access is available to all with a "need to know" for analytical purposes.
- Provide analysis to identify trends in the targeting and compromise of defense acquisition information.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Militarily Critical Technologies Program <i>FY 2009 Accomplishments:</i> (1) Export Control Program:	4.151	4.874	4.743	0.000	4.743

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605110D8Z: <i>Militarily Critical Technology Support</i>	<b>PROJECT</b> P110: <i>Militarily Critical Technology Support</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul style="list-style-type: none"> <li>- Conducted MCTL annual update and reviews.</li> <li>- Continued to strengthen outreach to the Services and the U.S. Departments of State and Commerce to exchange technical information through the Community Advisory Board (CAB) process, as well as technical representation on multilateral export control panels.</li> <li>- Improved and expanded the focus of the DSTL effort to represent a broader global research watch.</li> <li>- Maintained twenty technical working groups with awareness across a complete range of current world-wide scientific and technical areas of DoD concerns.</li> <li>- Built the framework to create a tiered approach production, dissemination, implementation and revision.</li> <li>- Continued to refine Wiki-based collaborative environment (introduce new DTIC search engine for public MCTL users with improved access and usability).</li> <li>- Worked with DTSA, DoS, and DoC to ensure viable proposals for the Wassenaar Arrangement negotiations.</li> </ul> <p><i>FY 2010 Plans:</i></p> <p>(1) Export Control Program:</p> <ul style="list-style-type: none"> <li>- Conduct MCTL annual update and reviews.</li> <li>- Continue to strengthen outreach to the Services and the U.S. Departments of State and Commerce to exchange technical information through the Community Advisory Board (CAB) process, as well as technical representation on multilateral export control panels.</li> <li>- Improve and expand the focus of the DSTL effort to represent a broader global research watch.</li> <li>- Build definitions and a tiered approach to both the MCTL and DSTL processes.</li> <li>- Adapt the Wiki-based collaborative environment to evolving search engine requirements.</li> </ul> <p>(2) Damage Assessment Management Office (DAMO) Program:</p> <ul style="list-style-type: none"> <li>- Coordination with DIB partners, Defense Cyber Crime Center (DC3), Services, DoD agencies, Counterintelligence/Law Enforcement Agencies, and Service Acquisition Executives (SAES) to assess cyber intrusion compromises from foreign exploitation.</li> </ul>					

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605110D8Z: <i>Militarily Critical Technology Support</i>	<b>PROJECT</b> P110: <i>Militarily Critical Technology Support</i>
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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
- Continue to maintain the DAMO library of assessments maintaining damage assessment reports and ensuring access is available to all with a "need to know" for analytical purposes.					
Accomplishments/Planned Programs Subtotals	4.151	4.874	4.743	0.000	4.743

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

N/A

**D. Acquisition Strategy**

Not applicable for this item.

**E. Performance Metrics**

The indicators below allow the DoD to measure the success of the Militarily Critical Technologies Program program element:

- Currency of the MCTL with perspectives of user community
- Monitor usage/utility of the MCTL web sites and benchmarking with Service Acquisition agents
- Impact assessments of cyber-intrusions on DoD networks (identification of intruder, information obtained, impact on DoD technologies/programs and indications of next target)

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b>			<b>R-1 ITEM NOMENCLATURE</b>								
0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>			PE 0605117D8Z: <i>Foreign Materiel Acquisition and Exploitation</i>								
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	62.348	94.152	95.520	0.000	95.520	96.611	102.930	107.604	111.189	Continuing	Continuing
411: <i>Foreign Materiel Acquisition and Exploitation</i>	62.348	94.152	95.520	0.000	95.520	96.611	102.930	107.604	111.189	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

This program manages the acquisition and assessment of foreign weapons systems, military equipment, and military and dual-use technologies for the military services and defense agencies.

**B. Program Change Summary (\$ in Millions)**

	<u><b>FY 2009</b></u>	<u><b>FY 2010</b></u>	<u><b>FY 2011 Base</b></u>	<u><b>FY 2011 OCO</b></u>	<u><b>FY 2011 Total</b></u>
Previous President's Budget	62.471	94.921	0.000	0.000	0.000
Current President's Budget	62.348	94.152	95.520	0.000	95.520
Total Adjustments	-0.123	-0.769	95.520	0.000	95.520
• Congressional General Reductions		-0.769			
• 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			
• Other Program Adjustments	-0.123	0.000	95.520	0.000	95.520

**C. Accomplishments/Planned Program (\$ in Millions)**

	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Foreign Materiel Acquisition and Exploitation	62.348	94.152	95.520	0.000	95.520

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605117D8Z: <i>Foreign Materiel Acquisition and Exploitation</i>
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<b>C. Accomplishments/Planned Program (\$ in Millions)</b>	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p><i>FY 2009 Accomplishments:</i> Mission Support (Classified details provided in Defense-Wide (classified) Volume 7 book</p> <p><i>FY 2010 Plans:</i> Mission Support (Classified details provided in Defense-Wide (classified) Volume 7 book</p> <p><i>FY 2011 Base Plans:</i> Mission Support (Classified details provided in Defense-Wide (classified) Volume 7 book</p>					
<b>Accomplishments/Planned Programs Subtotals</b>	62.348	94.152	95.520	0.000	95.520

**D. Other Program Funding Summary (\$ in Millions)**

N/A

**E. Acquisition Strategy**

N/A

**F. Performance Metrics**

Classified details provided in Defense-Wide (classified) Volume 7 book

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605128D8Z: <i>Classified 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	99.622	94.864	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
128: <i>Classified Program</i>	99.622	94.864	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

Classified

**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	99.622	0.000	0.000	0.000	0.000
Current President's Budget	99.622	94.864	0.000	0.000	0.000
Total Adjustments	0.000	94.864	0.000	0.000	0.000
• Congressional General Reductions		0.000			
• 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			
• Other Program Adjustments	0.000	94.864	0.000	0.000	0.000

**Congressional Add Details (\$ in Millions, and Includes General Reductions)**

**Project:** 128: *Classified Program*

Congressional Add: *Classified*

	FY 2009	FY 2010
Congressional Add Subtotals for Project: 128	99.622	94.864
Congressional Add Totals for all Projects	99.622	94.864

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605128D8Z: <i>Classified Program</i>
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**C. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010
Congressional Add: Classified <i>FY 2009 Accomplishments:</i> Classified  <i>FY 2010 Plans:</i> Classified	99.622	94.864
Congressional Adds Subtotals	99.622	94.864

**D. Other Program Funding Summary (\$ in Millions)**

N/A

**E. Acquisition Strategy**

N/A

**F. Performance Metrics**

None

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**UNCLASSIFIED**

**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605130D8Z: <i>Foreign Comparative 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	32.050	34.771	32.755	0.000	32.755	33.048	33.398	33.932	34.463	Continuing	Continuing
P130: <i>FCT</i>	32.050	34.771	32.755	0.000	32.755	33.048	33.398	33.932	34.463	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

The Foreign Comparative Testing (FCT) program supports the warfighter by leveraging mature technologies and equipment from allied nations and coalition partners to satisfy U.S. defense requirements, thereby accelerating the U.S. acquisition process and lowering development costs. Authorized by Title 10, U.S. Code, Section 2350a(g), the FCT Program is managed by the Office of Secretary of Defense (Rapid Fielding Office), Comparative Testing Office. FCT projects are nominated by the Services and U.S. Special Operations Command (USSOCOM) each year. Evaluation processes for project selection include a detailed review to confirm the proposed item addresses valid requirements, a thorough market survey, and development of a viable acquisition strategy. A seven-day Congressional notification of the intent to fund the projects is required, prior to the issuance of funds to the Services/USSOCOM for execution.

Since the program's inception in 1980, Office of Secretary of Defense (OSD) has initiated 601 projects; 514 projects have been completed to date. Of the 279 evaluations that met the sponsors' requirements, 200 led to procurements worth approximately \$9.060 billion in FY 2009 constant year dollars. With an Office of Secretary of Defense investment of about \$1.170 billion, the FCT program has realized an estimated RDT&E cost avoidance of \$7.600 billion in FY 2009 constant year dollars.

The FCT program is frequently a catalyst for teaming or other business relationships between foreign and U.S. industries. Many successful FCT projects result in arrangements for the licensed production of the qualified foreign item in the U.S. Other nations recognize the long-term value of such practices for competing in the U.S. defense market and the resultant strengthening of the "two-way street" in defense procurement. For the U.S., the result often means the creation of jobs and contributions to local economies. To date, companies across 33 states have benefited from FCT projects.

Final selection of FY 2011 FCT new start projects will be determined in September 2010.

This RDT&E Category 6.5 is assigned and identified in this descriptive summary in accordance with existing DoD policy.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2011 Office of Secretary Of Defense	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605130D8Z: <i>Foreign Comparative Testing</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	34.718	35.054	0.000	0.000	0.000
Current President's Budget	32.050	34.771	32.755	0.000	32.755
Total Adjustments	-2.668	-0.283	32.755	0.000	32.755
• Congressional General Reductions		0.000			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	-0.283			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	-2.182	0.000			
• SBIR/STTR Transfer	-0.486	0.000			
• Other Program Adjustments	0.000	0.000	32.755	0.000	32.755

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605130D8Z: <i>Foreign Comparative Testing</i>	<b>PROJECT</b> P130: <i>FCT</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
P130: <i>FCT</i>	32.050	34.771	32.755	0.000	32.755	33.048	33.398	33.932	34.463	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

The Foreign Comparative Testing (FCT) program supports the warfighter by leveraging mature technologies and equipment from allied nations and coalition partners to satisfy U.S. defense requirements, thereby accelerating the U.S. acquisition process and lowering development costs. Authorized by Title 10, U.S. Code, Section 2350a(g), the FCT Program is managed by the Office of Secretary of Defense (Rapid Fielding Office), Comparative Testing Office. FCT projects are nominated by the Services and U.S. Special Operations Command (USSOCOM) each year. Evaluation processes for project selection include a detailed review to confirm the proposed item addresses valid requirements, a thorough market survey, and development of a viable acquisition strategy. A seven-day Congressional notification of the intent to fund the most meritorious projects is required, prior to the issuance of funds to the Services/USSOCOM for execution.

Since the programs inception in 1980, Office of Secretary of Defense (OSD) has initiated 601 projects; 514 projects have been completed to date. Of the 279 evaluations that met the sponsors' requirements, 200 led to procurements worth approximately \$9.060 billion in FY 2009 constant year dollars. With an OSD investment of about \$1.170 billion, the FCT program has realized an estimated RDT&E cost avoidance of \$7.600 billion in FY 2009 constant year dollars.

The FCT program is frequently a catalyst for teaming or other business relationships between foreign and U.S. industries; many successful FCT projects result in arrangements for the licensed production of the qualified foreign item in the U.S. Other nations recognize the long-term value of such practices for competing in the U.S. defense market and the resultant strengthening of the "two-way street" in defense procurement. For the U.S., the result often means the creation of jobs and contributions to local economies. To date, companies across 33 states have benefited from FCT projects.

This RDT&E Category 6.5 is assigned and identified in this descriptive summary in accordance with existing DoD policy.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
20 mm Replacement Round (Air Force)	0.284	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>This project is evaluating 20 mm ammunition developed by Diehl Munitionssysteme of Germany and Oerlikon of Switzerland to replace current 20 mm combat rounds. The in-service round, the Projectile Gun Unit 28B (PGU-28B), currently presents a safety hazard due to 25 in-barrel detonations that caused aircraft damage and could have resulted in pilot death and loss of the aircraft. The PGU-28B inventory has been declared "For Emergency Use Only" even though the rounds meet the United States Air Force requirements for employment ranges and target damage. The current alternative, the M-56 round, requires the pilot to engage targets at significantly closer ranges without the same lethality, resulting in an increase in vulnerability. The Diehl Projectile Enhanced Lateral Effect (PELE) round design offers a unique capability by using a kinetic energy concept to achieve the desired explosive effects, while having no fuse. This type of technology offers the promise of a mechanically safe and cost-effective round. If selected, the PELE will utilize the same logistics support as the current 20 mm round. There are also possible logistics benefits in terms of storage and transportation because of the lower hazardous classification associated with this design. Finally, the cost and design of this round may allow the Air Force to transition to a single round for both combat and training with associated benefits in user proficiency and regularly rotated stock.</p> <p><i>FY 2009 Accomplishments:</i> During the rough handling test several nose caps were dented. A projectile re-work plan was presented by ATK, Inc. to replace current nose caps with new nose caps that will undergo an ultrasonic inspection process prior to assembly on the PELE projectile. All PELE rounds at Eglin, Air Force Base (AFB) were inventoried and packaged for return back to ATK, Inc. for re-work of the projectiles with new nose caps. Air Armament Center (AAC) Safety has cleared the 780TS for air-to-ground Development Testing/Live Fire Testing and Evaluation (DT/LFT&amp;E) testing as soon as the re-worked rounds are returned to Eglin.</p> <p><i>FY 2010 Plans:</i> Eglin AFB Bomb Dump will ship out the PELE rounds on 13 October 2009 to ATK to meet a required delivery date of 15 October 2009. Update test schedule based on input from ATK, Inc. on the</p>					

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p><i>FY 2009 Accomplishments:</i> Procured test articles to be used for source selection using multiple foreign sources. Continued test planning and analyzing vendor data. Contracts awarded to multiple vendors to allow for accreditation of multiple rounds. Begin qualification process for Insensitive Munitions (IM) fill materials and target building.</p> <p><i>FY 2010 Plans:</i> Conduct technical and safety testing. Begin the operational and user assessments of different rounds. Obtain Air Worthiness certification and IM Compliance. Obtain Joint Munitions Safety Review certification.</p> <p><i>FY 2011 Base Plans:</i> Prepare Milestone C Decision and closeout report.</p>								
<p>5.0-Inch Steel Strip Laminate (SSL) Rocket Motor Case (Navy)</p> <p>This project will demonstrate the capability SSL rocket motor case technology that may provide potential safety improvements to the Zuni Rocket System. A successful project will provide the U.S. Navy /US Marine Corps the flexibility to use Zuni 5.0-Inch Rockets during shipboard operations. At present, shipboard use of the Zuni requires a waiver because the current system is not Insensitive Munitions (IM) compliant. The primary outputs and efficiencies to be demonstrated in the FCT are: (1) enhanced IM compliance of the rocket motor using the SSL case in fast and slow cook-off environments; (2) no degradation of performance and operational use; (3) additional flexibility in using the Zuni during shipboard operations for the Navy/Marine Corps; and (4) avoids RDT&amp;E costs estimated at \$6.000 million.</p> <p><i>FY 2009 Accomplishments:</i> Finalized/approved ballistic and chemical analysis test plans during 2Q FY 2009. Conducted test readiness review 2Q FY 2009. Conducted ballistic testing on four motors 2Q FY 2009. Awarded IM</p>				0.014	0.000	0.000	0.000	0.000

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>vendor to ship barrels for coating. Receive coated barrels. Analyze vendor data and conduct initial developmental testing.</p> <p><i>FY 2011 Base Plans:</i> Prepare developmental test report. Perform operational testing and prepare test reports. Prepare production decision packet and submit closeout report.</p>								
<p>Airborne Tactical Evacuation Platform (AIRTEP) (Special Operations Command)</p> <p>This project will evaluate the Airborne Tactical Extraction Platform, which is capable of extracting up to ten people or 3,306 pounds. Existing Fast Rope Infiltration/Exfiltration System and the Forest Penetrator evacuation systems are only capable of extracting three people from locations where rotorcraft vehicles cannot safely land. The primary outputs and efficiencies are as follows: the system allows for a quicker evacuation from a potentially hostile environment. It reduces the number of sorties required to evacuate operators and equipment, saving flight time and decreasing exposure to enemy fire. Reduces the time to secure personnel and equipment to platform; compared to donning harness and hooking on to existing Fast Rope Insertion and Extraction Systems. Provides these rescued operators the ability to engage enemy while being evacuated; increasing survivability and lethality, unlike existing systems. The RDT&amp;E potential savings is estimated at \$1.750 million. This platform will potentially save lives. Fielding reduction is greater than three years. Completion date is scheduled for September 2011.</p> <p><i>FY 2009 Accomplishments:</i> Solicitation &amp; Down Selection completed. Conducted test planning, established Summary Test Plan and Spend Plan. Funding received and put on contract. Received Test Articles and conducted Engineering Analysis. Completed initial technical testing on the first group of platforms for session one. Prepared Technical Test Report and submitted Engineering Change Request.</p>				0.908	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>To demonstrate and qualify the AT4-CS to meet Shoulder Launched Munitions capabilities required by the US Army Infantry Center. The current AT4-CS warhead provides high lethality and incendiary effects against armor (defeats 16 inches of armor) but lacks overmatching penetration and effect against masonry walls made of brick and concrete and other urban targets/structures, field fortifications (earth and timber bunkers). A new multipurpose warhead with the ability to penetrate brick and concrete walls, incapacitate enemy forces behind urban structures and within field fortifications is required to maintain overwhelming firepower and reduce the logistics and training associated with multiple systems. The primary outputs and efficiencies to be demonstrated are: (1) capability of incapacitating enemy positioned behind urban walls and structures made of eight inch double reinforced concrete; (2) capability of incapacitating enemy Soldiers positioned behind urban walls and structures made of 12 inch triple brick; (3) capability of incapacitating enemy Soldiers positioned within earth and timber bunkers; (4) capability to meet performance requirements within close combat ranges; and (5) capability to be safely fired from enclosures found in urban environments. In addition to savings in logistics and training from eliminating multiple munitions, the procurement cost savings of this project is estimated at 40-50 percent of the unit cost of each weapon by leveraging ammunition and fuzing components from other similar 84 mm family of weapons. Assuming \$0.003 million per round savings multiply \$0.020 million rounds over five years equals to \$60.000 million.</p> <p><i>FY 2009 Accomplishments:</i> Conducted weekly Integrated Product Team (IPT) meetings to update detailed program schedule, update acquisition strategy, coordinate test and evaluation efforts, and discuss modeling and simulation requirements. In addition, the IPT conducted Quarterly Program Reviews with PM-CCS management. Received all U.S. Government Developmental Test (USG DT) hardware; includes 184 combat weapons and special delivery items. Special items include the inert and live Electronic Explosive Devices (EED) for both the Main Charge (MC) and the Break In Charge (BIC). Completed the following USG DT/Qualification Tests to date: Arena Fragmentation Firings, 12 Meter Drop Test, Blast Overpressure / Toxic Fumes / Hearing Testing.</p>					

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>bubble leak check methods used to detect fuel leaks in full aircraft and off airframe components are slow, inaccurate, and result in leaks not being detected until an aircraft is refueled prior to the initial check flight. Leaks detected at this time add unexpected labor (Over 4000 Hrs for the F-16 April 2008 to 2009) from additional fuel system defueling and purging, aircraft towing, airframe component removal and disassembly, along with potential increases (as an example for the F-16) of 30 to 45 day aircraft flow days. Current methods do not allow leak detection in complex assemblies without disassembly such as in and around wing leading edge wiring, rotary actuators, pylon attach points, and wing attach fittings. If successful this, the system(s) can potentially be used at depot, field level, and Department of Defense wide for multiple weapon systems.</p> <p><i>FY 2010 Plans:</i> Contract for the test article, train operators, evaluate the systems and if the evaluation is successful, procurement.</p>								
<p>H-53 Low Cost and Reliable Generator Control Unit (Navy)</p> <p>A successful FCT will provide the U.S. Navy with a lower cost/higher reliability Generator Control Unit (GCU). This project will test and evaluate a GCU to be used on H-53 aircraft. H-53 program needs a second source/replacement for the obsolete Bendix 21B17-6 for the H-53 Aircraft GCU. Program will evaluate a state-of-the-art GCU currently used on foreign aircraft that provides greater reliability. The primary outputs and efficiencies to be demonstrated in the FCT are: (1) unit cost goal is \$5-6 thousand; (2) reliability goal is 16 thousand Mean Time Between Failure (MTBF) hours vice 640 hours of the legacy GCU; and (3) manufacturing and procurement cost savings worth more than \$8.000 million.</p> <p><i>FY 2009 Accomplishments:</i> Completed sources sought review for H-53 GCU during 3Q FY 2009. Obtained sole-source justification and authorization 3Q FY 2009. Initiated request for proposal to perspective vendor 4Q FY 2009. Completed contracting efforts and began FCT qualification effort 4Q FY 2009. Initiated GCU qualification and testing on H-53 aircraft 4Q FY 2009.</p>				1.363	0.179	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>Rocket Propelled Grenades (RPGs)/unguided rockets. This out-of-cycle FCT project will evaluate a non-developmental HFI M&amp;S system currently in use with the UK. An integrated HFI M&amp;S system will provide the Navy with: (1) a more realistic training experience through mimicking the capability of operational HFI systems fielded in theatre; and (2) avoid RDT&amp;E, manufacturing, and procurement costs of over \$8.000 million.</p> <p><i>FY 2009 Accomplishments:</i> Received funding 4Q FY 2009.</p> <p><i>FY 2010 Plans:</i> Initiated project planning 1Q FY 2010. Perform initial Hardware (HW)/Software (SW) evaluation at vendor site and conduct HW/SW portability assessment 2Q FY 2010. HW/SW performance testing 3Q FY 2010. Conduct integration assessment and provide FCT closeout report 4Q FY2010.</p>					
<p>Hostile Forces Tagging, Tracking and Locating (Special Operations Command)</p> <p>This project evaluated a collection of tagging, tracking and locating devices that represent the latest in technology. The primary outputs and efficiencies are as follows: these electronic components consist of Data Loggers, Direction Finding devices with associated receivers, Ground Positioning Satellite based cellular and satellite systems. These devices will provide deployed Special Operations Forces worldwide with an enhanced capability to tag, track and pin-point location of adversaries. Due to the number of test articles involved and their sophistication, testing was divided into two phases over two years. The procurements for these devices have exceeded \$24.300 million and resulted in \$19.500 million cost avoidance. Additional procurements are planned. Fielding reduction is greater than three years. Project testing was completed June 2009.</p>	0.463	0.000	0.000	0.000	0.000

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>																							
<table border="1"> <thead> <tr> <th></th> <th>FY 2009</th> <th>FY 2010</th> <th>FY 2011 Base</th> <th>FY 2011 OCO</th> <th>FY 2011 Total</th> </tr> </thead> <tbody> <tr> <td> <p>added RDT&amp;E costs is estimated at \$169.000 million, while providing a Return on Investment (ROI) of 82:1.</p> <p><i>FY 2009 Accomplishments:</i> Received test articles at the middle of 1Q FY 2009. Completed test planning during 1Q FY 2009. Initiated qualification testing/limited user evaluation (LUE) at the end of 1Q FY 2009. Completed ammunition data-link system validation and verification at Aberdeen Proving Ground (APG) in 2Q FY 2009. Completed M1A1 breech modification training for Anniston Army Depot and modified two breeches in 2Q FY 2009. Completed live-fire, manned firing aboard M1A1 with ammunition data-link during 3Q FY 2009. Completed toxicity testing for the MPHE cartridge at APG during 3Q FY 2009. Completed source selection down-select at the end of 3Q FY 2009. Initiated Field User Evaluation (FUE) during 4Q FY 2009.</p> <p><i>FY 2010 Plans:</i> Initiate Qualification Testing and complete FUE by end of 2Q FY 2010. Complete Weapon System Explosives Safety Review Board certification by middle of 3Q FY 2010. Provide a full production decision, technical test report, and closeout report by the end of 3Q FY 2010.</p> </td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> <p>M1A1 Crew Cooling System (Navy)</p> <p>A successful FCT will provide the United States Marine Corps (USMC) with an adequate personal, wearable, cooling solution to the entire M1A1 tank crew. A two year project under sponsorship of the FCT and Marine Corps Systems Command, Program Manager Tank Systems. Projected testing completion date will be FY 2010. The primary outputs and efficiencies to be demonstrated in the FCT are: (1) significantly increase the overall safety of M1A1 crewmembers, resulting in improved mission endurance and operational effectiveness; (2) greatly reduce the logistical burden associated with rotating tank crews due to rapid dehydration; and (3) avoid RDT&amp;E and procurement costs of \$5.000 million and \$10.000 million while providing a Return on Investment (ROI) of 22:1.</p> </td> <td align="right">1.192</td> <td align="right">0.514</td> <td align="right">0.000</td> <td align="right">0.000</td> <td align="right">0.000</td> </tr> </tbody> </table>							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	<p>added RDT&amp;E costs is estimated at \$169.000 million, while providing a Return on Investment (ROI) of 82:1.</p> <p><i>FY 2009 Accomplishments:</i> Received test articles at the middle of 1Q FY 2009. Completed test planning during 1Q FY 2009. Initiated qualification testing/limited user evaluation (LUE) at the end of 1Q FY 2009. Completed ammunition data-link system validation and verification at Aberdeen Proving Ground (APG) in 2Q FY 2009. Completed M1A1 breech modification training for Anniston Army Depot and modified two breeches in 2Q FY 2009. Completed live-fire, manned firing aboard M1A1 with ammunition data-link during 3Q FY 2009. Completed toxicity testing for the MPHE cartridge at APG during 3Q FY 2009. Completed source selection down-select at the end of 3Q FY 2009. Initiated Field User Evaluation (FUE) during 4Q FY 2009.</p> <p><i>FY 2010 Plans:</i> Initiate Qualification Testing and complete FUE by end of 2Q FY 2010. Complete Weapon System Explosives Safety Review Board certification by middle of 3Q FY 2010. Provide a full production decision, technical test report, and closeout report by the end of 3Q FY 2010.</p>						<p>M1A1 Crew Cooling System (Navy)</p> <p>A successful FCT will provide the United States Marine Corps (USMC) with an adequate personal, wearable, cooling solution to the entire M1A1 tank crew. A two year project under sponsorship of the FCT and Marine Corps Systems Command, Program Manager Tank Systems. Projected testing completion date will be FY 2010. The primary outputs and efficiencies to be demonstrated in the FCT are: (1) significantly increase the overall safety of M1A1 crewmembers, resulting in improved mission endurance and operational effectiveness; (2) greatly reduce the logistical burden associated with rotating tank crews due to rapid dehydration; and (3) avoid RDT&amp;E and procurement costs of \$5.000 million and \$10.000 million while providing a Return on Investment (ROI) of 22:1.</p>	1.192	0.514	0.000	0.000	0.000
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total																		
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<p>M1A1 Crew Cooling System (Navy)</p> <p>A successful FCT will provide the United States Marine Corps (USMC) with an adequate personal, wearable, cooling solution to the entire M1A1 tank crew. A two year project under sponsorship of the FCT and Marine Corps Systems Command, Program Manager Tank Systems. Projected testing completion date will be FY 2010. The primary outputs and efficiencies to be demonstrated in the FCT are: (1) significantly increase the overall safety of M1A1 crewmembers, resulting in improved mission endurance and operational effectiveness; (2) greatly reduce the logistical burden associated with rotating tank crews due to rapid dehydration; and (3) avoid RDT&amp;E and procurement costs of \$5.000 million and \$10.000 million while providing a Return on Investment (ROI) of 22:1.</p>	1.192	0.514	0.000	0.000	0.000																		

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0605130D8Z: <i>Foreign Comparative Testing</i>		<b>PROJECT</b> P130: <i>FCT</i>							
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
<table border="1"> <thead> <tr> <th></th> <th>FY 2009</th> <th>FY 2010</th> <th>FY 2011 Base</th> <th>FY 2011 OCO</th> <th>FY 2011 Total</th> </tr> </thead> </table>							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total						
<p>when compared to the legacy Kollmorgen photonics mast; and (4) avoid potential added RDT&amp;E costs of over \$30.000 million.</p> <p><i>FY 2009 Accomplishments:</i> Prepared specifications and awarded contract 2Q FY 2009. Planned for 3Q FY 2009 and 4Q FY 2009 is development of test plan and test schedule and attainment of Temporary Alteration approval for systems installation, integration and operational testing.</p> <p><i>FY 2010 Plans:</i> Attain approval for shipboard installation and integrations of test article during 2Q FY 2010. Install and integrate test article during 2Q FY 2010. Perform pier-side systems test and integration, scheduled for 4Q FY 2010. Perform at-sea testing for systems evaluation and performance during 1Q FY 2011.</p>											
<p>Pilar Gunfire Detection System Upgrades (Special Operations Command)</p> <p>This project will qualify Pilar Gunfire Detection System (GDS) upgrades for the Pilar M1 Fixed Site and M2 Vehicle Mounted GDS. Both variants of the GDS provide detection and localization of the fire origins of the enemy snipers. These upgrades will greatly enhance the Special Operations Forces missions and improve their tactical performance, by adding Global Positioning Satellite coordinates. This added feature will allow our warfighters to retaliate more swiftly with gunfire or take other appropriate actions. The primary outputs and efficiencies are as follows: crucial upgrades to GDS, ensuring Special Operations Forces have the most advanced technology available to effectively locate and defeat sniper or hostile small arms fire. The RDT&amp;E potential savings is estimated at \$12.000 million and procurement is estimated at \$10.000 million. Fielding reduction is greater than four years. Completion date is scheduled for December 2011.</p> <p><i>FY 2009 Accomplishments:</i> Project planning was conducted and funds received. Contract for test articles was prepared. Test articles were shipped from Special Operations Forces Support Activity.</p>											
<table border="1"> <tbody> <tr> <td></td> <td align="center">0.891</td> <td align="center">0.694</td> <td align="center">0.000</td> <td align="center">0.000</td> <td align="center">0.000</td> </tr> </tbody> </table>							0.891	0.694	0.000	0.000	0.000
	0.891	0.694	0.000	0.000	0.000						

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>Perform Weapon and Ammunition Developmental Test and Safety Tests. Prepare and Issue Second Solicitation. Perform Go/No Go (Phase II Testing). Gain Safety Release for Early User Assessment.</p> <p><i>FY 2011 Base Plans:</i> Conduct developmental test and User Assessment (Phase II). Produce a Capability Production Document (CPD) and obtain Milestone C Production Decision. Prepare decision packet and FCT closeout report 4Q FY 2011.</p>						
<p>Programmable High Explosive Dual Purpose Ammunition (Special Operations Command)</p> <p>This project will produce a 40 mm high-velocity Programmable-High Explosive Dual Purpose (P-HEDP) round for the Advance Lightweight Grenade Launcher (ALGL) MK47 Weapon System. The primary outputs and efficiencies are as follows: P-HEDP ammunition will consist of components derived from two other successful FCT projects combined into the next priority round from the ALGL operational requirement. These components will be assembled, tested, qualified, and then released for SOF use. RDT&amp;E cost avoidance for this type of effort is estimated at \$9.000 million. Combined operations and support and procurement cost avoidance is expected to be at \$27.000 million. Fielding reduction is greater than five years. Completion date is scheduled for September 2010.</p> <p><i>FY 2009 Accomplishments:</i> Technical testing conducted at manufacturing facility in Norway and Naval Surface Warfare Center, Crane, Indiana.</p> <p><i>FY 2010 Plans:</i> Prepare P-HEDP IDIQ Contract. Test article production and test data review. Receive developmental test articles. Conduct Technical Testing. Receive Operational Test Articles. Conduct Operational Testing. Receive Safety Release and Joint Safety Approvals. Complete Milestone C Decision package. Complete FCT closeout report 4Q FY 2010.</p>		0.000	0.972	0.000	0.000	0.000
Pyrolysis Solid Waste Disposal With Energy Recovery (Army)		1.874	1.436	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>This project will demonstrate and evaluate a containerized system that uses Pyrolysis technology to dispose of approximately two tons of solid waste per day within a Force Provider base camp. This technology will help reduce or eliminate the need for outside contractors to access the base camp to dispose of solid waste there by reducing potential threats to the force. The primary outputs and efficiencies are as follows: the system will be self-powered reducing the need for additional fuel to operate, and the energy recovery of the Pyrolysis will reduce the amount of fuel needed to support the base camp, thereby reducing logistics burden. RDT&amp;E cost savings is estimated at \$9.900 million. Operations and Life-Cycle cost avoidance/savings is estimated at \$0.347 million. When fully funded, the potential annual savings is estimated at \$9.716 million.</p> <p><i>FY 2009 Accomplishments:</i> Formed Integrated Product Team (IPT) and conducted two IPT Meetings (March 2009 and September 2009) for Pyrolysis Waste Disposal System (PWDS). Principal Assistant Responsible for Contracting (PARC) approved Justification and Approval (J&amp;A) for Other Than Full and Open Competition document authorizing sole source contract with QinetiQ, Ltd. Awarded firm fixed price Indefinite Delivery Indefinite Quantity contract to QinetiQ, Ltd consisting of three year base period for Test Unit Design/Build and Testing and one two-year optional ordering period for full production (up to twelve systems). Contractor initiated design integration effort and completed Preliminary Design Review.</p> <p><i>FY 2010 Plans:</i> Contractor complete design integration effort and build of one PWDS test unit under PWDS contract. Contractor conduct Factory Acceptance Testing (FAT) and deliver one PWDS test unit in late 3Q FY 2010. Government conduct Technical and Safety Testing at Aberdeen Test Center (ATC) in the 4Q FY 2010 and ship test unit Operational Testing (OT) site at National Training Center (NTC) to be conducted in 1Q FY 2011. Based on successful Government testing, Program Manager transition program into procurement, prepare for Milestone C Production Decision, and complete project closeout report in late FY 2011.</p>					

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>RapidEye Imagery for Eagle Vision (Air Force)</p> <p>RapidEye is a constellation of five Earth remote-sensing satellites intended for broad-area multispectral optical imaging, with the capability to image areas of interest multiple times per day. It can image anywhere on the Earth daily, for tactical mission planning, battlespace awareness, geospatial intelligence, and unclassified homeland security and disaster relief/humanitarian functions. The RapidEye daily revisit capability can reach any point on earth for repeat coverage, with multiple daily opportunities to uplink control commands and downlink imagery, providing responsive timelines for command &amp; control of the system. The five-satellite constellation redundancy enhances its availability and survivability and eliminates single-point-of-failure risk unique to single spacecraft. RapidEye AG, Brandenburg/Havel, Germany owns and operates this constellation which was launched in August 2008. The RapidEye satellites were developed using Canadian and British technologies that do not exist in the U.S. industry; and MacDonald, Dettwiler and Associates Ltd. (MDA) of Canada developed the ground station interface software. The RapidEye test/calibration and commissioning phase is complete, and the system is fully operational. The primary outputs and efficiencies to be demonstrated in the FCT is the integration of the German RapidEye AG satellite constellation ground station interface initially into one of five Eagle Vision Data Acquisition Segment (DAS) sites; and following a successful FCT evaluation of this initial integration, the program would subsequently integrate the same ground station interface into the four remaining Eagle Vision sites.</p> <p><i>FY 2009 Accomplishments:</i> Project started 4Q FY 2009. Began contracting actions for test articles.</p> <p><i>FY 2010 Plans:</i> Contract for the test article and after receipt of the test article, integrate into the Eagle Vision System and commence initial technical testing. Perform user/operator assessment and prepare user test reports. Prepare decision packet and if successful, integrate the RapidEye capability into the remaining four Eagle vision systems.</p>	1.635	2.464	0.000	0.000	0.000

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<b>Robotic – Moving Target System (R-MTS) (Navy)</b>  A successful FCT will provide the United States Marine Corps (USMC) with a free roaming, pre-programmable mobile target system that simulates realistic human movements and responses in an urban combat environment. This is a two-year project under sponsorship of the FCT and Marine Corps Systems Command, Program Manager Training Systems. Projected test and evaluation completion date by FY 2011. The primary outputs and efficiencies to be demonstrated in the FCT are: (1) improved marksmanship skills; (2) tactical decision making proficiency; (3) analytical abilities that will result in the combat efficacy of engaging moving life-like targets with live-fire and maneuver; and (4) avoid RDT&E and procurement costs of \$11.930 million while providing a Return on Investment (ROI) of 13:1.  <i>FY 2010 Plans:</i> Receive Initial FCT funds and initiate Contract Preparation and Test Planning by end 2Q FY 2010. Complete Contract Award and initiate Fabrication of test articles by mid 3Q FY 2010. Receive test articles by end of 4Q FY2010.  <i>FY 2011 Base Plans:</i> Complete test planning and initiate technical and safety testing efforts 1Q FY 2011. Initiate Field User Evaluation and complete Technical and Safety testing 2Q FY 2010. Finalize Technical and closeout report by end of 3Q FY 2010. Make Milestone C Decision early 4Q FY2011.		0.000	2.392	0.500	0.000	0.500
<b>Signaling Colored Smoke Grenades (SCSG) (Navy)</b>  A successful FCT will provide the United States Marine Corps (USMC) with a family of signaling colored smoke grenades for procurement and immediate fielding to the Warfighter. SCSG is a joint-project with Army, and the USMC is the lead. This is a two year project under sponsorship of the FCT and Marine Corps Systems Command, Program Manager Ammunition. Projected testing completion date will be FY 2011. The primary outputs and efficiencies to be demonstrated in the FCT are: (1) readily producible and cost efficient Green/Yellow/Red/Violet/White colored smoke grenades to meet		0.555	0.838	0.000	0.000	0.000

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>conducted at Fort Dix, New Jersey as part of the CERDEC Product Manager C4ISR On-The-Move exercise. The focus of Phase III testing was suitability of use in a field environment and human factors issues related to field use.</p> <p><i>FY 2010 Plans:</i> Complete development and testing of 3D Stereoscopic C2 system. Complete final test report and closeout report.</p>								
<p>Transportable Plasma Waste to Energy System (Air Force)</p> <p>This project will test a waste to energy system that handles ten-tons per-day and can efficiently and economically dispose of the entire waste stream in an environmentally sound manner. Air Force Special Operations Command (AFSOC) A7AV (Environmental) at Hurlburt Field, Florida will evaluate an advanced waste to energy system developed by PyroGenesis, a Canadian company located in Montreal, Canada. This compact, land-based system will accept any gas, liquid or solid waste without the need for pre-sorting, including hazardous and biological/medical waste while also being a net energy producer. Current waste disposal methods typically involve expensive contracts with local waste haulers that collect and transport the waste to a landfill. At remote locations, open pit burning is usually involved, with a myriad of operational security, environmental, health, and other serious exposure risks to our troops. Executive Order 13423 mandates the Federal Government reduce energy consumption, increase the use of green products, reduce greenhouse gases, and divert or reduce solid waste. The Plasma Waste to Energy System will meet all these goals, while producing electricity and valuable by-products (i.e. gravel and metal ingots).</p> <p><i>FY 2009 Accomplishments:</i> Obtained digging permits, installed ground dewater system, obtained storm water permit, installed storm water control system, retention pond and catch basins, installed oil/water separator, Installed lift station, obtained Research Demonstration and Development (RDD) permit approval, ordered plasma building package, 8000 square feet steel facility. The Hazardous waste permit is underway. Obtained</p>				1.585	0.000	0.000	0.000	0.000

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<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A		
<b>D. Acquisition Strategy</b> Not Applicable		
<b>E. Performance Metrics</b> Since the program's inception in 1980, the Office of Secretary of Defense (OSD) has initiated 601 projects; 514 projects have been completed to date. Of the 279 evaluations that met the sponsors' requirements, 200 led to procurements worth approximately \$9.060 billion in FY 2009 constant year dollars. With an Office of Secretary of Defense investment of about \$1.170 billion, the FCT program has realized an estimated RDT&E cost avoidance of \$7.600 billion in FY 2009 constant year dollars. In FY 2009 FCT had a transition rate of 71 percent for completed projects, exceeding the objective of 30 percent for demonstration programs (Strategic Objective 4-3, Office of the Under Secretary of Defense, Acquisition, Technology & Logistics (OUSD (AT&L))).		

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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	0.000	0.000	29.824	0.000	29.824	26.983	30.834	29.062	32.517	Continuing	Continuing
P142: <i>Systems Engineering</i>	0.000	0.000	22.646	0.000	22.646	22.047	23.674	24.038	25.180	Continuing	Continuing
P143: <i>Program Protection</i>	0.000	0.000	7.178	0.000	7.178	4.936	7.160	5.024	7.337	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

This is not a new start. This is a new Program Element based on the Weapons Systems Acquisition Reform Act (WSARA) of 2009 which directed the establishment of the Director, Systems Engineering and amended Section 139 of Title 10, U.S. Code to assign certain specific missions, functions and duties to the Director, Systems Engineering. The new Office of the Director, Systems Engineering (D, SE) was leveraged from resources which in FY 2010, resided in the former Director, Systems and Software Engineering which was under the former Deputy Under Secretary of Defense (Acquisition and Technology).

The responsibilities of D, SE includes both responsibilities previously conducted in the Office of the Director, Systems and Software Engineering (D, SSE) as well as new responsibilities required by WSARA.

This Program Element (PE) establishes the dedicated funding line to carry out those duties, as described in the WSARA of 2009. The Director, Systems Engineering (D, SE) is the principal advisor to the Secretary of Defense, the Under Secretary of Defense for Acquisition, Technology and Logistics (USD(AT&L)) and the Director, Defense Research and Engineering (D,DR&E) on systems engineering, development planning, and related technical fields in the Department of Defense. The D, SE develops policies and guidance for the use of systems engineering principles and best practices, the use of systems and software engineering planning and contracting approaches to enhance reliability, availability, and maintainability on major defense acquisition programs; the development of systems engineering plans (SEP) for major defense acquisition programs including software, and systems engineering considerations in support of lifecycle management and sustainability; and the inclusion of provisions relating to systems engineering and reliability in requests for proposals. The D, SE reviews and approves the SEP for each major defense acquisition program and monitors and reviews the systems engineering and development planning activities of major defense acquisition programs and other defense acquisition programs as directed by SECDEF or USD(AT&L). Based on this continuous program engagement, the D, SE advises and makes recommendations to the Secretary of Defense and the USD(AT&L) regarding systems engineering, development planning and the execution of these activities; provides independent assessments of defense acquisition program systems engineering, development planning, technical execution and risk as a member of the Defense Acquisition Board. The D, SE provides input on the inclusion of systems engineering requirements as part of the Joint Requirements Oversight Council's process for joint military requirements; to include developing specific inputs relating to each capabilities development document.

The D, SE issues guidance to and consults with the Services and Agencies with respect to SE in the Department and provides advocacy, oversight, and guidance

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to elements of the acquisition workforce responsible for systems engineering, development planning, and lifecycle management and sustainability functions and developing policies and guidance for the integration of specialty engineering functions as part of the systems engineering responsibility for Mission Assurance in the acquisition. The ,SE periodically reviews the organizations and capabilities of the military departments with respect to systems engineering, development planning, and lifecycle management and sustainability, and identifies needed changes or improvements to such organizations and capabilities.

The Director, Systems Engineering prepares and submits an annual report to Congress on systems engineering activities and effectiveness.

This PE includes effort by the office of the D, SE in implementing the Department’s Cyber initiatives. Specifically, the PE will develop and address the critical subdiscipline of systems engineering - system security engineering. This will include study and maturation of discipline fundamentals such as best practices, tools, guidance and policy, and will also pilot system security practices in defense acquisition as a fundamental element of systems engineering and technical reviews. Efforts in this area are directly driven by cyber and malicious supply chain threats that the Department faces, and therefore, will include implementing Department directives and regulations to protect critical program information.

**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	0.000	0.000	0.000	0.000	0.000
Current President's Budget	0.000	0.000	29.824	0.000	29.824
Total Adjustments	0.000	0.000	29.824	0.000	29.824
• Congressional General Reductions		0.000			
• 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			
• Re-allocation of funds from DTE (0605804D8Z) to SE (0605142D8Z)	0.000	0.000	21.244	0.000	21.244
• WSARA	0.000	0.000	8.450	0.000	8.450
• Other Adjustments	0.000	0.000	0.130	0.000	0.130

**Congressional Add Details (\$ in Millions, and Includes General Reductions)**

**Project:** P143: *Program Protection*

FY 2009	FY 2010

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<b>Congressional Add Details (\$ in Millions, and Includes General Reductions)</b>	<b>FY 2009</b>	<b>FY 2010</b>
Congressional Add: <i>*** PLEASE ENTER CONGRESSIONAL ADD TITLE ***</i>	0.000	0.000
Congressional Add Subtotals for Project: P143	0.000	0.000
Congressional Add Totals for all Projects	0.000	0.000

**Change Summary Explanation**

The Under Secretary of Defense (Acquisition, Technology & Logistics) initiated implementation of the Weapons Systems Acquisition Reform Act (WSARA) by establishing a new office of the Director, Systems Engineering and reallocating resources from the former Office of the Director, Systems and Software Engineering, which resided in PEs 0604875D8Z and PE 0605804D8Z.

In FY 2011, funding in the amount of \$21.244, from 0605804D8Z, was re-allocated to this Systems Engineering Program Element. The Base Year funding amount also includes a WSARA adjustment of \$8.450.

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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
P142: <i>Systems Engineering</i>	0.000	0.000	22.646	0.000	22.646	22.047	23.674	24.038	25.180	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

This (P127) program supports the execution of the missions of the Director, Systems Engineering to provide flexible engineering policy, guidance, and workforce development requirements for the DoD acquisition workforce, to foster an acquisition environment of collaboration, teamwork, and joint ownership of program success through a proactive program oversight process ensuring appropriate levels of systems engineering discipline are applied through all phases of the acquisition life cycle and to engage all stakeholders across government, industry, and academia to collectively advance systems engineering practice and achieve acquisition excellence. The outcome of this effort is ensure systems engineering principles and disciplines are fully accepted and assimilated into the DoD acquisition workforce positioning the DoD for acquisition excellence leading to a stronger national defense.

Activities include the following--

Program Support Functions:

- Working with program managers to prepare system engineering plans (SEPs) to document the technical management approach.
- Conduct periodic visits in support of technical reviews to confirm programs are executed in accordance with the SEP.
- Review all aspects of the systems engineering process for major defense acquisition programs to ensure they are adequate to support fielding and the achievement of cost and performance goals including reliability, sustainment and other mission assurance considerations.
- Participate in Systems Engineering (SE) IPTs and SE WIPTs and SE technical reviews, especially Preliminary Design Reviews and Critical Design Reviews.
- Work with DoD Service program managers, their staffs, and other organizations, technical authorities, and oversight organizations to develop and implement technical management programs for major defense acquisition program (MDAPS).
- Conceive plans and lead program support reviews and assessments of MDAP weapons systems and other programs (e.g., Major Automated Information Systems) to shape technical planning and management to ensure program success.
- Conduct other technical reviews as requested e.g. Nunn-McCurdy certification reviews, Non-Advocate Reviews, focused technical assessments and software readiness reviews to identify and mitigate program risk.

Mission Assurance Functions:

- Establish Mission Assurance policy, guidance and workforce development to drive the development of fully capable and supportable weapons systems.

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- Oversee Component implementation of Mission Assurance incentives and conduct independent Mission Assurance assessments.
- Develop education and training materials for instructing, maintaining and enhancing the defense acquisition workforce. Activities include developing guidance to enhance SPRDE and PQM acquisition career planning and progression, monitoring and facilitating Defense Acquisition University (DAU) updates systems engineering, quality and Soft ware engineering course to ensure curriculum represents the education and training requirements necessary to be a viable team member in the acquisition process.
- Drive an overall improvement in weapon system reliability through improved reliability engineering, reliability growth management, and reliability monitoring in program development contracting, execution and sustainment.
- Prepare and submit annual reports to Congress on the Department’s capabilities and effectiveness in systems engineering and development planning.

**System Analysis Functions:**

- Execute the Acquisition system elements of the National Cyber Security Strategy including cyber security, systems security and program protection planning.
- Guide Service and other component organizations in the development planning process the ensure proposed MDAP programs are executable within acceptable levels of risk.
- Resolve long-term major SE challenges such as systems of systems systems engineering, SE Complexity Analysis and systems engineering based technical trade off analysis and pre program formulation stages.
- Provide necessary modeling and simulation policy and guidance, clarifies the application of distributed simulation standards and works with the DoD modeling and simulation community to identify and prioritize required capabilities and competencies needed to support acquisition modeling and simulations.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Systems Engineering Initiatives  The Director, Systems Engineering provides objective assessments of program risk to support knowledge-based decision making by Department of Defense (DoD) leaders regarding DoD Major Defense Acquisition Programs (MDAPs) and Major Automated Information Systems (MAIS).  <i>FY 2011 Base Plans:</i> Strategic Thrust: Major Program Support •Deep-dive systems engineering (SE) reviews of Major Acquisition Defense Acquisition Programs (MDAPs) and special interest programs.	0.000	0.000	22.646	0.000	22.646

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605142D8Z: <i>Systems Engineering</i>	<b>PROJECT</b> P142: <i>Systems Engineering</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<ul style="list-style-type: none"> <li>•Expand conduct of SE and execution risk assessments.</li> <li>•Initiate systems integration and development planning risk assessments.</li> <li>•Expand monitoring programs, providing SE oversight to include all MDAPs, MAIS and special interest programs.</li> <li>•Conduct systemic analysis and process management.</li> <li>•Expand root cause analysis conducted during and after Program Support Reviews (PSR).</li> <li>•Initiate detailed performance measurements and analysis.</li> <li>•Participate in Overarching Integrated Product Teams (OIPTs) providing decision-quality information and recommendations to Defense Acquisition Boards (DABs), In-Process Reviews (IPRs), Defense Space Acquisition Boards (DSABs) and Information Technology Acquisition Boards (ITABs).</li> <li>•Review MDAP Request for Proposals for critical reliability requirements.</li> </ul> <p>Strategic Thrust: Department SE Capability Assessment</p> <ul style="list-style-type: none"> <li>•Conduct DoD and Military Department capability assessments.</li> <li>•Conduct analysis of Military Departments self-assessments; conduct analysis of DoD's SE capability.</li> <li>•Author annual Congressional Report jointly with Development Test and Evaluation (DT&amp;E).</li> <li>•Work jointly with DT&amp;E to develop and track new measurable performance criteria.</li> </ul> <p>Strategic Thrust: Policy and Guidance</p> <ul style="list-style-type: none"> <li>•Develop and update core SE policy, guidance and standards; review all acquisition policy for SE implications.</li> <li>•Develop and update software engineering policy, guidance and standards.</li> <li>•Direct support and oversight to software intensive programs.</li> <li>•Develop and author specialty engineering policy, guidance and standards.</li> <li>•Workforce development: Functional Lead for System Planning, Research, Development and Engineering (SPRDE), Production, Quality, and Manufacturing (PQM) and assist software engineering.</li> <li>•Provide SE guidance to DoD earned value management (EVM).</li> </ul>						

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense				<b>DATE:</b> February 2010				
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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<ul style="list-style-type: none"> <li>•Foster early integration of systems safety, reliability, maintainability and life cycle sustainment into pre-MDAPs, MDAPs and pre-material development decision (MDD) activities.</li> <li>Strategic Thrust: Early Systems Engineering and Development Planning</li> <li>•Develop policy and guidance for development planning and early system engineering; oversee its establishment within Services.</li> <li>•Perform early acquisition risk assessment including pre-Milestone A engagement with Joint Requirements Oversight Council processes.</li> <li>•Support Services and Combatant Command (COCOMs) in pre-milestone (MS) A formulation.</li> <li>•Support requirements analyses and analysis of alternatives.</li> <li>•Support initial capabilities document definition and development.</li> <li>•Oversee and execute modeling, simulation and analysis for DoD.</li> <li>•Enhance modeling and simulation (M&amp;S) support to analysis of alternatives.</li> <li>•Lead SE research, systems of systems research and collaboration across Services to identify areas of improvement; develop and establish best practices.</li> <li>•Oversee SE Research University Affiliated Research Center (UARC) and conduct studies and analysis.</li> </ul>								
Accomplishments/Planned Programs Subtotals				0.000	0.000	22.646	0.000	22.646
<b>C. Other Program Funding Summary (\$ in Millions)</b>								
N/A								
<b>D. Acquisition Strategy</b>								
Not applicable.								
<b>E. Performance Metrics</b>								
N/A								

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0605142D8Z: <i>Systems Engineering</i>				<b>PROJECT</b> P143: <i>Program Protection</i>				
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
P143: <i>Program Protection</i>	0.000	0.000	7.178	0.000	7.178	4.936	7.160	5.024	7.337	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

The Department of Defense (DoD) must address cyber security and supply chain risks to DoD networks, weapons systems and information stored and processed on both DoD and Defense Industrial Base (DIB) unclassified networks that support DoD programs. Increased reliance on the internet as a vehicle for sharing information, globalization of the supply chain, and advanced persistent threats (APTs) that can evade commercially available security tools and defeat generic security best practices, drive the need better and smarter program protection planning and execution. The President's Cyber Initiative has moved to counter these threats and mitigate the risks. The proposed Acquisition Cyber Security Initiative links high level policies and great thoughts to specific acquisition practices, systems engineering activities, and risk reduction activities. Through this initiative the Department will pilot activities with the DIB to reduce risks in sharing and storing critical program information, better understand and mitigate supply chain risks, improve program protection planning, and improve and streamline program protection engineering.

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

	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program Protection <i>FY 2011 Base Plans:</i> - Program Protection – Publish Program Protection Plan Guidebook. Implement Program Protection Plan (PPP) procedures with programs as they approach major milestone reviews. Conduct pilots and develop guidance for criticality analysis with Services to augment current research technology protection focused activity with procedures to ensure protection of critical components. - Supply Chain Risk Management (SCRM)--Develop acquisition guidance for SCRM, incorporating lessons learned from vulnerability assessments conducted in FY09. Assess sustainment issues for SCRM.	0.000	0.000	7.178	0.000	7.178

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605142D8Z: <i>Systems Engineering</i>	<b>PROJECT</b> P143: <i>Program Protection</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul style="list-style-type: none"> <li>- Defense Industrial Base Cyber Security (DIB CS)–Chair the Cyber Acquisition Joint Analysis Team (JAT), and oversee the public comment period for the DFARS rule on protection of defense program information; develop and implement process for adjudicating public comments. Provide acquisition support to DIB CS program.</li> <li>- Horizontal Protection–Transition the acquisition security database from Service-led to jointly overseen program. Develop horizontal protection requirements, develop a strategy for oversight and implementation of horizontal protection.</li> </ul>					
<b>Accomplishments/Planned Programs Subtotals</b>	0.000	0.000	7.178	0.000	7.178

	FY 2009	FY 2010
Congressional Add: *** PLEASE ENTER CONGRESSIONAL ADD TITLE ***  <i>FY 2009 Accomplishments:</i> [*** PLEASE ENTER CONGRESSIONAL ADD TEXT FOR PRIOR YEAR. ***]	0.000	0.000
<b>Congressional Adds Subtotals</b>	0.000	0.000

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

N/A

**D. Acquisition Strategy**

N/A

**E. Performance Metrics**

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605161D8Z: <i>Nuclear Matters</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	4.331	6.422	6.264	0.000	6.264	6.360	6.506	6.667	6.877	Continuing	Continuing
P161: <i>Nuclear Matters</i>	4.331	6.422	6.264	0.000	6.264	6.360	6.506	6.667	6.877	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

The purpose of the Nuclear Matters program, formerly called Counterproliferation Support, is to sustain the U.S. nuclear deterrent posture. The funds for this program are used to support research, development, test and evaluation efforts as well as studies and analyses for nuclear weapons security; use control; nuclear weapons stockpile safety, survivability and performance; and office management. Funds are also used to develop and implement plans for stockpile transformation; infrastructure analyses and assessments; DoD-NNSA Nuclear Weapons Council activities, as mandated by Title 10 USC, section 179; radiological and nuclear emergency response efforts; and manage international programs of nuclear cooperation, particularly with respect to enhancing international nuclear safety and security and office management. In fiscal year 2004, this program incorporated additional responsibility for policy development and implementation, and operations and oversight of nuclear weapons physical security and Personnel Reliability Programs for the protection of tactical, fixed and nuclear weapons systems, DoD personnel and DoD facilities.

**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	4.451	6.474	0.000	0.000	0.000
Current President's Budget	4.331	6.422	6.264	0.000	6.264
Total Adjustments	-0.120	-0.052	6.264	0.000	6.264
• Congressional General Reductions		0.000			
• 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	-0.111	0.000			
• Other Program Adjustments	-0.009	-0.052	6.264	0.000	6.264

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

**APPROPRIATION/BUDGET ACTIVITY**  
0400: *Research, Development, Test & Evaluation, Defense-Wide*  
BA 6: *RDT&E Management Support*

**R-1 ITEM NOMENCLATURE**  
PE 0605161D8Z: *Nuclear Matters*

**Change Summary Explanation**

The FY 2010-2015 POM was reprogrammed to provide greater oversight and analysis of enterprise-wide nuclear surety efforts that impact the Department's nuclear deterrent capability. A reduction in PE 0605384BP funding reflects the additional funding in this PE.

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605161D8Z: <i>Nuclear Matters</i>	<b>PROJECT</b> P161: <i>Nuclear Matters</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
P161: <i>Nuclear Matters</i>	4.331	6.422	6.264	0.000	6.264	6.360	6.506	6.667	6.877	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

The purpose of the Nuclear Matters program, formerly called Counterproliferation Support, is to sustain the U.S. nuclear deterrent posture. The funds for this program are used to support research, development, test and evaluation efforts as well as studies and analyses for nuclear weapons security; use control; nuclear weapons stockpile safety, survivability and performance; and office management. Funds are also used to develop and implement plans for stockpile transformation; infrastructure analyses and assessments; DoD-NNSA Nuclear Weapons Council activities, as mandated by Title 10 USC, section 179; radiological and nuclear emergency response efforts; and manage international programs of nuclear cooperation, particularly with respect to enhancing international nuclear safety and security and office management. In fiscal year 2004, this program incorporated additional responsibility for policy development and implementation, and operations and oversight of nuclear weapons physical security and Personnel Reliability Programs for the protection of tactical, fixed and nuclear weapons systems, DoD personnel and DoD facilities.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Nuclear Weapons Council (NWC) and Committee of Principals (CoP)  <i>FY 2009 Accomplishments:</i> - Provided oversight of NWC activities regarding the development of a responsive infrastructure for stockpile support. - Continued to manage the activities of the Congressionally mandated Joint DoD-DOE Nuclear Weapons Council and its support committees to include the Nuclear Weapons Council Standing and Safety Committee, the Compartmented Advisory Committee and the Action Officer group. - Prepared, staffed, and submitted annual reports to the President and the Congress to include the FY 2009-2015 Nuclear Weapons Stockpile Memorandum and Requirements Planning Document, FY	1.050	1.050	1.010	0.000	1.010

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense				<b>DATE:</b> February 2010		
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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p><i>FY 2010 Plans:</i></p> <ul style="list-style-type: none"> <li>- Build upon FY 2009 initiatives.</li> <li>- Execute confidence building programs of cooperation with international partners.</li> </ul> <p><i>FY 2011 Base Plans:</i></p> <ul style="list-style-type: none"> <li>- Build upon FY 2010 initiatives.</li> <li>- Execute confidence building programs of cooperation with international partners.</li> <li>- Sponsor international partners at national-level nuclear weapons accident/incident exercises.</li> </ul>						
<p><b>Nuclear Surety</b></p> <p><i>FY 2009 Accomplishments:</i></p> <ul style="list-style-type: none"> <li>- Completed the DoD Nuclear Weapons Physical Security (NWPS) Roadmap.</li> <li>- Completed the development of the physical security risk management tool.</li> <li>- Provided oversight for the implementation of recommendations from various boards, commissions, and panels regarding nuclear surety.</li> <li>- Conducted OSD oversight and provided direction for actions taken under DoDD 4540.5, "Transportation of Nuclear Weapons"; DoDD S-5210.81, "United States Nuclear Weapons Command and Control, Safety, and Security"; DoDD S-3150.7, "Controlling the Use of Nuclear Weapons"; DoDD 5210.42 and 5210.42-R, "The DoD Personnel Reliability Program"; and DoDD 5210-.41 and S-5210.41-M, "Physical Security of Nuclear Weapons."</li> <li>- Continued to support activities that support nuclear surety policy and provide OSD oversight of the Nuclear Surety program.</li> </ul> <p><i>FY 2010 Plans:</i></p> <ul style="list-style-type: none"> <li>- Continue to oversee the implementation of recommendations various boards, commissions, and panels regarding nuclear surety.</li> <li>- Complete the development of the physical security risk management tool.</li> </ul>		1.000	1.050	1.010	0.000	1.010

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul style="list-style-type: none"> <li>- Continued to support new Task Forces for strategic systems.</li> <li>- Continued to provide technical support to maintain strategic materials and nuclear power systems.</li> </ul> <p><i>FY 2010 Plans:</i></p> <ul style="list-style-type: none"> <li>- Continue to conduct life cycle activities in support of the nuclear weapons stockpile under DoDD 3150.1, "Nuclear Weapons Life Cycle" and DODI 5030.55, "DoD Procedures for Joint DoD-DOE Nuclear Weapons Life Cycle Activities.</li> <li>- Continue to manage DoD RDT&amp;E activities for nuclear warheads to include B61, W76, W78, W80(0,1), B83, W87, W88 Weapons.</li> <li>- Continue to support studies for warhead replacement.</li> <li>- Continue programs to assess the future of the nuclear weapon stockpile.</li> <li>- Oversee and evaluate the review of warhead life extension refurbishments.</li> <li>- Continue to maintain and exercise a nuclear enterprise model for DoD.</li> <li>- Continue to support new Task Forces for strategic systems.</li> <li>- Continue to provide technical support to maintain strategic materials and nuclear power systems.</li> <li>- Conduct analysis of possible warhead replacements using modeling and simulation tools.</li> <li>- Develop an analytical tool for the evaluation of alternatives for the nuclear enterprise.</li> <li>- Develop a strategic communications strategy and plan for communicating stockpile options to stakeholders.</li> </ul> <p><i>FY 2011 Base Plans:</i></p> <ul style="list-style-type: none"> <li>- Continue to conduct life cycle activities in support of the nuclear weapons stockpile under DoDD 3150.1, "Nuclear Weapons Life Cycle" and DODI 5030.55, "DoD Procedures for Joint DoD-DOE Nuclear Weapons Life Cycle Activities.</li> <li>- Continue to manage DoD RDT&amp;E activities for nuclear warheads to include B61, W76, W78, W80(0,1), B83, W87, W88 Weapons.</li> <li>- Continue to support studies for warhead replacement.</li> <li>- Continue programs to assess the future of the nuclear weapon stockpile.</li> </ul>					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense			<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605161D8Z: <i>Nuclear Matters</i>	<b>PROJECT</b> P161: <i>Nuclear Matters</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<ul style="list-style-type: none"> <li>- Oversee the development of next-generation delivery systems.</li> <li>- Complete stockpile transformation plans.</li> <li>- Continue to support new Task Forces for strategic systems.</li> <li>- Continue to maintain and exercise a nuclear enterprise model for DoD.</li> <li>- Continue to provide technical support to maintain strategic materials and nuclear power systems.</li> <li>- Continue to develop a technical analytical capability for making critical decisions regarding the nuclear enterprise.</li> <li>- Continue to conduct analysis of possible warhead replacements using modeling and simulation tools.</li> </ul>						
<b>Survivability and Weapons of Mass Destruction (WMD)</b>  <i>FY 2009 Accomplishments:</i> <ul style="list-style-type: none"> <li>- Continued planning and coordinating the activities of the National Nuclear Forensics Steering Committee and Working Group.</li> <li>- Published a DoD directive to govern post-detonation nuclear forensics activities.</li> <li>- Continued to develop OSD-wide approach to overseeing Global Nuclear Defense missions within DoD.</li> <li>- Provided oversight on the integration of all DoD nuclear defense capabilities in support of the Global Nuclear Defense Initiative.</li> <li>- Developed the acquisition strategy for DoD Combating Weapons of Mass Destruction requirements.</li> <li>- Provided direction for DoD and OSD preparations to train for response actions, under DoDD 3150.8, "DoD Response to Radiological Accidents.</li> <li>- Maintained the office Go-Kit and classified website to enhance coordination in the event of a nuclear weapon accident.</li> <li>- Directed and coordinated the activities of the NCCS Committee of Principals Subcommittee on Nuclear Weapon Accident Incident Response and the Policy Working Group.</li> <li>- Implemented new DoD directive for Chemical Biological, Radiological, and Nuclear Survivability Policy and stand up the Senior Oversight Group (SOG).</li> </ul>		0.480	1.170	1.180	0.000	1.180

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul style="list-style-type: none"> <li>- Monitored and advised OSD on the status of DoD capability for Nuclear Weapons Effects Simulators and Simulation.</li> <li>- Continued to support the DoD executive agency (ASD(Homeland Defense)) for interagency actions concerning Combating Weapons of Mass Destruction at home and abroad.</li> <li>- Provided continued oversight of the Nuclear Defense Portfolio</li> </ul> <p><i>FY 2010 Plans:</i></p> <ul style="list-style-type: none"> <li>- Continue Nuclear Defense Portfolio oversight.</li> <li>- Analyze nuclear forensics and other nuclear defense activities to ensure they are in synch with broader interagency tasks.</li> <li>- Continue planning and coordinating the activities of the National Nuclear Forensics Steering Committee and Working Group.</li> <li>- Continue to develop OSD-wide approach to overseeing Global Nuclear Defense missions within DoD.</li> <li>- Continue to oversee the integration of all DoD nuclear defense capabilities in support of the Global Nuclear Defense Initiative.</li> <li>- Continue to oversee the acquisition strategy for DoD Combating Weapons of Mass Destruction requirements.</li> <li>- Continue to provide direction for DoD and OSD preparations to train for response actions, under DoDD 3150.8, "DoD Response to Radiological Accidents.</li> <li>- Continue to maintain the office Go-Kit and classified website to enhance coordination in the event of a nuclear weapon accident.</li> <li>- Continue to direct and coordinate the activities of the NCCS Committee of Principals Subcommittee on Nuclear Weapon Accident Response.</li> <li>- Continue to implement CBRN Survivability Policy and support the SOG.</li> <li>- Continue to monitor and advise OSD on the status of DoD capability for Nuclear Weapons Effects Simulators and Simulation.</li> </ul>					

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>- Continue to support the DoD executive agency (ASD(Homeland Defense)) for interagency actions concerning Combating Weapons of Mass Destruction at home and abroad.</p> <p><i>FY 2011 Base Plans:</i></p> <ul style="list-style-type: none"> <li>- Continue Nuclear Defense Portfolio oversight.</li> <li>- Continue planning and coordinating the activities of the National Nuclear Forensics Steering Committee and Working Group.</li> <li>- Continue to develop OSD-wide approach to overseeing Global Nuclear Defense missions within DoD.</li> <li>- Continue to oversee the integration of all DoD nuclear defense capabilities in support of the Global Nuclear Defense Initiative.</li> <li>- Continue to oversee the acquisition strategy for DoD Combating Weapons of Mass Destruction requirements.</li> <li>- Continue to provide direction for DoD and OSD preparations to train for response actions, under DoDD 3150.8, "DoD Response to Radiological Accidents.</li> <li>- Continue to maintain the office Go-Kit and classified website to enhance coordination in the event of a nuclear weapon accident.</li> <li>- Continue to direct and coordinate the activities of the NCCS Committee of Principals Subcommittee on Nuclear Weapon Accident Response.</li> <li>- Continue to implement CBRN Survivability Policy and support the SOG.</li> <li>- Monitor and advise OSD on the status of DoD capability for Nuclear Weapons Effects Simulators and Simulation.</li> <li>- Continue to support the DoD executive agency (ASD(Homeland Defense)) for interagency actions concerning Combating Weapons of Mass Destruction at home and abroad.</li> </ul>						
<p>Nuclear Matters</p> <p><i>FY 2009 Accomplishments:</i></p> <ul style="list-style-type: none"> <li>- Submitted annual reports to the President and the Congress.</li> </ul>		0.301	1.020	1.027	0.000	1.027

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense				<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0605161D8Z: <i>Nuclear Matters</i>		<b>PROJECT</b> P161: <i>Nuclear Matters</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<ul style="list-style-type: none"> <li>- Continued to oversee DoD/DOE relationship regarding the survivability and surety of the national nuclear stockpile.</li> <li>- Continued as DoD Sigma 15 Approval Authority (Interface with DOE/NNSA).</li> <li>- Continued to address/process Freedom of Information Act and Mandatory Declassification Requests.</li> </ul> <p><i>FY 2010 Plans:</i></p> <ul style="list-style-type: none"> <li>- Submit annual reports to the President and the Congress.</li> <li>- Continue to oversee DoD/DOE relationship regarding the survivability and surety of the national nuclear stockpile.</li> <li>- Continue as DoD Sigma 15 Approval Authority (Interface with DOE/NNSA).</li> <li>- Continue to address Freedom of Information Act and Mandatory Declassification Requests.</li> <li>- Establish a means to provide nuclear technical expertise to senior advisory groups.</li> <li>- Establish a program to promote nuclear enterprise awareness and outreach.</li> </ul> <p><i>FY 2011 Base Plans:</i></p> <ul style="list-style-type: none"> <li>- Submit annual reports to the President and the Congress.</li> <li>- Continue to oversee DoD/DOE relationship regarding the survivability and surety of the national nuclear stockpile.</li> <li>- Continue as DoD Sigma 15 Approval Authority (Interface with DOE/NNSA).</li> <li>- Continue to address Freedom of Information Act and Mandatory Declassification Requests.</li> <li>- Propose technical solutions to address nuclear capability gaps and warfighter requirements.</li> </ul>								
Accomplishments/Planned Programs Subtotals				4.331	6.422	6.264	0.000	6.264
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A								
<b>D. Acquisition Strategy</b> N/A								

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605161D8Z: <i>Nuclear Matters</i>	<b>PROJECT</b> P161: <i>Nuclear Matters</i>

**E. Performance Metrics**

Success in this area is measured by compliance with various statutes and DoD directives that govern the conduct of the affairs within the Office of DATSD(Nuclear Matters). Success is also measured by the currency of information and usability of the website, timeliness and responsiveness of reports due to Congress, performance in various response exercises, and feedback from a number of senior-level government organizations that DATSD(Nuclear Matters) supports.

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605170D8Z: <i>Support to Networks and Information Integration</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	13.707	14.796	15.091	0.000	15.091	15.344	15.684	15.913	16.129	Continuing	Continuing
001: <i>Command Information Superiority Architecture</i>	5.224	5.641	5.752	0.000	5.752	5.849	5.978	6.066	6.148	Continuing	Continuing
002: <i>Defense Architecture Repository</i>	1.201	1.296	1.322	0.000	1.322	1.344	1.374	1.394	1.413	Continuing	Continuing
003: <i>Integrated Planning and Management</i>	1.933	2.086	2.128	0.000	2.128	2.164	2.212	2.244	2.274	Continuing	Continuing
004: <i>Support to NII Mission Requirements</i>	5.349	5.773	5.889	0.000	5.889	5.987	6.120	6.209	6.294	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

This program element supports studies and analysis in the areas of networks, information integration, defense-wide command and control (C2), and communications. This program is funded under Budget Activity 6, RDT&E Management Support because it includes studies and analysis in support of RDT&E efforts.

**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	14.642	14.916	0.000	0.000	0.000
Current President's Budget	13.707	14.796	15.091	0.000	15.091
Total Adjustments	-0.935	-0.120	15.091	0.000	15.091
• Congressional General Reductions		0.000			
• 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			
• Program Adjustment	-0.935	-0.120	15.091	0.000	15.091

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense

**DATE:** February 2010

**APPROPRIATION/BUDGET ACTIVITY**

0400: *Research, Development, Test & Evaluation, Defense-Wide*  
BA 6: *RDT&E Management Support*

**R-1 ITEM NOMENCLATURE**

PE 0605170D8Z: *Support to Networks and Information Integration*

**Change Summary Explanation**

FY 2009: Program adjustment -0.935 million.

FY 2010: FFRDC reductions -0.058 million, Economic Assumptions -0.062 million.

FY 2011: Program Adjustments 15.091

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b>			<b>R-1 ITEM NOMENCLATURE</b>				<b>PROJECT</b>				
0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>			PE 0605170D8Z: <i>Support to Networks and Information Integration</i>				001: <i>Command Information Superiority Architecture</i>				
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
001: <i>Command Information Superiority Architecture</i>	5.224	5.641	5.752	0.000	5.752	5.849	5.978	6.066	6.148	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

The CISA program provides a structured planning process based on Information Technology (IT) best business practices to define current and objective capabilities for IT support to assigned missions in a net-centric environment. CISA is the DoD program that provides architectures in compliance with the Clinger-Cohen Act, OMB Circular A-130, E-Gov Act and other related higher level guidance from the Federal CIO Council and the Federal Enterprise Architecture Program Management Office, which mandates the development and use of architectures as validation for IT investment decisions. The CISA program develops and maintains the Global Information Grid Enterprise Architecture, the Department's enterprise architecture as directed by Title 40. It supports the development of the framework, processes, and standards for developing and maintaining a DoD federated enterprise architecture. CISA is the leading developer for the net-centric reference model, the standard evaluation guide used by DoD Program Managers at all echelons of command for transitioning DoD programs to the net-centric environment. The CISA program supports the development of architectural standard tools and systems, including the DoD Architectural Framework manual and artifacts as well as facilitating the effective use of architectures in IT portfolio management. Develop and maintain key GIG policy and guidance documents that drive the acquisition, transition to and operation of a net-centric GIG; the implementation of policy/guidance through a set of critical supporting activities such as IT standards management, and DoD transition to Internet Protocol version 6 (IPv6); Real Time Service and IP convergence and enforcing policy through key enterprise governance mechanisms. Review and assess Command and Control, Computers, Communications and Intelligence Support Plans / Information Support Plans for the DoD CIO, identifying interoperability, supportability, net-centric and integration issues.

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

	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Command Information Superiority Architectures Accomplishments and Plans <i>FY 2009 Accomplishments:</i> Continued to review and revise GIG related policies to support net-centric operations.	5.224	5.641	5.752	0.000	5.752

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605170D8Z: <i>Support to Networks and Information Integration</i>	<b>PROJECT</b> 001: <i>Command Information Superiority Architecture</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<ul style="list-style-type: none"> <li>- Implement DoDAF Configuration Management (CM).</li> <li>- Support Universal Profile for DoDAF &amp; Ministry of Defense Architecture Framework (MODAF) (UPDM)</li> <li>- Continue DoDAF 2.0 Outreach.</li> <li>- Continue Architecture Center of Excellence Pilot for Capability Architectures.</li> <li>- Web Enable DoDAF .</li> <li>- Develop DoDAF Web Based Training</li> <li>- Participate in NATO Enterprise Architecture policy development</li> <li>- Conduct technical reviews of allied architectural policy, projects, and standards.</li> <li>- Harmonization of DoD's Information Technology Standards and architectural processes with the Federal, Intelligence Community, and allied partners, will increase interoperability and aid in the attainment of an information advantage</li> <li>- Provide NetOps input to CYBERCOM I-Plan leading to CYBERCOM FOC</li> <li>- Provide input for addressing NetOps in a cyberspace QDR issue</li> <li>- Coordinate and ensure completion of tasks identified in the NetOps I-Plan</li> <li>- Provide NetOps contents for the development of the Strategic Plan &amp; Roadmap</li> <li>- Update or develop guidance and policy (as required) for sharing of NetOps data to IC and mission partners</li> <li>- Provide input to the Enterprise Ops Oversight Committee (EOOC)</li> <li>- Continue to lead the development and execution of NetOps pilots to improve NetOps data sharing between DoD Components</li> </ul> <p><i>FY 2011 Base Plans:</i> Continue to provide strategy, policy, oversight, and guidance for Architecture across the DoD Enterprise.</p> <ul style="list-style-type: none"> <li>- Continue to work with CC/S/As to ensure capabilities for operating and defending the GIG are acquired, managed, integrated and synchronized.</li> <li>- Continue to refine governance structures to address new policies and oversight requirements.</li> </ul>						

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605170D8Z: <i>Support to Networks and Information Integration</i>	<b>PROJECT</b> 001: <i>Command Information Superiority Architecture</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul style="list-style-type: none"> <li>- Continue to monitor and assess component compliance regarding new policies and guidance.</li> <li>- Continue refinement of the Net Centric DoD Architecture Framework to address new demands technologies and IA requirements.</li> </ul> <p><i>FY 2011 OCO Plans:</i> N/A</p>					
<b>Accomplishments/Planned Programs Subtotals</b>	5.224	5.641	5.752	0.000	5.752

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

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• 0902198D8Z: <i>Command Information Superiority Architecture</i>	4.806	4.433	4.139	0.000	4.139	4.200	4.365	4.436	4.513	Continuing	Continuing

**D. Acquisition Strategy**

N/A

**E. Performance Metrics**

CISA Performance is based on the number of initiatives that transition to the net-centric environment to support operations. Measures include:

- Timely development and issuance of policy, guidance, processes, and technologies to build, populate, govern, operate, and protect the Network.
- Policies developed and issued for GIG design, architecture content management, implementation, and operations.

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b>			<b>R-1 ITEM NOMENCLATURE</b>					<b>PROJECT</b>			
0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>			PE 0605170D8Z: <i>Support to Networks and Information Integration</i>					002: <i>Defense Architecture Repository</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
002: <i>Defense Architecture Repository</i>	1.201	1.296	1.322	0.000	1.322	1.344	1.374	1.394	1.413	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

DARS is the Department's enterprise registry, catalog and navigation map for enterprise architecture. It serves as the Department's primary catalog of architecture data holdings and provides users the ability to register holdings metadata and search, retrieve, and use DoD architecture data in federated architecture data repositories across DoD. DARS provides a key component of the Department's net-centric data management capability by federating enterprise architecture data across the Department. It enables alignment of program architecture components with the Federal Enterprise Architecture Business Reference Model - consistent with OMB directives for exhibit 300s - via the DoD Business Reference Model. DARS implements a federated search capability and metadata catalog that will interoperate with the Department's Net-Centric Enterprise Discovery Service and enterprise content metadata catalog. Architecture metadata is searchable using the DARS federated discovery web service. The discovery search results provide links to architecture data that is retrievable based on user roles and access permissions. Implementations are accessible on both the NIPRNET (unclassified) and SIPRNET (Collateral Classified). Key features of the DARS program focus on: (1) Making architecture data visible, accessible, trusted, understandable, and interoperable (2) enabling reuse of validated architecture data to build "composite" integrated architectures; (3) enabling architecture analysis; and, (4) integrating architecture data into the DoD mainstream decision-making processes. The Department of the Air Force, Army, and Navy CIO's are collaborating in the development of DARS federation web services via the Federated Joint Architecture Working Group under the auspices of the DoD Enterprise Architecture Summit to ensure DoD-wide access to and usability of all components of the composite DoD enterprise architecture model.

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

	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
DARS Accomplishments and Plans <i>FY 2009 Accomplishments:</i> Continued Operation and Maintenance of DARS - Continued to implement capabilities required to meet changes to the DoD Architecture Framework (DoDAF)	1.201	1.296	1.322	0.000	1.322

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605170D8Z: <i>Support to Networks and Information Integration</i>	<b>PROJECT</b> 002: <i>Defense Architecture Repository</i>
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A		
<b>D. Acquisition Strategy</b> N/A		
<b>E. Performance Metrics</b> DARS Performance Metrics: <ul style="list-style-type: none"><li>- Timely development and issuance of policy, guidance, processes, and technologies to build, populate, govern, operate, and protect the Network.</li><li>- Policies developed and issued for GIG design, architecture content management, implementation, and operations.</li></ul>		

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605170D8Z: <i>Support to Networks and Information Integration</i>	<b>PROJECT</b> 003: <i>Integrated Planning and Management</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
003: <i>Integrated Planning and Management</i>	1.933	2.086	2.128	0.000	2.128	2.164	2.212	2.244	2.274	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

The Integrated Planning and Management Project encompasses the National and Nuclear Command Capabilities (N2CC) Management Office's (NMO) responsibilities for establishing overall DoD policy with respect to the capability development, interoperability, standards, and architecture for National and Nuclear Command Capabilities for our National Leadership. The NMO serves as the single point of contact within the Department for policy, long-range plans, programs, integrated mission advocacy, and management of decision-maker capabilities. The objective of the NMO is to ensure capabilities are in place to provide complete and timely situational awareness and decision tools for senior decision-makers. Additionally, the NMO assists the ASD NII/DoD CIO as the Executive Agent and primary OSD advocate for the White House Military Office with oversight of a wide range of DoD command and control (C2) and communications assets and oversees the efforts of the Services and Agencies in the design, integration, and deployment of critical and sensitive C2 capabilities. Three overall areas of focus include: 1) National Senior Leader C3 System to include Emergency Preparedness and DoD support to Civil Authorities; 2) Global Nuclear C2 and Nuclear Strike plus Integrated Missile Defense and Tactical Warning; and 3) Continuity of Government (COG) in conjunction with Mission Assurance (MA).

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Integrated Planning and Management  <i>FY 2009 Accomplishments:</i> Initiated efforts with UARC/FFRDCs and industry to help identify shortfalls and promising technologies that provide needed enhancements, mitigate risk, and posture requirements for the long-term Completed a comprehensive classified analysis that defined concepts for executing distributed command capabilities, answering the question of how we should best distribute command assets, identified the most promising concept, and proposed an implementation strategy	1.933	2.086	2.128	0.000	2.128

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605170D8Z: <i>Support to Networks and Information Integration</i>	<b>PROJECT</b> 003: <i>Integrated Planning and Management</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul style="list-style-type: none"> <li>- Initiated the establishment of a systems engineering team and system engineering processes for core Leadership Command Information Systems (L-CIS) that will eventually increase in scope to incorporate all L-CIS programs, systems, networks, and applications</li> <li>- Initiated development of a Continuity of Government concept of operations (CONOP) to enable compliance with Sec 18 of NSPD 51/HSPD 20</li> <li>- Worked with Defense Laboratories and industry partners to fast-track promising technologies and to posture requirements for the long-term</li> <li>- Initiated analysis assessing the issues associated with recovering and restoring large complex IT networks following a catastrophic event</li> <li>- Initiated the identification and measurement of metrics for systems and technologies considered of primary importance to defense and national leadership capabilities</li> <li>- Investigated capabilities and deficiencies in the ground-based infrastructure used by the national senior leadership airborne platforms</li> </ul> <p><i>FY 2010 Plans:</i> Manage efforts that aim to identify, minimize, or eliminate shortfalls or deficiencies in programs that support White House and DoD senior leaders</p> <ul style="list-style-type: none"> <li>- Continue efforts with Defense Laboratories and partners to fast-track promising technologies and to posture requirements for the long-term</li> <li>- Finalize a comprehensive plan for developing capabilities to support information and mission assurance capabilities</li> <li>- Investigate performance and capabilities of candidate or representative command systems and technologies through focused experimentation</li> <li>- Conduct experimentation and identify appropriate technologies that will advance the capabilities needed to support COOP/COG/ECG requirements</li> <li>- Develop prototype applications and services to fully populate the national leader capabilities experiment</li> </ul>					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605170D8Z: <i>Support to Networks and Information Integration</i>	<b>PROJECT</b> 003: <i>Integrated Planning and Management</i>
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A		
<b>D. Acquisition Strategy</b> N/A		
<b>E. Performance Metrics</b> C2 Integrated Planning & Management Performance Metrics: <ul style="list-style-type: none"><li>- Successfully develop, coordinate, and publish DOD C2 policies and operational concepts.</li><li>- Establishment of an information integration and decision portfolio of C2 services and applications to demonstrate selected capabilities.</li><li>- Development of Dynamic Operational Communities of Interest services based on the capabilities provided by the NCES Program.</li></ul> Establishment of an ontological framework and XML data model to permit the meta-tagging of information integration decision portfolio data at the strategic and national C2 level in a manner consistent with other DoD data strategies and modeling efforts.		

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense								<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0605170D8Z: <i>Support to Networks and Information Integration</i>				<b>PROJECT</b> 004: <i>Support to NII Mission Requirements</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
004: <i>Support to NII Mission Requirements</i>	5.349	5.773	5.889	0.000	5.889	5.987	6.120	6.209	6.294	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b>											
This program supports studies and analyses in the areas of networks, information integration, defense-wide command and control (C2), and communications.											
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
							<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Support to NII Mission Requirements							5.349	5.773	5.889	0.000	5.889
<i>FY 2009 Accomplishments:</i> - \$3.500 million transferred from the Air Force for Global Positioning System (GPS) User Equipment Synchronization to conduct OASD/NII oversight of Global Positioning System (GPS) management and planning activities required for the National Space-Based Positioning, Navigation and Timing Executive Committee. This funding supported the following efforts: -Full time on-site staff support to ASD(NII)/DoD CIO Space Programs and Policy (3 STE) -Full time PNT liaison officer for OASD(NII)/DoD CIO at US STRATCOM (1 STE) -Updated and coordinated the GPS Security Policy DODI 4650.0x -Authored and coordinated the Navigation Warfare Concept of Operations DODI 4650.0x with US STRATCOM -Authored and coordinated Next Generation Air Transport System (NextGen) DODI 5030.x in concert with Air Force and Federal Aviation Administration (FAA) -Authored and coordinated Security Control of Navigation Aids DODI 5030.x in concert with NORAD, NORTHCOM, Department of Homeland Security (DHS), and FAA											

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605170D8Z: <i>Support to Networks and Information Integration</i>	<b>PROJECT</b> 004: <i>Support to NII Mission Requirements</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul style="list-style-type: none"> <li>- Authored and coordinated DoD/Department of Transportation (DOT)/DHS MOA to define responsibilities for biennially updating the Federal Radio-Navigation Plan (FRP)</li> <li>- Drafted Red Key Sundown Policy in support of GPS Security Policy DODI 4650.0x</li> <li>- Provided staff support, perform research and conduct studies as directed by DEPSECDEF in his role as co-chair of the National Executive Committee for Space-Based PNT and for ASD(NII)/DoD CIO in his role as co-chair of the Executive Steering Group</li> <li>- Performed annual update of National Five-year Plan for Space-Based Positioning, Navigation and Timing (PNT)</li> <li>- Participated in transition planning for the National PNT Architecture with DOT and the National Space Security Office (NSSO) and prepare a PNT Architecture Transition Plan for use by the DoD and the civil agencies</li> <li>- Performed biennial update of the DoD PNT Science and Technology Roadmap using the PNT Architecture recommendations</li> <li>- Conducted study to identify and catalog DoD and allied GPS users in support of developing GPS Security Policy DODI and Navigation Warfare DODI</li> <li>- Conducted study to explore the plausibility of DoD using civil and foreign PNT services in support of developing a Navigation Warfare Concept of Operations (CONOP) with US STRATCOM and the Joint Navigation Warfare Center (JNWC)</li>   <li>- \$1.849 million - Command and Control Research:               <ul style="list-style-type: none"> <li>- Enhanced the tools and instrumented environments that support C2-related research</li> <li>- Continue to pursue research on new approaches to military and civil-military command and control suitable for 21st Century coalition operations including stability and reconstruction.</li> <li>- Continued to fund the Edge Institute at the Navy Post Graduate School (NPS) and selected research efforts at other universities and research centers.</li> <li>- Continued to support the Network Science Center at the USMA at West Point to engage faculty and cadets in network-centric C2 related projects.</li> </ul> </li> </ul>					

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605170D8Z: <i>Support to Networks and Information Integration</i>	<b>PROJECT</b> 004: <i>Support to NII Mission Requirements</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul style="list-style-type: none"> <li>- Continued, in collaboration with allies and NATO partners, the development and testing of a maturity model for network-enabled coalition command and control and the development of related metrics</li> <li>- Support DoD organizations in the design and conduct of C2-related experimentation</li> <li>- Continued to work with the DoD community and international partners to improve the understanding of Information Age command and control related concepts, technologies, and experiments.</li> <li>- Conducted 13th International Command and Control Research and Technology Symposium.</li> <li>- Conducted workshops to explore command and control related issues.</li> <li>- Continued to develop manuscripts for widely read and respected C2 publications and outreach program.</li> <li>- Maintained and expanded C2 research community website</li> <li>- Continued campaign of experimentation related to information sharing, collaboration, and trust.</li> </ul> <p><i>FY 2010 Plans:</i>                      \$3.500 million - Global Positioning System (GPS) User Equipment Synchronization to conduct OASD/ NII oversight of Global Positioning System (GPS) management and planning activities required for the National Space-Based Positioning, Navigation and Timing Executive Committee. Funding supports:                      -Full time on-site staff support to ASD(NII)/DoD CIO Space Programs and Policy (3 STE)                      -Full time PNT liaison officer for OASD(NII)/DoD CIO at US STRATCOM (1 STE)                      -Author and coordinate International Supplement to GPS Security Policy DODI 4650.0x                      -Author and coordinate Information Assurance/COMSEC Supplement to GPS Security Policy DODI 4650.0x                      -Finalize and execute the GPS Security Policy DODI 4650.0x                      -Finalize and implement Navigation Warfare Concept of Operations DODI 4650.0x with US STRATCOM                      -Finalize and implement Next Generation Air Transport System (NextGen) DODI 5030.x in concert with Air Force and FAA                      -Finalize Security Control of Navigation Aids DODI 5030.x in concert with NORAD, NORTHCOM, DHS, and FAA</p>					

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605170D8Z: <i>Support to Networks and Information Integration</i>	<b>PROJECT</b> 004: <i>Support to NII Mission Requirements</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul style="list-style-type: none"> <li>-Develop NextGen interfaces with the GPS Wing, Joint Program Development Office (JPDO), Air Force, and Policy Board for Federal Aviation (PBFA)</li> <li>-Conduct biennial update of the Federal Radio-Navigation Plan (FRP) during CY 2010</li> <li>-Coordinate and implement Red Key Sundown Policy</li> <li>-Provide staff support, perform research and conduct studies as directed by DEPSECDEF in his role as co-chair of the National Executive Committee for Space-Based PNT and for ASD(NII)/DoD CIO in his role as co-chair of the Executive Steering Group</li> <li>-Perform annual update of National Five-year Plan for Space-Based Positioning, Navigation and Timing (PNT)</li> <li>-Author DoD portion, conduct interagency coordination and submit the GPS Biennial Report to Congress for signature by the ASD(NII)/DoD CIO</li> <li>-Oversee and coordinate execution of U.S National PNT Architecture Transition Plan within DoD and in the interagency forum</li> <li>-Conduct study to identify and catalog civil/commercial GPS uses, requirements, service benefits and augmentation dependencies to inform implementation and execution of Navwar CONOP, Security Control of Navaids, the National PNT Architecture, and NextGen</li>   <li>- \$2.273 million - Command and Control Research:               <ul style="list-style-type: none"> <li>- Continue to enhance the tools and instrumented environments that support C2-related research</li> <li>- Continue to pursue research on new approaches to military and civil-military command and control suitable for 21st Century coalition operations including stability and reconstruction.</li> <li>- Continue to fund the Edge Institute at the Navy Post Graduate School (NPS) and selected research efforts at other universities and research centers.</li> <li>- Continue to support the Network Science Center at the USMA at West Point to engage faculty and cadets in network-centric C2 related projects.</li> <li>- Continue, in collaboration with allies and NATO partners, the development and testing of a maturity model for network-enabled coalition command and control and the development of related metrics</li> <li>- Support DoD organizations in the design and conduct of C2-related experimentation</li> </ul> </li> </ul>					

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605170D8Z: <i>Support to Networks and Information Integration</i>	<b>PROJECT</b> 004: <i>Support to NII Mission Requirements</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul style="list-style-type: none"> <li>- Continue to work with the DoD community and international partners to improve the understanding of Information Age command and control related concepts, technologies, and experiments.</li> <li>- Conduct 14th International Command and Control Research and Technology Symposium.</li> <li>- Conduct workshops to explore command and control related issues.</li> <li>- Continue to develop manuscripts for widely read and respected C2 publications and outreach program.</li> <li>- Maintain and expand C2 research community website</li> <li>- Continue campaign of experimentation related to information sharing, collaboration, and trust.</li> </ul> <p><i>FY 2011 Base Plans:</i></p> <ul style="list-style-type: none"> <li>- \$3.500 million for Global Positioning System (GPS) User Equipment Synchronization to conduct OASD/NII oversight of Global Positioning System (GPS) management and planning activities required for the National Space-Based Positioning, Navigation and Timing Executive Committee. Funding will support:                             <ul style="list-style-type: none"> <li>-Full time on-site staff support to ASD(NII)/DoD CIO Space Programs and Policy (3 STE)</li> <li>-Full time PNT liaison officer for OASD(NII)/DoD CIO at US STRATCOM (1 STE)</li> <li>-Oversee execution of International Supplement to GPS Security Policy DODI 4650.0x</li> <li>-Oversee execution of Information Assurance/COMSEC Supplement to GPS Security Policy DODI 4650.0x</li> <li>-Implement GPS Security Policy DODI 4650.0x</li> <li>-Tie DoD user data and populated GPS Protection Profile matrix from Navigation Warfare Concept of Operations DODI 4650.0x into Warfighting Operations Plans (OPLANS) and Contingency Plans (CONPLANS) in coordination with US STRATCOM</li> <li>-Author PNT Navigation Warfare Annexes to all the Operations Plans (OPLANS) and Contingency Plans (CONPLANS)in coordination with US STRATCOM</li> <li>-Oversee execution and conduct Analysis of Alternatives for implementation of Next Generation Air Transport System (NextGen) DODI 5030.x in concert with Air Force and FAA</li> </ul> </li> </ul>					

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605170D8Z: <i>Support to Networks and Information Integration</i>	<b>PROJECT</b> 004: <i>Support to NII Mission Requirements</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul style="list-style-type: none"> <li>-Oversee execution and conduct Analysis of Alternatives for Security Control of Navigation Aids DODI 5030.x in concert with NORAD, NORTHCOM, DHS, and FAA</li> <li>-Continue developing NextGen interfaces with the GPS Wing, Joint Program Development Office (JPDO), Air Force, and Policy Board for Federal Aviation (PBFA)</li> <li>-Continue implementation of Red Key Sundown Policy</li> <li>-Conduct studies and programmatic analysis of activities involving OCX and GPS III contract activities</li> <li>-Provide staff support, perform research and conduct studies as directed by DEPSECDEF in his role as co-chair of the National Executive Committee for Space-Based PNT and for ASD(NII)/DoD CIO in his role as co-chair of the Executive Steering Group</li> <li>-Perform annual update of National Five-year Plan for Space-Based Positioning, Navigation and Timing (PNT)</li> <li>-Continue oversight and Analysis of Alternatives for U.S National PNT Architecture Transition Plan within DoD and in the interagency forum</li> <li>-Apply Navigation Warfare Concept of Operations DODI 4650.0x via the Joint Navigation Warfare Center (JNWC) and US STRATCOM to develop Doctrine, Tactics, Techniques and Procedures, Training, Equipment Validation and Material Solutions to Navigation Warfare challenges to the Military Services and Combatant Commanders in the scenarios defined in the CONPLANS and OPLANS.</li>   <li>- \$2.389 million - Command and Control Research:               <ul style="list-style-type: none"> <li>- Continue to enhance the tools and instrumented environments that support C2-related research</li> <li>- Continue to pursue research on new approaches to military and civil-military command and control suitable for 21st Century coalition operations including stability and reconstruction.</li> <li>- Continue to fund the Edge Institute at the Navy Post Graduate School (NPS) and selected research efforts at other universities and research centers.</li> <li>- Continue to support the Network Science Center at the USMA at West Point to engage faculty and cadets in network-centric C2 related projects.</li> <li>- Continue, in collaboration with allies and NATO partners, the development and testing of a maturity model for network-enabled coalition command and control and the development of related metrics</li> </ul> </li> </ul>					

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605170D8Z: <i>Support to Networks and Information Integration</i>	<b>PROJECT</b> 004: <i>Support to NII Mission Requirements</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul style="list-style-type: none"> <li>- Support DoD organizations in the design and conduct of C2-related experimentation</li> <li>- Continue to work with the DoD community and international partners to improve the understanding of Information Age command and control related concepts, technologies, and experiments.</li> <li>- Conduct 14th International Command and Control Research and Technology Symposium.</li> <li>- Conduct workshops to explore command and control related issues.</li> <li>- Continue to develop manuscripts for widely read and respected C2 publications and outreach program.</li> <li>- Maintain and expand C2 research community website</li> <li>- Continue campaign of experimentation related to information sharing, collaboration, and trust.</li> </ul> <p><i>FY 2011 OCO Plans:</i> N/A</p>					
<b>Accomplishments/Planned Programs Subtotals</b>	5.349	5.773	5.889	0.000	5.889

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

N/A

**D. Acquisition Strategy**

N/A

**E. Performance Metrics**

- Community participation in command and control research program (CCRP) events.
- Number of requests for / downloads of CCRP publications.
  - Number of international countries engaged in net centric discussions and collaborative research and analysis efforts.
  - Number of researchers using CCRP-developed models, metrics, and experimental environments and tools.
  - Successfully sponsored symposia/workshops to discuss command and control research initiatives.

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605200D8Z: <i>General Support to USD(I)</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	16.361	5.840	6.227	0.000	6.227	6.558	6.831	6.930	7.026	Continuing	Continuing
001: <i>Irregular Warfare Resource Intelligence Program</i>	11.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
002: <i>Cross-cutting Studies</i>	0.310	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
003: <i>Developmental Activities</i>	1.013	2.774	3.194	0.000	3.194	3.411	3.651	3.706	3.757	Continuing	Continuing
004: <i>Operations Integration</i>	3.023	3.066	3.033	0.000	3.033	3.147	3.180	3.224	3.269	Continuing	Continuing
006: <i>Joint Duty</i>	0.515	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

Irregular Warfare Resource Intelligence Program (formerly entitled Counter Threat Finance) classified details are provided in Defense-Wide (classified) Volume 7 Book.

Cross-cutting Studies affected wide-area persistent surveillance; material and non-material solutions for countering China's emerging counterspace capabilities; and an approach to netcentricity.

Developmental Activities provides innovative approaches to address intelligence, intelligence related capabilities, and intelligence sharing.

Operations Integration focuses on technologies and their applications on activities of the OUSD(I).

Joint Duty was the result of a Department reprogramming from O&M, DW for proper execution. This effort funded a module used to track Service participation in the Joint Duty Assignment (JDA) program.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2011 Office of Secretary Of Defense	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605200D8Z: <i>General Support to USD(I)</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	15.855	5.888	0.000	0.000	0.000
Current President's Budget	16.361	5.840	6.227	0.000	6.227
Total Adjustments	0.506	-0.048	6.227	0.000	6.227
• Congressional General Reductions		-0.048			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.515	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Program Adjustments	-0.009	0.000	6.227	0.000	6.227

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense									<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0605200D8Z: <i>General Support to USD(I)</i>				<b>PROJECT</b> 001: <i>Irregular Warfare Resource Intelligence Program</i>				
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	
001: <i>Irregular Warfare Resource Intelligence Program</i>	11.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing	
Quantity of RDT&E Articles												
<b>A. Mission Description and Budget Item Justification</b> Classified details provided in Defense-Wide (classified) Volume 7 book.												
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>												
						<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>		
Irregular Warfare Resource Intelligence Program						11.500	0.000	0.000	0.000	0.000		
<i>FY 2009 Accomplishments:</i> Classified details provided in Defense-Wide (classified) Volume 7 book. This effort was previously titled Counter Threat Finance.												
Accomplishments/Planned Programs Subtotals						11.500	0.000	0.000	0.000	0.000		
<b>C. Other Program Funding Summary (\$ in Millions)</b>												
<b>Line Item</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	
• 0305192D8Z: <i>Counter Threat Finance (Cong. add under former name, same effort)</i>		1.600								Continuing	Continuing	
<b>D. Acquisition Strategy</b> N/A												

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense		<b>DATE:</b> February 2010
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**E. Performance Metrics**

N/A

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605200D8Z: <i>General Support to USD(I)</i>	<b>PROJECT</b> 002: <i>Cross-cutting Studies</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
002: <i>Cross-cutting Studies</i>	0.310	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**

Cross-cutting Studies are affecting wide-area persistent surveillance; material and non-material solutions for countering China's emerging counterspace capabilities; and an approach to netcentricity.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Cross-cutting studies <i>FY 2009 Accomplishments:</i> Three studies completed in FY09:  (1) An assessment on future improvements to wide-area persistent surveillance, including an assessment of sensor technology capabilities and limitations; an analysis of the most suitable sensor platforms; an evaluation of the best system architecture for collecting, sharing, and analyzing sensor data; and analysis of the optimum use of wide-area surveillance for defeating IED and other asymmetric threat networks. This is a cross-cutting study co-funded with other OSD entities.  (2) A capability-based assessment of material and non-material solutions for countering China's emerging counterspace capabilities. Results will provide foundational data for the follow-on functional solution analysis. This is a cross-cutting study co-funded with other OSD entities.  (3) Determination of an optimal approach to sharing data and services: an approach to netcentricity. Multiple organizations have put forward concepts and funding demonstrations, analyses, joint	0.310	0.000	0.000	0.000	0.000

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605200D8Z: <i>General Support to USD(I)</i>	<b>PROJECT</b> 002: <i>Cross-cutting Studies</i>
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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
capabilities technology demonstrations and actual programs. The study will bring together the disparate efforts to see what's common and will also look at appropriate governance models for these types of efforts across the department. This is a cross-cutting study co-funded with other OSD entities.					
<b>Accomplishments/Planned Programs Subtotals</b>	0.310	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**

N/A

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605200D8Z: <i>General Support to USD(I)</i>	<b>PROJECT</b> 003: <i>Developmental 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
003: <i>Developmental Activities</i>	1.013	2.774	3.194	0.000	3.194	3.411	3.651	3.706	3.757	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

This program focuses on developmental technologies, methodologies, and capabilities. These activities will provide unique and innovative approaches to address intelligence, intelligence related capabilities, and intelligence sharing initiatives.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Developmental Activities  <i>FY 2009 Accomplishments:</i> Demonstrated an innovative technology concept to integrate and automate data and processes that enables enhanced due-diligence with respect to industrial base issues.  Developed and supported strategies promoting the integration of intelligence-related capabilities while leveraging intelligence sharing technology and information initiatives for the Air Intelligence Integrated Domain effort.  Developed relationships and leveraged opportunities to assess commercial capabilities in support of warfighter requirements, to demonstrate technical and operational feasibility, and to test integrated applications and methodologies for multiple domains (air, maritime, human, etc).  <i>FY 2010 Plans:</i> Continue to leverage technologies, assess innovative capabilities, and develop methodologies to support the Defense Intelligence Enterprise.	1.013	2.774	3.194	0.000	3.194

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense				<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0605200D8Z: <i>General Support to USD(I)</i>		<b>PROJECT</b> 003: <i>Developmental Activities</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 Base Plans:</i> Continue to leverage technologies, assess innovative capabilities, and develop methodologies to support the Defense Intelligence Enterprise.								
Accomplishments/Planned Programs Subtotals				1.013	2.774	3.194	0.000	3.194
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A								
<b>D. Acquisition Strategy</b> NA								
<b>E. Performance Metrics</b> N/A								

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense								<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0605200D8Z: <i>General Support to USD(I)</i>				<b>PROJECT</b> 004: <i>Operations Integration</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
004: <i>Operations Integration</i>	3.023	3.066	3.033	0.000	3.033	3.147	3.180	3.224	3.269	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b>											
This program focuses on technologies for the application to activities of the USD(I). It includes evaluation of concepts, technology development, and feasibility studies related to intelligence processes, shortfalls, and requirements that affect intelligence policy, planning and operational guidance.											
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
							<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Operations Integration							3.023	3.066	3.033	0.000	3.033
<i>FY 2009 Accomplishments:</i> Details classified above Secret level.											
<i>FY 2010 Plans:</i> Details classified above Secret level.											
<i>FY 2011 Base Plans:</i> Details classified above Secret level.											
<b>Accomplishments/Planned Programs Subtotals</b>							3.023	3.066	3.033	0.000	3.033
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
N/A											
<b>D. Acquisition Strategy</b>											
N/A											

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605200D8Z: <i>General Support to USD(I)</i>	<b>PROJECT</b> 004: <i>Operations Integration</i>

**E. Performance Metrics**

N/A

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense									<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0605200D8Z: <i>General Support to USD(I)</i>				<b>PROJECT</b> 006: <i>Joint Duty</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
006: <i>Joint Duty</i>	0.515	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b> Module development for tracking Joint Duty Assignments.											
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
							<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Module Development Module used to track Service participation in the Joint Duty Assignment (JDA) program.  <i>FY 2009 Accomplishments:</i> Developed a module to track Service participation in the Joint Duty Assignment (JDA) program within the Defense Civilian Personnel Data System. This module is the first prototype for the Department reporting of civilian participation in Joint programs.							0.515	0.000	0.000	0.000	0.000
Accomplishments/Planned Programs Subtotals							0.515	0.000	0.000	0.000	0.000
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A											
<b>D. Acquisition Strategy</b> N/A											
<b>E. Performance Metrics</b> N/A											

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605502D8Z: <i>SBIR/STTR</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	52.812	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
P502: <i>SBIR/STTR</i>	52.812	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

\*\*\* PLEASE ENTER TEXT \*\*\*

**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	52.812	0.000	0.000	0.000	0.000
Current President's Budget	52.812	0.000	0.000	0.000	0.000
Total Adjustments	0.000	0.000	0.000	0.000	0.000
• Congressional General Reductions		0.000			
• 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			

**Congressional Add Details (\$ in Millions, and Includes General Reductions)**

**Project:** P502: *SBIR/STTR*

Congressional Add: *SBIR/STTR*

Congressional Add Subtotals for Project: P502

Congressional Add Totals for all Projects

	<b>FY 2009</b>	<b>FY 2010</b>
	52.812	0.000
	52.812	0.000
	52.812	0.000

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

**APPROPRIATION/BUDGET ACTIVITY**  
 0400: *Research, Development, Test & Evaluation, Defense-Wide*  
 BA 6: *RDT&E Management Support*

**R-1 ITEM NOMENCLATURE**  
 PE 0605502D8Z: *SBIR/STTR*

**C. Accomplishments/Planned Program (\$ in Millions)**

	<b>FY 2009</b>	<b>FY 2010</b>
Congressional Add: SBIR/STTR	52.812	0.000
<i>FY 2009 Accomplishments:</i> SBIR/STTR		
Congressional Adds Subtotals	52.812	0.000

**D. Other Program Funding Summary (\$ in Millions)**

N/A

**E. Acquisition Strategy**

N/A

**F. Performance Metrics**

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605790D8Z: <i>SBIR/Challenge Admin</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	5.568	4.645	2.189	0.000	2.189	2.237	2.286	2.321	2.354	Continuing	Continuing
P518: <i>SBIR/Challenge Admin</i>	5.568	4.645	2.189	0.000	2.189	2.237	2.286	2.321	2.354	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

(U) This Program Element (PE) provides funding for the administration of the Department of Defense (DoD) Small Business Innovation Research (SBIR) Program and the Small Business Technology Transfer (STTR) Program. The SBIR/STTR Program funds over one billion dollars annually in mission oriented research and development projects at small technology companies. The purpose of the program is to stimulate the development of new technologies to improve U.S. military and economic capabilities. The SBIR/STTR Program is mandated by public laws (PL) 97-219, PL 99-443, PL 102-564, PL 106-554, PL 107-50, PL 111-10, PL 111-43, PL 111-66 and PL 111-84 and is codified in 15 USC 638. The SBIR/STTR Program competitively funds scientific and technical innovation to specifically address the needs of participating DoD components.

(U) DoD components participating in the SBIR Program include the: Army , Navy, Air Force, Defense Advanced Research Projects Agency (DARPA), Missile Defense Agency (MDA), Defense Threat Reduction Agency (DTRA), U.S. Special Operations Command (SOCOM), Joint Science & Technology Office for Chemical & Biological Defense, National Geospatial-Intelligence Agency (NGA), the Defense Logistics Agency (DLA), the Defense MicroElectronics Activity (DMEA) and the Office of Secretary of Defense (OSD) through the Director, Defense Research & Engineering (DDR&E). DoD components participating in the STTR Program include the: Army, Navy, Air Force, DARPA, MDA, and OSD.

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605790D8Z: <i>SBIR/Challenge Admin</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	2.165	2.163	0.000	0.000	0.000
Current President's Budget	5.568	4.645	2.189	0.000	2.189
Total Adjustments	3.403	2.482	2.189	0.000	2.189
• Congressional General Reductions		0.000			
• 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	-0.160	0.000			
• Congresssional Adds (See Note Below)	3.600	2.520	0.000	0.000	0.000
• Other Program Adjustments	-0.037	-0.038	2.189	0.000	2.189

**Congressional Add Details (\$ in Millions, and Includes General Reductions)**

**Project:** P518: *SBIR/Challenge Admin*

Congressional Add: *UAV Directed Energy Weapon System Payloads*

Congressional Add: *Random Obfuscating Compiler Anti-Tamper Software*

Congressional Add: *Ferroelectric Component Technology*

Congressional Add Subtotals for Project: P518

Congressional Add Totals for all Projects

	<u>FY 2009</u>	<u>FY 2010</u>
	0.800	1.000
	1.600	1.520
	1.200	0.000
Congressional Add Subtotals for Project: P518	3.600	2.520
Congressional Add Totals for all Projects	3.600	2.520

**Change Summary Explanation**

None

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605790D8Z: <i>SBIR/Challenge Admin</i>	<b>PROJECT</b> P518: <i>SBIR/Challenge Admin</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
P518: <i>SBIR/Challenge Admin</i>	5.568	4.645	2.189	0.000	2.189	2.237	2.286	2.321	2.354	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

(U) The SBIR/STTR Program is executed in three phases. The purpose of Phase I is to determine, insofar as possible, the scientific technical and commercial merit, and feasibility of ideas submitted under the SBIR/STTR Program. Phase II awards are made to firms that have been awarded a Phase I contract on the basis of the results of their Phase I effort and the scientific, technical, and commercial merit of the Phase II proposal. Phase II is the principal research or research and development effort and is expected to produce a well-defined deliverable prototype. Phase III SBIR/STTR efforts derive from, extend or conclude Phase I or Phase II efforts, and are not funded with SBIR/STTR funds. Under Phase III, companies participating in the SBIR/STTR Program are expected to obtain funding from the private sector and/or non-SBIR/STTR government sources to develop the prototype into a viable product or non-R&D service for sale in military and/or private sector markets.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
SBIR/Challenge Admin  (U) Public law mandating SBIR/STTR prohibits the use of any of the SBIR/STTR budget to fund administrative costs of the program, therefore program element (PE) 0605790D8Z is the only source of funds for the coordination, administration and execution of the Department's SBIR/STTR Program. In addition to funding costs for program administration, coordination and execution, PE 0605790D8Z funds essential elements of the SBIR/STTR Program that are required by law including: (a) the development and maintenance of information systems and software required for the measurement, evaluation, and effective management of the Department's SBIR/STTR R&D Program; (b) outreach to small technology companies, potential investors in such companies, SDBs WOSBs HBCU/MIs and others, to encourage and facilitate their participation in the SBIR/STTR Programs (e.g. conferences, trade shows, etc.); (c) preparation of the SBIR/STTR R&D solicitations and related publications; (d) support efforts such as administration of the various SBIR/STTR process action teams; (e) development and promulgation of	1.968	2.125	2.189	0.000	2.189

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605790D8Z: <i>SBIR/Challenge Admin</i>	<b>PROJECT</b> P518: <i>SBIR/Challenge Admin</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>guidance and reference materials to DoD contracting officers, technical monitors, and other personnel involved in administering the SBIR/STTR Programs; and (f) responding to requests for information relative to DoDs SBIR/STTR Program that receives about 13,000 proposals yearly and issues over 3,000 contracts.</p> <p><i>FY 2009 Accomplishments:</i>                      (U) FY 2009 accomplishments included program administration, coordination and execution of the DoD SBIR/STTR Program. Specifically, managed the execution of the \$1.374B FY 2009 DoD SBIR/STTR budget between 11 DoD Components to include:                      1) Coordinated and executed the administrative portions of the DoD SBIR/STTR Programs - administered the online topic development tool, developed five SBIR/STTR solicitations, and received and distributed over 13,000 SBIR/STTR proposals;                      2) Maintained and modified automated processes across the entire SBIR/STTR lifecycle – maintained systems included topic development, proposal submission, company commercialization, awards, commercialization pilot program, and data exchange;                      3) Implemented an aggressive outreach program - developed and implemented outreach materials, hosted a 3-day Training Workshop, hosted a 3-day Beyond Phase II Conference and Technology Showcase, maintained an SBIR/STTR Help Desk, maintained an on-line Desk Reference Manual, administered the SBIR/STTR Interactive Topic Information System (SITIS), and maintained mailing lists (listserv) targeting specific outreach groups;                      4) Coordinated oversight, collected results, tracked execution and provided reporting of Phase III technology transition management and support of the DoD SBIR Commercialization Pilot Program (CPP) (section 252 of the NDAA for FY 2006) - managed and maintained the CPP database and provided data for draft annual CPP Report ; and                      5) Generated all reports required of the SBIR/STTR Programs as mandated by law and policy - annual SBIR/STTR Report, Nanotechnology Report, and Encouraging Innovation in Manufacturing Report.</p>					

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605790D8Z: <i>SBIR/Challenge Admin</i>	<b>PROJECT</b> P518: <i>SBIR/Challenge Admin</i>
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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> (U) FY 2010 plan includes program administration, coordination and execution of the DoD SBIR/STTR Program. Specifically, manage the execution of the FY 2010 DoD SBIR/STTR budget between 11 DoD Components to include:</p> <ol style="list-style-type: none"> <li>1) Coordinate and execute the administrative portions of the DoD SBIR/STTR Programs;</li> <li>2) Maintain and modify automated processes across the entire SBIR/STTR lifecycle;</li> <li>3) Implement an aggressive outreach program;</li> <li>4) Coordinate oversight, collect results, track execution and provide reporting of Phase III technology transition management and support of the DoD SBIR Commercialization Pilot Program (CPP) (section 252 of the NDAA for FY 2006); and</li> <li>5) Generate all reports required of the SBIR/STTR Programs as mandated by law and policy.</li> </ol> <p><i>FY 2011 Base Plans:</i> (U) FY 2011 plan includes program administration, coordination and execution of the DoD SBIR/STTR Program. Specifically, manage the execution of the FY 2011 DoD SBIR/STTR budget between 11 DoD Components to include:</p> <ol style="list-style-type: none"> <li>1) Coordinate and execute the administrative portions of the DoD SBIR/STTR Programs;</li> <li>2) Maintain and modify automated processes across the entire SBIR/STTR lifecycle;</li> <li>3) Implement an aggressive outreach program;</li> <li>4) Coordinate oversight, collect results, track execution and provide reporting of Phase III technology transition management and support of the DoD SBIR Commercialization Pilot Program (CPP) (section 252 of the NDAA for FY 2006); and</li> <li>5) Generate all reports required of the SBIR/STTR Programs as mandated by law and policy.</li> </ol>					
<b>Accomplishments/Planned Programs Subtotals</b>	1.968	2.125	2.189	0.000	2.189

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605790D8Z: <i>SBIR/Challenge Admin</i>	<b>PROJECT</b> P518: <i>SBIR/Challenge Admin</i>
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>		
	<b>FY 2009</b>	<b>FY 2010</b>
Congressional Add: UAV Directed Energy Weapon System Payloads  <i>FY 2009 Accomplishments:</i> (U) Administered by the Department of the Army, this project developed a non-lethal directed energy weapon (DEW) technology based on radio frequency directed energy. This technology specifically targets the disruption or destruction of electronic systems such as communications, computers, sensors, and remote triggering devices which may be employed in improvised explosive devices.  <i>FY 2010 Plans:</i> (U) Continue FY09 efforts to support the incorporation of new technologies and techniques into the existing design to enhance DEW capabilities.	0.800	1.000
Congressional Add: Random Obfuscating Compiler Anti-Tamper Software  <i>FY 2009 Accomplishments:</i> (U) Administered by the Department of the Air Force, this project developed a product for secure distribution and execution of critical DoD software applications and data in a hostile environment. FY09 funding supported the development of state-of-the-art software protection technology to support real-time processing and operations.  <i>FY 2010 Plans:</i> (U) Continue FY09 efforts to include the integration of additional anti-tamper solutions.	1.600	1.520
Congressional Add: Ferroelectric Component Technology  <i>FY 2009 Accomplishments:</i> (U) Administered by the Department of Army, this project developed a 95/5 PZT shock discharged element for the Intense electroMagnetic Pulse weapon (IMP), an RF grenade designed to disrupt	1.200	0.000

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605790D8Z: <i>SBIR/Challenge Admin</i>	<b>PROJECT</b> P518: <i>SBIR/Challenge Admin</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010
or destroy electric circuits and components. FY09 funds supported the fabrication of ferroelectric generators using a pilot production process.		
Congressional Adds Subtotals	3.600	2.520

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

N/A

**D. Acquisition Strategy**

Not applicable for this item.

**E. Performance Metrics**

(U) Performance is in support of the administration of the program and compliance with statutory requirements.

(U) For PE 0605790D8Z, management and administration of the DoD SBIR/STTR Programs, the following measures have been established to meet requirements as mandated by law: 1) Coordinate and execute the administrative portions of the DoD SBIR/STTR Programs; 2) Maintain and modify automated processes across the entire SBIR/STTR lifecycle; 3) Develop and conduct an aggressive outreach program; 4) Coordinate oversight, collect results, track execution and provide reporting of Phase III technology transition management and support of the DoD SBIR Commercialization Pilot Program (CPP) (section 252 of the NDAA for FY 2006); and 5) Generate all reports required of the SBIR/STTR Programs as mandated by law and policy.

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605798D8Z: <i>Defense Technology 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	9.503	11.710	13.858	0.000	13.858	15.672	15.661	15.527	15.792	Continuing	Continuing
P797: <i>Defense Technology Analysis</i>	5.000	6.379	5.939	0.000	5.939	6.569	6.439	6.125	6.211	Continuing	Continuing
P798: <i>DDR&amp;E Support Teams</i>	4.503	5.331	3.919	0.000	3.919	5.003	5.022	5.102	5.181	Continuing	Continuing
P796: <i>Lab Resource Management</i>	0.000	0.000	4.000	0.000	4.000	4.100	4.200	4.300	4.400	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

The Director, Defense Research and Engineering (DDR&E) is the principal staff advisor to the Under Secretary of Defense for Acquisition, Technology & Logistics (USD(AT&L)) and the Secretary and Deputy Secretary of Defense for research and engineering (R&E) matters. In this capacity, the DDR&E has the responsibility to conduct analyses and studies; develop policies; provide technical leadership, oversight and advice; make recommendations; and issue guidance for the DoD R&E plans and programs. Additionally, the DDR&E provides technical support to the USD(AT&L) on R&E aspects of programs subject to review by the Defense Acquisition Board, to include assessments of technology consistent with DoD acquisition policy.

This program element provides mission support to the Office of the DDR&E (ODDR&E). It covers a wide range of studies and analyses in support of the R&E program and impacts the Department's decision to fund RDT&E efforts. The DoD's key expertise for reviewing and guiding R&E programs resides in the ODDR&E. The ODDR&E staff augments their responsibilities through their connections to technology experts in various fields throughout academia, industry, and government. This project supports the directed responsibilities by building DDR&E teams of technology experts to conduct program technical assessments. The teams will analyze the key engineering problem areas and offer adjustments in the development and test plan; alternate technical approaches; or new technologies that could enable successful development. The teams will constitute expert non-advocate reviews and gather advice from the Nation's leading technical experts. Future capabilities will depend on today's R&E investment. Consequently, the mission of the DoD R&E program is to create, demonstrate, prototype, and apply technology that enables affordable and decisive military superiority to defeat any adversary on any battlefield. Pursuing the R&E mission requires attention to: identification and development of new technological opportunities; insertion of new technologies into warfighting systems and operations; and management and evaluation of the effectiveness of technology programs. A successful R&E program is connected to the acquisition Program Managers/Program Executive Officers to ensure the best possible technology is being integrated into acquisition systems.

This program element also provides engineering, scientific, and analytical support to the Office of the Director, Research in its responsibility for direction, overall quality, and content of the science and technology (S&T) program and ensures that the technology being developed is affordable and minimizes system development

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605798D8Z: <i>Defense Technology Analysis</i>
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risk. The primary purpose of this program element is to facilitate the development of the S&T program and to conduct assessments and analyses of the program to ensure maximum utilization of Research and Development funds to accomplish the overall objectives of the S&T program. The Weapons Systems Acquisition Reform Act (WSARA) of 2009 expanded the role of the DDR&E in acquisition decisions. Full implementation of the Act requires increases in both the number and depth of technology maturity assessments. FY 2011 funding reflects WSARA requirements. Funds are required for technical, analytical and management support; equipment and supplies; travel; and publications.

Technology Integration activities advance international S&T cooperation of specific projects of bilateral or multilateral interest. It provides the management support for U.S. participation in NATO's Research and Technology Organization (RTO) and The Technical Cooperation Program (TTCP). Technology Integration oversees, coordinates, and reviews RTO and TTCP activities in which the U.S. has an interest including ongoing and proposed collaborative programs, technical symposia and conferences, and standard operating procedures. This effort will leverage Tri-Service S&T dollars through new and ongoing international partnerships. Technology Integration also provides selective funding support for administration, travel, conferences, and technical evaluations related to RTO activities carried out by the Services and other organizations.

This program element also provides funding for the Laboratory Resource Management Office (LRMO) in the ODDR&E. The LRMO advocates and invests in the DoD laboratory system in three areas: facilities and infrastructure; quality of workforce; and global insight of critical or strategic technologies important to DoD and the Nation.

**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	11.040	11.005	0.000	0.000	0.000
Current President's Budget	9.503	11.710	13.858	0.000	13.858
Total Adjustments	-1.537	0.705	13.858	0.000	13.858
• Congressional General Reductions		0.000			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	-1.230	0.000			
• SBIR/STTR Transfer	-0.307	0.000			
• Other Program Adjustments	0.000	0.705	13.858	0.000	13.858

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0605798D8Z: <i>Defense Technology Analysis</i>				<b>PROJECT</b> P797: <i>Defense Technology Analysis</i>				
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
<i>P797: Defense Technology Analysis</i>	5.000	6.379	5.939	0.000	5.939	6.569	6.439	6.125	6.211	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

This project provides engineering, scientific and analytical support to the Office of the Director, Research in its responsibility for direction, overall quality, and content of the Science and Technology (S&T) program and ensures that the technology being developed is affordable and minimizes system development risk. The primary purpose of this program element is to facilitate the development of the S&T program and to conduct assessments and analyses of the program to ensure maximum utilization of Research and Development funds to accomplish the overall objectives of the S&T program. The Weapons Systems Acquisition Reform Act (WSARA) of 2009 expanded the role of the DDR&E in acquisition decisions. Full implementation of the Act requires increases in both the number and depth of technology maturity assessments. FY 2011 funding reflects WSARA requirements. Funds are required for technical, analytical, and management support; travel; and publications.

Technology Integration activities advance international S&T cooperation of specific projects of bilateral or multilateral interest. It provides the management support for U.S. participation in NATO's Research and Technology Organization (RTO) and The Technical Cooperation Program (TTCP). Technology Integration oversees, coordinates and reviews RTO and TTCP activities in which the U.S. has an interest including ongoing and proposed collaborative programs, technical symposia and conferences, and standard operating procedures. This effort will leverage Tri-Service S&T investments through new and ongoing international partnerships. Technology Integration also provides selective funding support for administration, travel, conferences, and technical evaluations related to RTO activities carried out by the DoD Components.

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

	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
DoD Technical Analysis <i>FY 2009 Accomplishments:</i> Provided engineering, scientific, analytical, and managerial support to the ODDR&E via contract vehicles to private industry and Federally Funded Research and Development Centers. Publications	5.000	6.379	5.939	0.000	5.939

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605798D8Z: <i>Defense Technology Analysis</i>	<b>PROJECT</b> P797: <i>Defense Technology Analysis</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Director, Research in reviewing proposed and approved S&amp;T programs and make recommendations to optimize effectiveness of the DoD investments in science and technology. Provide engineering, scientific, analytical, and managerial support to the Office of the Director, Research in oversight of S&amp;T issues and initiatives and responding to Congressional special interests. Through an international technology watch effort, identify ongoing and proposed S&amp;T efforts that could complement efforts or fill shortfalls in meeting U.S. S&amp;T requirements, objectives and goals. Foster international bilateral and multilateral cooperative agreements in high value S&amp;T areas with allies, nonaligned nations and former Soviet Block nations. Establish data exchange agreements, engineer and scientist exchange program visits, international technology assessments and new cooperative programs. Seek opportunities for international cooperation in high priority S&amp;T. Conduct intradepartmental coordination to achieve goals as necessary.</p>					
<b>Accomplishments/Planned Programs Subtotals</b>	5.000	6.379	5.939	0.000	5.939

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

N/A

**D. Acquisition Strategy**

N/A

**E. Performance Metrics**

Several indicators allow the Department to measure the success of the Defense Technology Analysis program element:

- The number of technological introspections as evidenced by completed Technology Readiness Assessments and the DDR&E's influence on acquisition decisions serve as valuable indicators of the program's effectiveness.
- The establishment and outputs of Defense Support Teams and Joint Analysis Teams are additional indicators of program metrics.
- Feedback into the oversight mechanisms of the S&T program to guide investment decisions serve as additional metrics.

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605798D8Z: <i>Defense Technology Analysis</i>	<b>PROJECT</b> P798: <i>DDR&amp;E Support Teams</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
<i>P798: DDR&amp;E Support Teams</i>	4.503	5.331	3.919	0.000	3.919	5.003	5.022	5.102	5.181	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

The Department of Defense's (DoD's) key expertise for reviewing and guiding research and engineering programs resides in the Office of the Director Defense Research and Engineering (ODDR&E). The ODDR&E staff augments their responsibilities through their connections to technology experts in various fields throughout academia, industry, and government. This project supports the directed responsibilities by building teams of technology experts to conduct program technical health check-ups. The teams will analyze the key engineering problem areas and offer adjustments in the development and test plan; alternate technical approaches; or new technologies that could enable successful development. The teams will constitute expert non-advocate reviews and gather advice from the Nation's leading technical experts. Future capabilities will depend on today's R&E investment. Consequently, the mission of the DoD R&E program is to create, demonstrate, prototype, and apply technology that enables affordable and decisive military superiority to defeat any adversary on any battlefield. Pursuing the R&E mission requires attention to: identification and development of new technological opportunities; insertion of new technologies into warfighting systems and operations; and management and evaluation of the effectiveness of technology programs. A successful R&E program is connected to the acquisition Program Managers/Program Executive Officers to ensure the best possible technology is being integrated into acquisition systems.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
DDR&E Support Teams  <i>FY 2009 Accomplishments:</i> Provided direct support to six Defense Support Teams (DSTs) and seven Joint Assessment Teams (JATs). Over fifty DSTs and JATs have been completed or are underway. In addition to direct support, many received indirect support through multiple sources of technical expertise. Established process and procedures to address USD(AT&L) policy for the definition and governance of DSTs and JATs. Contract vehicles to obtain diverse technical expertise were put into place or were initiated.	4.503	5.331	3.919	0.000	3.919

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605798D8Z: <i>Defense Technology Analysis</i>	<b>PROJECT</b> P798: <i>DDR&amp;E Support Teams</i>
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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> Establish support teams and conduct technology analyses to support R&amp;E program investment decisions. Continue or complete teams established in FY 2009. For selected acquisition programs and efforts, review in technical detail the respective program issues and offer technical solutions to program managers. Assessing the maturity of technology that is a candidate for transitioning to an acquisition program is important for efficient and timely fielding of improved military systems. The execution of a technology maturity assessment at all acquisition milestone decisions is formally required by the Defense Acquisition Board. It is essential that the R&amp;E community maintain close ties with the acquisition Program Managers and Program Executive Officers to enable the best possible technology maturity assessments.</p> <p><i>FY 2011 Base Plans:</i> Establish support teams and conduct technology analyses to support R&amp;E program investment decisions. For selected acquisition programs and efforts, review in technical detail the respective program issues and offer technical solutions to program managers. Assess the maturity of technology that is a candidate for transitioning to an acquisition program is important for efficient and timely fielding of improved military systems. The execution of a technology maturity assessment at all acquisition milestone decisions is now formally required by the Defense Acquisition Board.</p>					
<b>Accomplishments/Planned Programs Subtotals</b>	4.503	5.331	3.919	0.000	3.919

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

N/A

**D. Acquisition Strategy**

N/A

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605798D8Z: <i>Defense Technology Analysis</i>	<b>PROJECT</b> P798: <i>DDR&amp;E Support Teams</i>

**E. Performance Metrics**

Several indicators allow the Department to measure the success of the Defense Technology Analysis program element:

- The number of technological introspections as evidenced by completed Technology Readiness Assessments and DDR&E's influence on acquisition decisions serve as valuable indicators of the program's effectiveness.
- The establishment and outputs of Defense Support Teams and Joint Analysis Teams are additional indicators of program metrics.
- Feedback into the oversight mechanisms of the S&T program to guide investment decisions serve as additional metrics.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense								<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0605798D8Z: <i>Defense Technology Analysis</i>				<b>PROJECT</b> P796: <i>Lab Resource Management</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
<i>P796: Lab Resource Management</i>	0.000	0.000	4.000	0.000	4.000	4.100	4.200	4.300	4.400	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b>											
This project provides funding for the Laboratory Resource Management Office (LRMO) in the ODDR&E. The LRMO advocates and invests in the DoD laboratory system in three areas: facilities and infrastructure; quality of workforce; and global insight of critical or strategic technologies important to the DoD and the Nation.											
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
						<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	
LRMO Advocacy for DoD Laboratories						0.000	0.000	1.300	0.000	1.300	
<i>FY 2011 Base Plans:</i> Using the DoD Laboratory Strategic Plan developed in FY-10, the LRMO will analyze the laboratories' capabilities in terms of infrastructure, personnel and investment portfolio to determine their alignment with strategic technology areas and create opportunities to build capability in those areas of greatest importance to the Department. Labs which can support strategic technology areas may be designated as DoD Laboratory Enterprise Centers of Excellence (CoE) and become eligible for targeted funding in FY 2012 and out.											
Technical Grand Challenge Program						0.000	0.000	2.700	0.000	2.700	
<i>FY 2011 Base Plans:</i> By direction of the DDR&E, the LRMO will sponsor a program that poses a technology problem to the DoD Laboratory system in the context of a competition. The competition is being executed during FY 2010 and FY 2011 with an estimated total cost of \$20M (including funding from other sources). This project provides funding for the management of the project and the range fees.											
<b>Accomplishments/Planned Programs Subtotals</b>						0.000	0.000	4.000	0.000	4.000	

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b>	<b>R-1 ITEM NOMENCLATURE</b>	<b>PROJECT</b>
0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	PE 0605798D8Z: <i>Defense Technology Analysis</i>	P796: <i>Lab Resource Management</i>

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

N/A

**D. Acquisition Strategy**

N/A

**E. Performance Metrics**

N/A

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605799D8Z: <i>Force Transformation</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	21.421	23.787	19.701	0.000	19.701	20.890	21.139	21.477	21.813	Continuing	Continuing
P799: <i>Force Transformation</i>	21.421	23.787	19.701	0.000	19.701	20.890	21.139	21.477	21.813	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

This funding request supports the development of emerging capabilities under the Director of Defense Research & Engineering's Rapid Reaction Technology Office (RRTO). These funds are used to advance technical capabilities in mutual areas of interest through focused partnerships and projects with other federal departments and agencies. In addition to supporting interagency cooperation, this PE incubates selected concepts and technologies of interest to joint warfighters and their interagency partners to provide mature options as capability needs emerge in and beyond the FYDP. This includes developing risk-reducing prototypes to demonstrate capabilities in response to joint warfighter and interagency partners' shared requirements; and informing the Joint Capabilities Integration & Development System (JCIDS) and acquisition system through technical demonstrations. Individual projects are developed and funded with interagency partners over a two to five year period – products are demonstrated and fielded in spirals within that project timeline – and generally do not include stand-alone studies. Funding for this PE permits support for four to five major projects per year. Typically, these projects support mid-term irregular warfare needs aligned with those of interagency partners. This program element has evolved from exclusive support of force transformation activities to the activities described above, more closely aligned with departmental goals.

**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	23.073	19.981	0.000	0.000	0.000
Current President's Budget	21.421	23.787	19.701	0.000	19.701
Total Adjustments	-1.652	3.806	19.701	0.000	19.701
• Congressional General Reductions		0.000			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	-0.194			
• Congressional Adds		4.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	-1.136	0.000			
• SBIR/STTR Transfer	-0.516	0.000			
• Other Program Adjustments	0.000	0.000	19.701	0.000	19.701

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605799D8Z: <i>Force Transformation</i>
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**Congressional Add Details (\$ in Millions, and Includes General Reductions)**

**Project:** P799: *Force Transformation*

Congressional Add: *Prototype Rigid Aeroshell Variable Buoyancy (RAVB) Air Vehicle - Project Pelican*

Congressional Add Subtotals for Project: P799

Congressional Add Totals for all Projects

	FY 2009	FY 2010
2.500	2.500	4.000
2.500	2.500	4.000
2.500	2.500	4.000

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605799D8Z: <i>Force Transformation</i>	<b>PROJECT</b> P799: <i>Force Transformation</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
<i>P799: Force Transformation</i>	21.421	23.787	19.701	0.000	19.701	20.890	21.139	21.477	21.813	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

This funding request supports the development of emerging capabilities under the Director of Defense Research & Engineering's Rapid Reaction Technology Office (RRTO). These funds are used to advance technical capabilities in mutual areas of interest through focused partnerships and projects with other federal departments and agencies. In addition to supporting interagency cooperation, this Program Element (PE) incubates selected concepts and technologies of interest to joint warfighters and their interagency partners to provide mature options as capability needs emerge in and beyond the Future Year Defense Program (FYDP). This includes developing risk-reducing prototypes to demonstrate capabilities in response to joint warfighter and interagency partners' shared requirements; and informing the Joint Capabilities Integration & Development System (JCIDS) and acquisition system through technical demonstrations. Individual projects are developed and funded with interagency partners over a two to five year period – products are demonstrated and fielded in spirals within that project timeline – and generally do not include stand-alone studies. Funding for this PE permits support for four to five major projects per year. Typically, these projects support mid-term irregular warfare needs aligned with those of interagency partners. This program element has evolved from exclusive support of force transformation activities to the activities described above, more closely aligned with departmental goals.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Project Wolf Pack  Wolf Pack was a prototype development project focused on enhancing the combat effectiveness of Army/Marine Corps/coalition small ground units. The project was designed to find, coordinate, integrate, experiment with and test emerging but relatively mature concepts and technologies that could rapidly address capability gaps. Wolf Pack was intended to act as a force-multiplier for small units and to operate within existing force structure, command, doctrinal and equipment arrangements. The overall Wolf Pack capability combined a variety of mounted and dismounted technologies. Collectively, these technologies were assigned to one of the following subordinate capability elements: Situational	2.800	0.000	0.000	0.000	0.000

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605799D8Z: <i>Force Transformation</i>	<b>PROJECT</b> P799: <i>Force Transformation</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Awareness, Communications, Mobility, Force Protection, Direct Fire, Non-Lethal Fires, Surveillance and Target Acquisition (STA) and Biometrics.</p> <p><i>FY 2009 Accomplishments:</i>                      During FY 2009, Project Wolf Pack's main effort was the successful transition of Wolf Pack equipment to a US Army program of record. Supporting efforts included an operational demonstration of the Wolf Pack equipment suite with Coalition forces at Twenty-nine Palms, California, and a cooperative field test of Wolf Pack sensors and command and control equipment conducted with United States Northern Command in support of the United States Customs and Border Protection Service. Project Wolf Pack assets were used in additional experiments including Naval Postgraduate School Tactical Network Topology and US Army network lethality efforts. Project Wolf Pack has further provided numerous designs, upgrades and enhancements for existing programs of record, including the US Marine Corps Extended Logistics Program and Mine Resistant Ambush Protection (MRAP) Vehicles. Additionally, Project Wolf Pack executed a field interoperability experiment with the CASSANDRA electronic warfare precursor to the CORPORAL Joint Capability Technology Demonstration (JCTD). At the end of FY 2009, Project Wolf Pack has achieved all planned goals, and with the successful transition to the US Army has been closed out as an Office of the Secretary of Defense project.</p>					
<p>Interagency Border Security (Overwatch)</p> <p>Overwatch is a new capability development effort which seeks to leverage technology and new ideas to fill ground combat and interagency capability gaps. Notably, Overwatch will build on the ground work and past successes of Project Wolf Pack by continuing to maximize the utilization of capabilities and technologies developed and transitioned under that program. Within this framework, Overwatch will be the umbrella project containing multiple initiatives seeking to aggressively cultivate and leverage emerging technologies and concepts to counter the current and future challenges characteristic of the irregular warfare environment. Projects will be oriented towards</p>	0.000	1.500	1.500	0.000	1.500

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605799D8Z: <i>Force Transformation</i>	<b>PROJECT</b> P799: <i>Force Transformation</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>increasing war fighter effectiveness on the battlefield and/or the development/enhancement of “whole of government” irregular warfare capability.</p> <p>Specifically, the capability development effort will focus on two lines of operation to guide the growth of timely, sustainable, and deployable solutions for identified and anticipated requirements inside the formal acquisition process. The first line of operation will involve examination of interagency capabilities by pursuing concept experimentation/ validation, interoperability enhancements and command and control development. The second line of operation will focus on ground, and ground combat, capabilities particularly command and control, force protection, situational awareness, and networked, cooperative engagement. The end-state for each line of operation will be practical solutions suitable for transition. These include completed operational assessments, equipment prototypes, or validated concepts which can be used to inform and drive formal procurement processes and/or policy decisions.</p> <p>Project Overwatch currently contains three subordinate projects: the Law Enforcement Capabilities Project, the Gunslinger Package for Advanced Convoy Security (GunPACS), and Interagency Border Security.</p> <ul style="list-style-type: none"> <li>• Interagency Border Security: The primary current venue for exploring/developing interagency capabilities centers on a collaborative effort with Joint Task Force-North (JTF-N) to explore and develop multiple types of sensors designed to improve information gathering and sharing across numerous agencies. JTF-N will be conducting multiple border security operations throughout the year designed to identify, interdict, disrupt, and prosecute organized criminal elements operating along the United States borders. These operations will typically involve numerous partner organizations including the Department of Homeland Security, Department of Justice, the US Coast Guard, Customs and Border Patrol as well as state and local law enforcement agencies. Beginning in FY 2010, participating organizations will conduct operational evaluation of multiple new sensors provided under the umbrella of Project Overwatch in order to enhance situational awareness, planning ability and intelligence gathering capability. The multi-sensor technology applications will facilitate synchronization of interagency operations, and enable better sharing of information and intelligence.</li> </ul>					

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>suitable for transition. These include completed operational assessments, equipment prototypes, or validated concepts which can be used to inform and drive formal procurement processes and/or policy decisions.</p> <p>Project Overwatch currently contains three subordinate projects: the Law Enforcement Capabilities Project, the Gunslinger Package for Advanced Convoy Security (GunPACS), and Interagency Border Security.</p> <ul style="list-style-type: none"> <li>• Gunslinger Package for Advanced Convoy Security (GunPACS): The Gunslinger Package for Advanced Convoy Security is a system built on the USMC Medium Tactical Replacement Vehicle (MTVRs) platform that provides enhanced situational awareness and cooperative engagement capabilities for ground and combat logistics elements in Afghanistan. This technology provides accurate targeting solutions to small unit and logistics convoy vehicle crews enabling them to effectively engage hostile shooters with remote weapons while remaining under armor. The objective of this effort is to provide clear, unambiguous data on the location of hostile forces in the vicinity of the small unit equipped with the GunPACS system. GunPACS will utilize 360-degree camera coverage, acoustic shot detection, and networked data fusion technology to determine shooter location information. This information is used by the crew to designate targets for the remote weapons mount to enable vehicle crews to engage hostiles while remaining under armor. Networked data fusion allows for a cooperative engagement capability, providing for more accurate and effective return fires. Additionally, the ability of convoy units to defend themselves will reduce the need for additional combat support for logistics convoys, potentially freeing those assets for active combat operations.</li> </ul> <p><i>FY 2009 Accomplishments:</i> The project was initiated late in the fiscal year. Primary accomplishments included detailed planning for the construction of the prototype vehicles based on anticipated user input as well as the purchase of multiple subcomponents. Several workshops were conducted to gather information from possible users' units. Their detailed feedback for desired capabilities of the vehicle was incorporated into vehicle design.</p>					

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>command and control development. The second line of operation will focus on ground, and ground combat, capabilities particularly command and control, force protection, situational awareness, and networked, cooperative engagement. The end-state for each line of operation will be practical solutions suitable for transition. These include completed operational assessments, equipment prototypes, or validated concepts which can be used to inform and drive formal procurement processes and/or policy decisions.</p> <p>Project Overwatch currently contains three subordinate projects: the Law Enforcement Capabilities Project, the Gunslinger Package for Advanced Convoy Security (GunPACS), and Interagency Border Security.</p> <ul style="list-style-type: none"> <li>• Law Enforcement Capabilities Project (LECP). The LECP project is a follow-on to the Transitional Law Enforcement (TLE) project initiated under Project Wolf Pack and has been incorporated into the Overwatch portfolio as opposed to a standalone project. Leaders in a variety of US Government organizations including the Department of Defense, Department of State, and Department of Justice recognize the need to capitalize on the unique advantages that law enforcement professionals, as a part of the broader rule of law system, contribute to improving outcomes in current and future contingency operations, from peacetime engagement through full scale combat. The Law Enforcement Capabilities Project will advance current thinking on the nature of, and need for, law enforcement capability across DoD, the Services and the interagency to support complex warfighting, conflict resolution, stabilization and reconstruction. The Law Enforcement Capabilities Project builds on the body of knowledge and interagency contacts developed during the TLE Project. This project will identify and describe specific capabilities relevant to enhancing military cooperation with law enforcement agencies and further improve the interagency cooperation initiated during TLE. The payoff will be the development of a series of tools to enhance the capabilities of military, law enforcement agencies and their mutual interaction. It will also identify specific (technological and organizational) capabilities to develop this further in future.</li> </ul>					

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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 2009 Accomplishments:</i> FY 2009 activities included a survey of capabilities and technologies available to civilian law enforcement agencies and military organizations engaged in law enforcement-type activities to determine interoperability and technological gaps. Work began to develop war games and field activities utilizing the Marshal Service and interagency partners either focused on border patrol activities or international stabilization and reconstruction operations. An evaluation of lessons learned from operations in Panama, Colombia and Kosovo, as well as an assessment of technology used during those operations, was completed.</p> <p><i>FY 2010 Plans:</i> The project will be nested within the OSD/Policy(P) Stability Police Task Force and will conduct a series of war games to inform the OSD(P) policy review in this area. Four war games are planned to explore the different facets of law enforcement in support of US government (USG) international operations in order to develop solid concepts of operation for each. These will feed the decision making process assessing the utility of proposing an institutional USG solution for stability policing. At the military service level, the war games will produce handbooks for battalion and brigade commanders to advise on the best practices for the employment of Law Enforcement Professionals in combat and will be used to the inform the doctrine development effort. Once the OSD(P) Stability Police Task Force has concluded it is anticipated that LECP will be complete.</p>					
<p><b>Stiletto</b></p> <p>Project description: Stiletto was developed to provide the DoD a dedicated operational Research and Development (R&amp;D) maritime platform. Although the craft incorporates experimental naval architecture to explore the scalability of non-mechanical dynamic lift, carbon fiber construction, and high speed performance for military operations, it is the craft's electronic keel and associated craft characteristics (e.g., covered payload space, Unmanned Aerial Vehicle (UAV) flight deck, shallow draft, and ability to easily integrate Command, Control, Communications, Computers, Intelligence (C4I)</p>	2.421	2.800	2.492	0.000	2.492

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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) that provides Stiletto her R&amp;D capability. The electronic keel was designed to be flexible, modular and re-configurable to support near plug-and-play installation of C4I equipment used as part of experimentation. In addition to testing C4I equipment, Stiletto is ideally suited for operational experimentation and has tested unmanned systems, mine clearance sensors, and coastal warfare concepts of operations for various commands and agencies. The Stiletto vessel is homeported in Norfolk, VA.</p> <p><i>FY 2009 Accomplishments:</i> During FY 09 the Stiletto project conducted 120 days of underway operations in support of experimentation for government labs, small businesses and academia. A 90 day experimentation and counter-narcotics deployment to the Caribbean in support of the Joint Interagency Task Force South (JIATF-S) was completed in the summer of 2009. This deployment expanded on the interagency cooperation that was established during the FY 08 deployment to Colombia. While Stiletto continued to support its traditional customers, the program expanded its customer base to other federal agencies. While deployed, Stiletto participated in SOUTHCOM's theater security cooperation operations in the eastern Caribbean. Stiletto also participated in Project Thunderstorm (see below) during FY09. Several equipment upgrades enhanced Stiletto's capabilities as both a test bed and as a deployable asset.</p> <p><i>FY 2010 Plans:</i> The Stiletto project will continue its operational experimentation through FY 2010 as well as the identification, design and execution of continued upgrades to Stiletto's equipment and hull; continue supporting combatant command (COCOM), service, and interagency experimentation. Specific experiments will be conducted in support of Joint Staff-led Joint Capabilities Technology Demonstrations (JCTDs) as well as Defense Advanced Research Projects Agency (DARPA) projects. Opportunities with US Northern Command and the Department of Homeland Security will be evaluated.</p>					

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>intermodal transportation as cargo moves from origin to point of need, with corresponding reduction in delivery times.</p> <p>Project Pelican will be conducted over a five-year period with the first three years consisting of vehicle design, analysis, and subsystem prototyping/testing. Year four will involve systems integration and construction with ground and flight testing being conducted in year five.</p> <p><i>FY 2009 Accomplishments:</i> The Government-Pelican team conducted a Conceptual Design Review of the proposed RAVB air vehicle during FY 2009. Additionally, the DoD/NASA team approved the purchase of certain long-lead hardware and materials to enable risk-reducing prototype efforts. With NASA analytic support, the contractor delivered first prototypes and test components for the following critical sub-systems: the primary structural load path, truss frame elements, propulsion unit, buoyancy management components, low speed flight control system, landing system, cockpit layout, and vehicle control units. The rapid prototyping and test efforts informed and shaped the FY 2010 effort. Also in FY 2009, the contractor successfully completed a DARPA program for a “Buoyancy Assisted Air Vehicle,” the primary components of which serve as risk reducing prototypes for the Pelican project.</p> <p><i>FY 2010 Plans:</i> During FY 2010, the government team intends to conduct a Preliminary Design Review of the proposed RAVB air vehicle. Subsystem component prototyping and test iterations for the above systems will continue with the addition of the pneumatics, fuel, electrical, and avionics subsystems. At the end of FY 2010, the team will be in a position to conduct the Critical Design Review and begin major system assembly.</p> <p><i>FY 2011 Base Plans:</i> Plans for FY 2011 include conducting the Critical Design Review of proposed RAVB air vehicle and continued subsystem design and test iteration of the critical subsystems above with the addition</p>					

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p><i>FY 2010 Plans:</i> Expand to include operational experiments in JIATF-S, but also supporting JTF-North on the Arizona/Mexico border area using developmental airborne ISR capabilities being evaluated for theater deployment. Use of the Southwest Border region replicates the terrain found in the Afghanistan/Pakistan border areas, making the area ideal for evaluating ISR systems</p> <ul style="list-style-type: none"> <li>• November 2009: Demonstrated the utility of a Ground Moving Target Indicator (GMTI) system called Vehicle and Dismount Exploitation RADAR (VADER) on the Southwest Border, in cooperation with Customs and Border Protection (CBP) Predator and Border Agents. The operational demonstration was invaluable in helping VADER developers refine CONOPS prior to expected deployment to Afghanistan in late Spring 2010.</li> <li>• March 2010: Thunderstorm Spiral 3 will be conducted in the Eastern Pacific region near Panama. The focus will be to demonstrate proper sensor management of several multi-int capabilities and then fuse the data into a single display for JIATF-S analyst's evaluation. Participants include DHS S&amp;T, CBP, USCG, CIA, NRO, NRL, NAVAIR, NAVSEA, DIA, and USAF</li> </ul> <p>September 2010: Thunderstorm Spiral 4 will be conducted using Southwest Border region for multi-int operational demonstrations.</p> <p><i>FY 2011 Base Plans:</i> Expand Thunderstorm spirals to include all of SOUTHCOM (not just JIATF-S AOR and mission sets). Continue using southwest (and possibly Northern) border regions to evaluate Irregular Warfare ISR capabilities.</p>						
<p>Program Support</p> <p>Ongoing support to the office includes management and analysis of highly specialized defense research and engineering technologies and projects. Support includes technical, financial, administrative and programmatic analysis of current planned research and engineering projects as well</p>		0.300	0.300	0.300	0.000	0.300

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>as development of future plans and activities. Additional tasks include the development of outreach plans and activities in conjunction with individual projects and their milestones.</p> <p><i>FY 2009 Accomplishments:</i> Provided management and analysis of highly specialized defense research and engineering technologies. Support included technical, financial, administrative and programmatic analysis of current and planned research and engineering projects, including Wolf Pack, Stiletto, Pelican, and Law Enforcement Capabilities Project, as well as exploration of areas of future work.</p> <p><i>FY 2010 Plans:</i> Provide management and analysis of highly specialized defense research and engineering technologies. Support includes technical, financial, administrative and programmatic analysis of current and planned research and engineering projects, including Wolf Pack, Stiletto, Pelican, TLE, and ORS.</p> <p><i>FY 2011 Base Plans:</i> Provides management and analysis of highly specialized defense research and engineering technologies.</p>					
<b>Accomplishments/Planned Programs Subtotals</b>	18.921	19.787	19.701	0.000	19.701

	FY 2009	FY 2010
<p>Congressional Add: Prototype Rigid Aeroshell Variable Buoyancy (RAVB) Air Vehicle - Project Pelican</p> <p><i>FY 2009 Accomplishments:</i> The government Pelican team conducted a Conceptual Design Review of the proposed RAVB air vehicle during FY 2009. Additionally, the DOD/NASA team approved the purchase of certain long-</p>	2.500	4.000

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

	FY 2009	FY 2010
<p>lead hardware and materials to enable risk-reducing prototype efforts. With NASA analytic support, the contractor delivered first prototypes and/or test components for the following critical sub-systems: the primary structural load path, truss frame elements, propulsion unit, buoyancy management components, low speed flight control system, landing system, cockpit layout, and vehicle control units. The rapid prototyping and test efforts underway will inform and shape the FY 2010 effort. Also in FY 2009, the contractor successfully completed a DARPA program for a "Buoyancy Assisted Air Vehicle," the primary components of which will serve as risk reducing prototypes for the Pelican project.</p> <p><i>FY 2010 Plans:</i> During FY 2010, the government team intends to conduct a Preliminary Design Review of the proposed RAVB air vehicle. Subsystem component prototyping and test iterations for the above systems will continue with the addition of the pneumatics, fuel, electrical, and avionics subsystems. At the end of FY 2010, the team will be in a position to conduct the Critical Design Review and begin major system assembly.</p>		
<b>Congressional Adds Subtotals</b>	2.500	4.000

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

N/A

**D. Acquisition Strategy**

N/A

**E. Performance Metrics**

Project performance metrics are specific to each effort and include measures identified in the specific project plans. In addition, project completions and success are monitored against schedules and deliverables stated in the proposals and statements of work. The metrics include items such as target dates, production measures, fielding dates, and demonstration goals and dates. Generic performance metrics applicable to the Rapid Reaction Fund (RRF) includes attainment of DoD Strategic Objective 4-3. The title of this objective is "Speed technology transition focused on warfighting needs" and the metrics for this objective is to transition 30% of completing demonstrations program per year. During FY 2009 Force Transformation achieved a transition rate of 100% exceeding the objective of 30%.

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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	22.208	29.760	18.688	0.000	18.688	17.599	18.248	18.819	19.394	Continuing	Continuing
P804: <i>Development Test &amp; Evaluation</i>	17.835	19.148	17.052	0.000	17.052	15.870	16.329	16.813	17.297	Continuing	Continuing
P805: <i>Software Engineering and System Assurance</i>	2.873	2.764	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
P806: <i>Energy</i>	1.500	1.410	1.636	0.000	1.636	1.729	1.919	2.006	2.097	Continuing	Continuing
P052: <i>Contingency Acquisition Support Model</i>	0.000	6.438	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

This program supports Developmental Test and Evaluation (DT&E) oversight of the DoD's Major Defense Acquisition Programs (MDAPs) and all other weapons systems as stated by the Secretary of Defense. Activities in this program include developing and disseminating policy and guidance to support DT&E in the acquisition process. This program provides updates to DoD 5000.02 and the Defense Acquisition Guidebook (DAG) and tracks and evaluates the effectiveness of the Technology Development Strategy, and the Acquisition Strategy, the Test and Evaluation Strategy (TES). This program also supports the process for the development of the Test and Evaluation Master Plans (TEMP). Efforts determine the adequacy of program development structure and development plans, substantiation technical performance requirements achievement, identification of design risks, system certification for Operational Test and Evaluation, and ensures programs are sound, well executed and sufficiently address war fighter requirements.

This program develops education and training materials for instructing, maintaining and enhancing the defense acquisition workforce. Activities include developing guidance to enhance DT&E acquisition career planning and progression, monitoring and facilitating Defense Acquisition University (DAU) updates of courses to ensure curriculum represents the education and training requirements necessary to be a viable team member in the acquisition process.

FY 2010 will see a significant ramp-up in activity as DoD takes on the reconstituting of the DT&E office in response the Weapons System Acquisition Reform Act (WSARA) of 2009 which mandated the Director, Developmental Test and Evaluation (DDT&E) have oversight of all MDAPs reporting directly to the Under Secretary of Defense (Acquisition, Technology and Logistics (USD(AT&L))). Traction is being gained in a renewed focus on DT&E. DoD must redouble its efforts to increase direct oversight programs through early involvement with intensive DT&E prior to Initial Operational Test and Evaluation (IOT&E). New approaches, with associated policy,

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guidance, education and training are essential in early DT&E as DoD has become acutely aware of DT&E's role in both a successful acquisition process and fielding of MDAPs.

This program funds technical analyses and policy guidance for the DoD operational energy programs and initiatives including institutionalizing energy in DoD's business processes (e.g., Fully Burdened Cost of Fuel and the Energy Efficiency Key Performance Parameters (KPP)).

Due to the Weapons Systems Reform Acquisition Act of 2009, which directed a new Office of the Director, Systems Engineering, in FY 2011, a portion of funding from this Program Element for previous systems and software engineering efforts, has been transferred to a new Systems Engineering Program Element (0605142D8Z).

**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	20.396	23.512	0.000	0.000	0.000
Current President's Budget	22.208	29.760	18.688	0.000	18.688
Total Adjustments	1.812	6.248	18.688	0.000	18.688
• Congressional General Reductions		0.000			
• 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	-0.658	0.000			
• Other (-\$21.244 realigned to new SE PE (0605142D8Z); + \$9.450 D, DT WSARA adjustment)	2.470	-0.190	18.688	0.000	18.688
• Other (cASM)	0.000	6.438	0.000	0.000	0.000

**Congressional Add Details (\$ in Millions, and Includes General Reductions)**

**Project:** P804: *Development Test & Evaluation*

Congressional Add: *Renewable Energy*

Congressional Add Subtotals for Project: P804

	<u>FY 2009</u>	<u>FY 2010</u>
	3.200	0.000
	3.200	0.000

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<b><u>Congressional Add Details (\$ in Millions, and Includes General Reductions)</u></b>	<b>FY 2009</b>	<b>FY 2010</b>
Congressional Add Totals for all Projects	3.200	0.000

**Change Summary Explanation**

The Under Secretary of Defense (Acquisition, Technology & Logistics) initiated implementation of the Weapons Systems Acquisition Reform Act (WSARA) by establishing a new office of the Director, Systems Engineering and a new Office of the Director, Developmental Test & Evaluation, and reallocating resources from the former Office of the Director, Systems and Software Engineering.

In FY 2011, funding in the amount of \$21.244, from 0605804D8Z, was re-allocated to the Systems Engineeirng Program Element (0605142D8Z).

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0605804D8Z: <i>Development Test &amp; Evaluation</i>				<b>PROJECT</b> P804: <i>Development Test &amp; Evaluation</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
P804: <i>Development Test &amp; Evaluation</i>	17.835	19.148	17.052	0.000	17.052	15.870	16.329	16.813	17.297	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

This (P804) program supports developmental test and evaluation of the DoD's Major Defense Acquisition Programs (MDAPs) and all other weapons systems. Activities in this program include developing and disseminating policy and guidance to support acquisition Developmental Testing and Evaluation (DT&E). This program provides updates to DoD 5000.02 and the Defense Acquisition Guidebook (DAG) and tracks and evaluates the effectiveness of the Technology Development Strategy, the Acquisition Strategy, the Test and Evaluation Strategy (TES). This program also supports the process for the development of the Test and Evaluation Master Plans (TEMP). Efforts determine the adequacy of system or system of systems test development structure and development plans, substantiation of technical performance requirements, identification of design risks, system certification for Operational Test and Evaluation, and ensures programs are sound, well executed and sufficiently address war fighter requirements.

Activities include the following:

- Working with program managers to prepare Test and Evaluation Master Plans (TEMPs) to document the technical management approach.
- Participate in Test and Evaluation (T&E) Integrated product Teams (IPTs), T&E Working IPTs.
- Work to identify and resolve T&E issues, and assists in removing roadblocks to allow program test teams to develop baseline knowledge that aids in program decision making, notifying leadership immediately of issues that will have an impact on programs.
- Conduct assessments of operational test readiness (AOTR), and support Nunn-McCurdy certification reviews to confirm the maturation of system capabilities during developmental testing and readiness to proceed into the initial operational test and evaluation with a high probability of being found operationally effective, suitable and survivable.

This program develops competencies and requirements for education and training materials that will instruct, maintain and enhance the defense acquisition workforce. Activities include developing policy, guidance and certification standards to enhance DT&E acquisition career field planning and progression and monitoring and facilitating Defense Acquisition University (DAU) updates of courses to ensure curriculum supports the certification standards and provides the education and training necessary to be a viable team member in the acquisition process.

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605804D8Z: <i>Development Test &amp; Evaluation</i>	<b>PROJECT</b> P804: <i>Development Test &amp; Evaluation</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Developmental Test and Evaluation Accomplishments and Plans  <i>FY 2009 Accomplishments:</i> Strategic Goals Supported: Technical Readiness and Technology Maturity -Provided proactive program oversight to acquisition programs to ensure appropriate levels of Systems Engineering (SE) and Developmental Test discipline are applied through all phases of the acquisition life cycle. - Monitored effectiveness of SE, Developmental Test and Evaluation (DT&E), and Software policy and guidance in acquisition programs through transparent acquisition program engagement. - Performed over 31 Major Defense Acquisition Program (MDAP) assessments in support of major acquisition decisions and special requests to include: Program Support Reviews (PSRs), Assessments of Operational Test Readiness (AOTRs), Non-Advocate Reviews (NARs), Joint Assessment Teams (JATs), and Defense Support Team reviews (DSTs). - Worked with Service components to develop, review, coordinate and staff, for approval, over 50 System EngineeringPlans (SEPs), Test and Evaluation Strategies (TESs), and Test and Evaluation Management Plans (TEMPs). -Published a revision of the Defense Acquisition Program Support (DAPS) Assessment Methodology which is utilized in program assessments. -Prepared a Program Support Review (PSR) Handbook to outline the details of executing a program assessment. -Prepared a course for Systems Engineering Evaluation of Request for Proposals. -Developed a Test and Evaluation Management Plan and Test and Evaluation Strategy Review Checklists. Utilized the checklist on 25 program TEMP's to establish an initial set of metrics to target areas for improvement thru education and guidance updates. - Published a guide for "Incorporating Test and Evaluation into DoD Acquisition Contracts." - Provided T&E and SE inputs for the DoD Instruction 5000-02 Operation of the Defense Acquisition System.	14.635	19.148	17.052	0.000	17.052

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605804D8Z: <i>Development Test &amp; Evaluation</i>	<b>PROJECT</b> P804: <i>Development Test &amp; Evaluation</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>- Provided updates to the Defense Acquisition Guidebook – Chapter 4 “Systems Engineering” and Chapter 9 “Integrated Test and Evaluation.”</p> <p>- Completed Phase II and III of Systems Planning, Research, Development and Engineering (SPRDE)-SE competency assessment. Metric: Assessed 219 SPRDE-SE subject matter experts and validated competency model.</p> <p>Strategic Goals Supported: Improve Modeling and Simulations (M&amp;S) in Systems Engineering and Lead Acquisition Community</p> <p>- Provided necessary, SE, Developmental Test &amp; Evaluation (DT&amp;E) M&amp;S policy and guidance. Metric: Published M&amp;S Cross-Cutting Business Plan; provided necessary acquisition and technology (A&amp;T), SE, and DT&amp;E M&amp;S policy and guidance; developed M&amp;S project proposals provided evaluation guidance; and identified M&amp;S competencies needed to support acquisition.</p> <p>Strategic Goals Supported: Improve Joint Warfighting Capability</p> <p>- Guided development of T&amp;E infrastructure to support concept development and DT&amp;E in improving Joint Warfighting Capabilities. Metric: Joint Test T&amp;E Joint Feasibility Studies (JFS) selected; JT&amp;E Program Test Plans signed; and Joint Mechanical Engineering (JME) Continuous Learning Module (CLM) developed.</p> <p>Strategic Goals Supported: Test Resources/Targets availability to meet T&amp;E requirements</p> <p>- Ensured targets are sufficiently threat representative and available. Metric: Fifth generation full scale aerial target AoA completed; and Threat D anti-ship missile target Request for Proposals released.</p> <p>Strategic Goals Supported: Safety - Support Defense Safety Oversight Council 50% Accident Reduction Goal</p> <p>- Developed safety best practices and procedures to support acquisition programs. Metric: Chaired Acquisition Technology Program Task Force.</p>					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense				<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0605804D8Z: <i>Development Test &amp; Evaluation</i>		<b>PROJECT</b> P804: <i>Development Test &amp; Evaluation</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>Supplement (DFARS) rule on protection of defense program information; develop and implement process for adjudicating public comments. Provide acquisition support to DIB CS program.</p> <p>- Horizontal Protection–Transition the acquisition security database from Service-led to jointly overseen program. Develop horizontal protection requirements, develop a strategy for oversight and implementation of horizontal protection.</p> <p><i>FY 2011 Base Plans:</i></p> <p>Strategic Goals Supported: Improve Joint Warfighting Capability</p> <p>- Monitor and facilitate improvements of T&amp;E methods and processes to support Joint Warfighting Capability concept development.</p> <p>Strategic Goals Supported: Test Resources/Targets availability to meet T&amp;E requirements</p> <p>- Monitor resource availability; monitor TRMC, Strategic Plan implementation; and monitor Threat D anti-ship missile target.</p> <p>Strategic Goals Supported: Energy - Acquisition Investment Decisions</p> <p>- Provide M&amp;S policy and guidance.</p>								
Accomplishments/Planned Programs Subtotals				14.635	19.148	17.052	0.000	17.052
				<b>FY 2009</b>	<b>FY 2010</b>			
Congressional Add: Renewable Energy				3.200	0.000			
<p><i>FY 2009 Accomplishments:</i></p> <p>In Authorization:</p>								

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605804D8Z: <i>Development Test &amp; Evaluation</i>	<b>PROJECT</b> P804: <i>Development Test &amp; Evaluation</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010
On page 622 of the HASC committee report (H.R. 110-652 REPORT OF THE COMMITTEE ON ARMED SERVICES, HOUSE OF REPRESENTATIVES ON H.R. 5658, there is a table showing that Rep. Sires had requested \$4,000 for Renewable Fuel Systems for Defense Applications. The intended recipient is Stevens Institute of Technology and the intended location is Hoboken, NJ.		
Congressional Adds Subtotals	3.200	0.000

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

N/A

**D. Acquisition Strategy**

Not applicable.

**E. Performance Metrics**

Not applicable.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense									<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0605804D8Z: <i>Development Test &amp; Evaluation</i>				<b>PROJECT</b> P805: <i>Software Engineering and System Assurance</i>				
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	
P805: <i>Software Engineering and System Assurance</i>	2.873	2.764	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing	
Quantity of RDT&E Articles												
<b>A. Mission Description and Budget Item Justification</b>												
Due to the Weapons Systems Reform Acquisition Act of 2009, which directed a new Office of the Director, Systems Engineering, in FY 2011, funding from this project (P805) for previous Director, Systems and Software Engineering efforts, have been transferred to a new Systems Engineering Program Element (0605142D8Z).												
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>												
						<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>		
Software Engineering and System Assurance Initiatives						2.873	2.764	0.000	0.000	0.000		
<i>FY 2009 Accomplishments:</i> Support Acquisition Success: - Provided software and system assurance expertise for Acquisition Category (ACAT) Identification/ Identity and Access Management (ID/IAM) and special interest programs.  Improved State-of-the-Practice of Software Engineering: - Conducted study of corrective action for software T&E, and software reliability. - Developed comprehensive plan for implementing program protection policy and guidance, published Program Protection Action Plan and established Executive Council to oversee 8 working group activities covering procedures, guidance, tools and education. - Using the System of Systems (SoS) SE Guidebook as a foundation, conducted and published study of SoS T&E and a comparison of SoS to Net-Centric Enterprise and Service Oriented Architecture practice. Partnered with Australia Defense Military Organization to produce a paper on SoS Artifacts that will support SoS program management offices.												

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605804D8Z: <i>Development Test &amp; Evaluation</i>	<b>PROJECT</b> P805: <i>Software Engineering and System Assurance</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 Base Plans:</i> Efforts transferred to a new Systems Engineering Program Element in FY 2011.						
Accomplishments/Planned Programs Subtotals		2.873	2.764	0.000	0.000	0.000
<b>C. Other Program Funding Summary (\$ in Millions)</b>						
N/A						
<b>D. Acquisition Strategy</b>						
Not applicable.						
<b>E. Performance Metrics</b>						
Not applicable.						

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605804D8Z: <i>Development Test &amp; Evaluation</i>	<b>PROJECT</b> P806: <i>Energy</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
P806: <i>Energy</i>	1.500	1.410	1.636	0.000	1.636	1.729	1.919	2.006	2.097	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

This program implements how the Department's energy demand and related costs, as outlined in the Fully Burdened Cost of Fuel (FBCF) construct detailed in the February 2008 Defense Science Board Energy Task Force report, impacts systems acquisition and life-cycle management. The 2009 National Defense Authorization Act (NDAA) mandated use of the FBCF in systems development and assessments of total ownership cost of systems.

This effort focuses on the analytical development and integration of the "Fully Burdened Cost of Fuel" (FBCF) concept into all DoD acquisition programs that will demand fuel in the battlespace, as formally required by the 2009 NDAA, DoD Instruction 5000.02 and other DoD strategic guidance. This work includes development of the analytical methodology, acquisition guidance and regulation revisions, and oversight of implementation across the Department. The premise of this work is that DoD cost of ownership analysis methods significantly under-value the operational delivery costs and other implications of fuel demand in the force. By accurately valuing all of the real costs of delivering fuel to the operator, acquisition programs, modernization (e.g. Army RESET) and research and development efforts will have a much clearer understanding of the value of investing to reduce energy demand.

Supporting the "Fully Burdened Cost of Fuel" implementation are efforts to include these same operational fuel delivery variables more realistically in the Joint Strategic Planning Process (force planning) and the Joint Capability Integration and Development System (JCIDS) (requirements) so as to better understand the relationship between fuel demand and operational capability across the current and future force.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Energy Initiatives	1.500	1.410	1.636	0.000	1.636
<i>FY 2009 Accomplishments:</i> Co-sponsored case study analyses with the Navy Energy Coordination Office (NECO) and the Joint Staff J-4 to determine the key variables and metrics for treating energy as a mature capability factor					

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b>	<b>R-1 ITEM NOMENCLATURE</b>	<b>PROJECT</b>
0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	PE 0605804D8Z: <i>Development Test &amp; Evaluation</i>	P806: <i>Energy</i>

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

N/A

**D. Acquisition Strategy**

Not applicable.

**E. Performance Metrics**

Not applicable.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense								<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0605804D8Z: <i>Development Test &amp; Evaluation</i>				<b>PROJECT</b> P052: <i>Contingency Acquisition Support Model</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
P052: <i>Contingency Acquisition Support Model</i>	0.000	6.438	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b> Ebusiness capabilities critical to meet the enterprise-wide needs of the procurement community by including contingency capabilities for 3 in 1 and Contingency Acquisition Support Model											
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
							<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Not applicable. <i>FY 2009 Accomplishments:</i> Not Applicable.  <i>FY 2010 Plans:</i> Ebusiness capabilities critical to meet the enterprise-wide needs of the procurement community by including contingency capabilities for 3 in 1 and Contingency Acquisition Support Model.							0.000	6.438	0.000	0.000	0.000
Accomplishments/Planned Programs Subtotals							0.000	6.438	0.000	0.000	0.000
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A											
<b>D. Acquisition Strategy</b> N/A											

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605804D8Z: <i>Development Test &amp; Evaluation</i>	<b>PROJECT</b> P052: <i>Contingency Acquisition Support Model</i>

**E. Performance Metrics**

Not applicable.

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0606100D8Z: <i>OSD Support for Programming Budget</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	5.453	5.881	6.099	0.000	6.099	6.272	6.490	6.584	6.673	Continuing	Continuing
101: <i>Budget and Program Assessments</i>	5.453	5.881	6.099	0.000	6.099	6.272	6.490	6.584	6.673	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

This program supports both the Office of the Director, Cost Assessment & Program Evaluation (CAPE), formerly known as Program, Analysis & Evaluation (PA&E). It funds assessments that help to resolve budget and programmatic issues across the full range of the Department's activities. Projects that support this effort help to inform the leadership on program alternatives, capability concept development, design and cost, the appropriate balance of capabilities across the force, and also to identify how well the Department's expenditures are meeting its goals, and how well the force can implement the defense strategy.

This program provides for analytical research across a spectrum of issues and concerns. The research agenda is focused on near to long-term problems identified by the Secretary of Defense, and addresses difficult and complex questions linked to program alternatives for current and future capabilities and forces in order to enhance the senior leadership's deliberations and decision-making.

This program will provide the scientific and technical engineering services needed for research studies in the development of models and simulations and the evaluation of current analytical tools and scientific methods used to evaluate and assess weapons systems and warfighting capabilities for warfighting environments and scenarios the Department is learning to analyze (irregular warfare, GWOT, and homeland defense). Deliverables from this program will include reports, briefings, and analyses designed to illuminate critical issues facing the Department. This will include recommendations for new modeling techniques, programmatic alternatives, and scenario development.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2011 Office of Secretary Of Defense	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0606100D8Z: <i>OSD Support for Programming Budget</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	5.846	5.929	0.000	0.000	0.000
Current President's Budget	5.453	5.881	6.099	0.000	6.099
Total Adjustments	-0.393	-0.048	6.099	0.000	6.099
• Congressional General Reductions		-0.048			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	-0.217	0.000			
• SBIR/STTR Transfer	-0.164	0.000			
• Reduction for Reserve Account	-0.012	0.000	0.000	0.000	0.000
• Program Adjustment	0.000	0.000	6.099	0.000	6.099

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0606100D8Z: <i>OSD Support for Programming Budget</i>	<b>PROJECT</b> 101: <i>Budget and Program Assessments</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
101: <i>Budget and Program Assessments</i>	5.453	5.881	6.099	0.000	6.099	6.272	6.490	6.584	6.673	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

This program supports both the Office of the Director, Cost Assessment & Program Evaluation (CAPE), formerly known as Program, Analysis & Evaluation (PA&E), and the Office of the Under Secretary of Defense (Comptroller). It funds assessments that help to resolve budget and programmatic issues across the full range of the Department's activities. Projects that support this effort help to inform the leadership on program alternatives, capability concept development, design and cost, the appropriate balance of capabilities across the force, and also to identify how well the Department's expenditures are meeting its goals, and how well the force can implement the defense strategy.

This program provides for analytical research across a spectrum of issues and concerns. The research agenda is focused on near to long-term problems identified by the Secretary of Defense, and addresses difficult and complex questions linked to program alternatives for current and future capabilities and forces in order to enhance the senior leadership's deliberations and decision-making.

This program will provide the scientific and technical engineering services needed for research studies in the development of models and simulations and the evaluation of current analytical tools and scientific methods used to evaluate and assess weapons systems and warfighting capabilities for warfighting environments and scenarios the Department is learning to analyze (irregular warfare, GWOT, and homeland defense). Deliverables from this program will include reports, briefings, and analyses designed to illuminate critical issues facing the Department. This will include recommendations for new modeling techniques, programmatic alternatives, and scenario development.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
OSD Support for Programming Budget, 0606100D8Z	5.453	5.881	6.099	0.000	6.099

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0606100D8Z: <i>OSD Support for Programming Budget</i>	<b>PROJECT</b> 101: <i>Budget and Program Assessments</i>
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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 2009 Accomplishments:</i></p> <ul style="list-style-type: none"> <li>• <b>Ground and Relay Architectures to Meet Warfighter Needs:</b> Identified the characteristics of the ground and relay architectures required to process, exploit and disseminate airborne and overhead image intelligence (IMINT) and signals intelligence (SIGINT) to meet warfighter timelines for particular missions and scenarios. The study selected several important missions (e.g., intelligence and warning, order of battle, finding and fixing the adversary) in different warfighting scenarios (e.g., Major Combat Operations and Counter Insurgency) and examined the characteristics of the collection such as resolution, sensitivity, capacity, revisit rate, etc. and the timelines for the collection that a warfighter needs to satisfy these missions. Then, it determined what combinations of systems, ground architectures and relays are needed to satisfy the mission needs. Results will be used to examine the Processing, Exploitation and Dissemination aspects of the mission and the command and control requirements to transmit and access that data.</li>   <li>• <b>Steady State Security Posture (SSSP) Seabasing Force Structure Analysis:</b> This study supported program review topics related to the Maritime Prepositioning Force Future (MPF-F) and Quadrennial Defense Review (QDR) Amphibious Mix Study by providing quantifiable modeling results.</li>   <li>• <b>Communications Mix:</b> Determined the way ahead for Algorithmic Trading Definition Language (ATDL) development and radio procurement; improved modeling and simulation capabilities by adding capacity as a key measure for analysis of network performance; analyzed previous airborne relay performance using capacity as a key measure; assessed maritime communications capabilities to include support to ground forces.</li>   <li>• <b>Rotary-Wing Enablers for Afghanistan:</b> The demand for helicopters in Afghanistan increased significantly with the surge in troop levels. This study identified expected shortfalls and recommended mitigation strategies.</li> </ul>					

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0606100D8Z: <i>OSD Support for Programming Budget</i>	<b>PROJECT</b> 101: <i>Budget and Program Assessments</i>
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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 OCO Plans:</i> N/A					
Accomplishments/Planned Programs Subtotals	5.453	5.881	6.099	0.000	6.099

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

N/A

**D. Acquisition Strategy**

A mix of competitive contracts with commercial firms and research provided by colleges, universities, and FFRDCs.

**E. Performance Metrics**

The products or expected outcomes of this program are studies and analyses to support resource allocation decisions, major defense acquisition decisions, and issues of high interest to the Secretary of Defense. Performance is measured by the quality of the analyses and is monitored through the review of our organizational assessment process. Our primary goal is to ensure that study and analytical products are timely, clear, complete, accurate, responsive, balanced, and objective.

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0606301D8Z: <i>Aviation Safety Technologies</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	0.000	7.936	10.900	0.000	10.900	7.100	0.000	0.000	0.000	Continuing	Continuing
901: <i>Aviation Safety Technologies</i>	0.000	7.936	10.900	0.000	10.900	7.100	0.000	0.000	0.000	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

This funding supports Secretary Gates direction to achieve a 75% reduction in accidents and supports the Defense Safety Oversight Council's (DSOC) pursuit of aviation safety technologies. The Guidance for the Development of the Force (GDF) directs DoD Components to pursue accident reduction and prevention initiatives that emphasize safety in the workplace and hold leaders accountable for their safety programs. In FY 2008, there were 89 Class A aviation accidents with 61 destroyed aircraft and 32 fatalities. The aviation accidents cost the Department over \$2.9 billion with indirect costs approximately four times that amount.

The DSOC used a data-driven approach to identify and evaluate the most effective hardware and software technologies to be implemented to reduce preventable aviation mishaps. The DSOC task force surveyed existing programs and provided an assessment of the viability and advisability of future resource investments. These investments will fund hardware and software technology to prevent helicopters and fighter aircraft mishaps.

Collision avoidance was recommended for funding in FY 2010. Automatic Collision Avoidance Technologies (ACAT) has been developed by the Air Force to prevent the most prevalent causes of fighter/attack mishap fatalities and destroyed aircraft. An Automatic Ground Collision Avoidance (Auto-GCAS) component of ACAT has matured and is ready for fleet integration. FY 2010-FY2012 money will leverage the successes of ACAT by furthering the development of Auto-ACAS, while retaining scarce technical expertise and flight test resources currently in use. As an unintended side benefit, Auto-ACAS may also hold a key to Unoccupied Aerial Vehicle access to the National Airspace.

The Secretary stated that we can not and should not tolerate the injuries, costs, and capability losses from preventable accidents.

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0606301D8Z: <i>Aviation Safety Technologies</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	0.000	8.000	0.000	0.000	0.000
Current President's Budget	0.000	7.936	10.900	0.000	10.900
Total Adjustments	0.000	-0.064	10.900	0.000	10.900
• Congressional General Reductions		-0.064			
• 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			
• Other	0.000	0.000	10.900	0.000	10.900

**C. Accomplishments/Planned Program (\$ 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>
901 Aviation Safety Technologies	0.000	7.936	10.900	0.000	10.900
<i>FY 2010 Plans:</i>					
FY 2010 Plans:					
<ul style="list-style-type: none"> <li>• Further develop the Auto-Air Collision Avoidance System (Auto-ACAS), to address the number one cause of fighter Class A mishaps.</li> <li>• Complete a data link study to determine most compatible data link for Auto-ACAS and future operational functionality.</li> <li>• Begin Auto-ACAS algorithm development.</li> </ul>					
<i>FY 2011 Base Plans:</i>					
FY 2011 Plans:					
<ul style="list-style-type: none"> <li>• Complete algorithm development and begin simulations.</li> </ul>					

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0606301D8Z: <i>Aviation Safety Technologies</i>
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<b>C. Accomplishments/Planned Program (\$ in Millions)</b>	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
• Complete simulations and ground testing and advance to F-16 flight test.					
Accomplishments/Planned Programs Subtotals	0.000	7.936	10.900	0.000	10.900

**D. Other Program Funding Summary (\$ in Millions)**

N/A

**E. Acquisition Strategy**

N/A

**F. Performance Metrics**

- Class A aviation accident rates. Number of Class A aviation accidents, (resulting in damages of \$2m or more; aircraft destroyed; and/or fatality or permanent disability), per 100,000 flying hours.
- Number of destroyed aircraft.
- Number of aviation fatalities.
- 75% reduction goal assessed against a FY 2002 baseline.

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0303166D8Z: <i>Support to Information Operations Capability</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	32.801	30.376	31.500	0.000	31.500	30.491	31.427	31.886	32.320	Continuing	Continuing
001: <i>IO Capability Activities</i>	3.202	7.870	4.861	0.000	4.861	4.698	4.845	4.922	4.995	Continuing	Continuing
002: <i>IO Range</i>	10.520	9.254	11.669	0.000	11.669	12.486	13.418	14.221	15.017	Continuing	Continuing
003: <i>VisIO</i>	14.105	8.532	14.970	0.000	14.970	13.307	13.164	12.743	12.308	Continuing	Continuing
004: <i>Enhanced Simulation for Information Operations Capabilities</i>	4.974	4.720	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

These programs are each part of the Defense Department's coordinated effort to integrate Information Operation (IO) test and evaluation capability to assess IO technologies and tactics in a representative operational environment against realistic targets. The Defensewide IO Review revalidated the need for a suite of automated data analysis and decision support software tools to facilitate joint-IO. This enables users to accomplish Intelligence Preparation of the Battlespace (IPB), develop IO strategy and candidate IO campaign targets, plan IO missions, and monitor and assess execution. The objectives of the programs are to create a flexible, seamless and persistent environment enabling combatant commanders to achieve the same level of confidence and expertise in employing IO weapons that they have in kinetic weapons; to lead the development of a joint IO analysis, planning, and targeting capability for Service and COCOM IO operational execution; and to transform intelligence support to IO and joint IO training, education, and exercises.

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

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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	34.966	30.604	0.000	0.000	0.000
Current President's Budget	32.801	30.376	31.500	0.000	31.500
Total Adjustments	-2.165	-0.228	31.500	0.000	31.500
• Congressional General Reductions		0.000			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.020			
• Congressional Directed Transfers		0.000			
• Reprogrammings	-1.318	0.000			
• SBIR/STTR Transfer	-0.784	0.000			
• Other Program Adjustments	-0.063	-0.248	31.500	0.000	31.500

**Congressional Add Details (\$ in Millions, and Includes General Reductions)**

**Project:** 004: *Enhanced Simulation for Information Operations Capabilities*

    Congressional Add: *Enhanced Simulation for Information Operations Capabilities*

Congressional Add Subtotals for Project: 004

Congressional Add Totals for all Projects

	<u>FY 2009</u>	<u>FY 2010</u>
	4.974	0.020
	4.974	0.020
	4.974	0.020

**Change Summary Explanation**

N/A

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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
001: <i>IO Capability Activities</i>	3.202	7.870	4.861	0.000	4.861	4.698	4.845	4.922	4.995	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

This capability contains classified programs. Facilitates the development of Information Operations (IO) capabilities that support COCOMs and Services executing IO during current and future conflicts. Supports the development of IO capabilities, particularly critical emerging IO needs that support IO planners and operators.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
IO Capability Activities	3.202	7.870	4.861	0.000	4.861
<p><i>FY 2009 Accomplishments:</i> The project contains classified efforts. Funded the development of IO capabilities that support COCOMs and Services executing IO during current and future conflicts. Supported the development of IO capabilities, particularly critical emerging IO needs that support IO planners and operators.</p> <p><i>FY 2010 Plans:</i> The project contains classified efforts. Funds the development of IO capabilities that support COCOMs and Services executing IO during current and future conflicts. Supports the development of IO capabilities, particularly critical emerging IO needs that support IO planners and operators.</p> <p><i>FY 2011 Base Plans:</i> The project contains classified efforts. Funds the development of IO capabilities that support COCOMs and Services executing IO during current and future conflicts. Supports the development of IO capabilities, particularly critical emerging IO needs that support IO planners and operators.</p>					

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 OCO Plans:</i> Not Applicable					
Accomplishments/Planned Programs Subtotals	3.202	7.870	4.861	0.000	4.861

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

N/A

**D. Acquisition Strategy**

Contracts and task orders are aligned with existing development efforts to leverage the integration of intelligence sources; expansion of capabilities to intelligence analysts and customers; and drive the extension of the range of possibilities available to developers. Unsolicited proposals are reviewed by subject matter experts for the identification of new and cutting edge technological changes. Coordination with DARPA and other agencies allow the discovery of new capabilities and the integration of such technology and data sources into the Defense portfolios.

**E. Performance Metrics**

Performance metrics are measured through internal management controls and external assessments. Performance metrics include, but are not limited to time, money, realism, and fidelity as defined below:

- Time – Will the effort enable the warfighter to speed up processes faster than current capabilities allow?
- Money – Will the effort enable the warfighter to reduce duplication of effort and to prepare and execute events at a more effective and efficient cost than current capabilities allow?
- Realism – Will the effort enable the warfighter to create an environment that is closer to the real world environment than current capabilities allow?
- Fidelity – Will the effort ensure unity of efforts throughout the IO Community?

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **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
002: <i>IO Range</i>	10.520	9.254	11.669	0.000	11.669	12.486	13.418	14.221	15.017	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

The National Military Strategy of the United States stresses the importance of integrating Information Operations (IO) capabilities for the success of Joint Operations and Decision Superiority. The Defensewide IO Review revalidated a requirement for an integrated range supporting “exercises, testing, and development of IO capabilities.” Further direction by Office Secretary of Defense (OSD) identified the need for an “integrated IO test and evaluation capability to assess IO technologies and tactics in a representative operational environment against realistic targets.” The 2006 National Security Strategy identifies "Strengthen Alliances to Defeat Global Terrorism and Work to Prevent Attacks Against Us and Our Friends", which involves signification Information Operations, as a goal. Repeatedly COCOMs in their Integrated Priority Lists and the Defense Planning Guidance (DPG) state the need to expand IO training and education for the developing cadre of IO professionals and provide an environment for analysis, testing, training, combat assessments, and measures of effectiveness for more reliable IO capabilities. Deputy Secretary of Defense Memorandum on the IO Range established the requirement for creating a cooperative information operations range among military services under the leadership of U.S. Joint Forces Command (USJFCOM).

The IO Range establishes a secure, flexible, and seamless environment for the Services and Joint warfighters to test, train, develop tactics, and exercise selected IO capabilities. The basis of the functional structure of the IO Range is the integration of existing ranges, laboratories, information warfare centers, and other Government facilities that currently support IO test, training, exercise, and experimentation events. Capabilities at the selected sites will be securely connected and integrated into the IO Range. A key feature of this concept is the persistent, secure connection that links the sites together, allowing the exchange of data and the visualization of effects as we employ capabilities. Creation of a “virtual range” based on persistent connections significantly reduces the amount of lead-time required to set up each new warfighter event. The long-term goal for the IO Range is to be a full spectrum IO Range comprising: operational security, computer network operations, electronic warfare, psychological operations, and military deception. This environment enables the COCOM’s warfighters to visualize non-kinetic weapons effects, understand the intricate and interactive effects generated by kinetic and non-kinetic weapons and achieve the same level of confidence and expertise in employing IO weapons as they have with kinetic weapons.

**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
<p>IO Range</p> <p><i>FY 2009 Accomplishments:</i></p> <ul style="list-style-type: none"> <li>• Increased Electronic Warfare (EW) foundational capability on IO Range (open air, chambers, live/virtual/constructive).</li> <li>• Explored concept of dedicated time sensitive data points focused on EW events (for use at UNCLASS locations such as Academia and/or Industry).</li> <li>• Provided a live, virtual, and constructive environment to improve EW training and EW materiel solutions as part of the requirements process.</li> <li>• Continued the implementation of IO capabilities at the Range sites. This continuing effort supports progress toward reaching full capability in which more than 50 persistent IO Range sites will be connected and integrated for IO Range use.</li> </ul> <p><i>FY 2010 Plans:</i></p> <ul style="list-style-type: none"> <li>• Develop, test and evaluate IO Range concepts during events based on a list of prioritized requirements and available funding.</li> <li>• Development toward full spectrum IO will continue to evolve with the addition of the full range of capabilities to Computer Network Operations, EW, Deception, and other related targets.</li> <li>• Continue the implementation of IO capabilities at the Range sites. This continuing effort supports progress toward reaching full capability in which more than 70 persistent IO Range sites will be connected and integrated for IO Range use.</li> </ul> <p><i>FY 2011 Base Plans:</i></p> <ul style="list-style-type: none"> <li>• Develop, test and evaluate IO Range concepts during events based on a list of prioritized requirements and available funding.</li> <li>• Development toward full spectrum IO will continue to evolve with the addition of a more robust set of Electronic Attack targets.</li> </ul>	10.520	9.254	11.669	0.000	11.669

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul style="list-style-type: none"> <li>• Continue the implementation of IO capabilities at the Range sites. This continuing effort supports progress toward reaching full capability in which more than 90 persistent IO Range sites will be connected and integrated for IO Range use.</li> </ul> <p><i>FY 2011 OCO Plans:</i> Not Applicable</p>					
<b>Accomplishments/Planned Programs Subtotals</b>	10.520	9.254	11.669	0.000	11.669

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

N/A

**D. Acquisition Strategy**

The IO Range, under the JFCOM Joint Management Office- Information Operations(IO-JMO) manages the development and expansion of the IO range capabilities to an increasing number of customers. Integration into the Joint Exercise program has allowed hands-on users to increase the use and capability of the range. Continued development of tools for the range will be required as adversarial capabilities improve.

**E. Performance Metrics**

Performance metrics are measured through internal management controls and external assessments. Performance metrics include, but are not limited to time, money, realism, and fidelity as defined below:

- Time – Will the effort enable the warfighter to speed up processes faster than current capabilities allow?
- Money – Will the effort enable the warfighter to reduce duplication of effort and to prepare and execute events at a more effective and efficient cost than current capabilities allow?
- Realism – Will the effort enable the warfighter to create an environment that is closer to the real world environment than current capabilities allow?
- Fidelity – Will the effort ensure unity of efforts throughout the IO Community?

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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
003: <i>VisION</i>	14.105	8.532	14.970	0.000	14.970	13.307	13.164	12.743	12.308	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

National Military Strategy stresses the importance of integrating Information Operations (IO) capabilities for the success of Joint Operations and Decision Superiority. "Assuring information systems in the face of attack and conducting effective Information Operations" was one of the six critical operational goals in Department of Defense (DoD)'s transformation efforts. Commander U.S. Joint Forces Command (USJFCOM) is the DoD Lead Component for the development, integration and sustainment of as the department's primary IO mission planning and assessment capability. In FY-08, USD(I) directed the merger of Information Operations Planning Capability-Joint (IOPC-J) with the Joint Integrative Analysis and Planning Capability (JIAPC) program. The combined analysis, planning, and assessment program was named the Virtual Integrated Support for the Information Operations Environment (VisION).

VisION is the developmental DoD IO Planning and analysis system, which will integrate, and synchronize IO analysis, planning, execution and assessment. VisION will support operations at multiple security levels, including coalition operations, across all Services and communities. Additionally, it will reduce duplication of effort, minimize training, speed up processes, and ensure unity of efforts throughout the DoD.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
VisION  <i>FY 2009 Accomplishments:</i> <ul style="list-style-type: none"> <li>• Integrated and synchronized planning, analysis, execution and assessment capabilities into VisION in support of validated COCOM/Service/Agency requirements.</li> <li>• Tested and performed limited fielding of technical demonstration version of VisION capability (IOPC-X). IOPC-X is the risk reduction effort designed to transform from the baseline client-server based system to a web-based system. The web-based system will reduce deployment and sustainment costs while allowing more rapid improvements/additions to VisION capabilities.</li> </ul>	14.105	8.532	14.970	0.000	14.970

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0303166D8Z: <i>Support to Information Operations Capability</i>	<b>PROJECT</b> 003: <i>VisION</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul style="list-style-type: none"> <li>• Applied existing net enabled architectures to enhance IO planning, analysis, execution and assessment.</li> <li>• Continued to develop integrative analysis methodology, with USPACOM and other organizations, and integrate with IO planning and assessment processes and capabilities.</li> <li>• Continued expansion/maintenance of InA community of interest.</li> </ul> <p><i>FY 2010 Plans:</i></p> <ul style="list-style-type: none"> <li>• Achieve initial operational capability (IOC).</li> <li>• Initiate fielding of VisION to COCOMs/Services/Agencies.</li> <li>• Continue integration/development of planning, analysis, execution and assessment capabilities into VisION to meet emergent COCOMs/Services/Agencies requirements.</li> </ul> <p>Readjust midyear contract to match execution timing goals</p> <ul style="list-style-type: none"> <li>• Integrate integrative analysis methodology and capabilities into VisION environment..</li> <li>• Continue expansion/maintenance of InA community of interest.</li> </ul> <p><i>FY 2011 Base Plans:</i></p> <ul style="list-style-type: none"> <li>• Continue fielding to COCOMs/Services/Agencies.</li> <li>• Integrate and synchronize planning, analysis, execution and assessment capabilities into VisION in support of COCOMs/Services/Agencies requirements.</li> <li>• Apply existing net enabled architectures to enhance IO planning, analysis, execution and assessment.</li> <li>• Support operations conducted at multiple security levels, including interagency and coalition operations.</li> <li>• Integrate integrative analysis methodology with IO planning, analysis, execution and assessment across IO Community.</li> </ul> <p><i>FY 2011 OCO Plans:</i> Not Applicable</p>					

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0303166D8Z: <i>Support to Information Operations Capability</i>	<b>PROJECT</b> 003: <i>VisIOn</i>
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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>					
	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Accomplishments/Planned Programs Subtotals	14.105	8.532	14.970	0.000	14.970

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

N/A

**D. Acquisition Strategy**

The VisIOn risk reduction technology demonstration will be extended in duration and expanded in scope to meet the requirements of the risk reduction technology demonstration. This short-term approach will be in addition to the formal acquisition process to develop VisIOn initial and full operational capability. This will include a short “bridging contract” to provide sustainment until VisIOn baseline capability is ready. To aid in the VisIOn development, U.S. European Command (EUCOM) will serve as a developmental partner with USJFCOM in support of the VisIOn program. This relationship will ensure constant operator input and assessment and facilitate eventual testing efforts.

Concurrently, the Information Operations Joint Management Office (IO-JMO) will initiate the formal acquisition process to mature and harden the baseline capability for deployment of the Initial Operational Capability in FY10 and Full Operational Capability in FY12. Continued development of database access, deployment to all user levels and construction of planning and integration of toolsets will continue as well as maintaining the capability through future technological changes.

Current contracts renew at midyear and do not match Comptroller execution goals, placing funding at risk. Readjustment of contracting period conducted during FY 10.

**E. Performance Metrics**

Performance metrics are measured through internal management controls and external assessments. Performance metrics include, but are not limited to time, money, realism, and fidelity as defined below:

- Time – Will the effort enable the warfighter to speed up processes faster than current capabilities allow?
- Money – Will the effort enable the warfighter to reduce duplication of effort and to prepare and execute events at a more effective and efficient cost than current capabilities allow?
- Realism – Will the effort enable the warfighter to create an environment that is closer to the real world environment than current capabilities allow?
- Fidelity – Will the effort ensure unity of efforts throughout the IO Community?

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0303166D8Z: <i>Support to Information Operations Capability</i>	<b>PROJECT</b> 004: <i>Enhanced Simulation for Information Operations Capabilities</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
<i>004: Enhanced Simulation for Information Operations Capabilities</i>	4.974	4.720	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**

Enhanced Simulation for IO Capabilities is a Congressional add providing a software architecture that can bring network management to the Deputy Secretary of Defense Chartered Information Operations Range and VisIO initiatives. The IO Range and VisIO programs require the transfer of large amounts of data to accomplish their mission and must mitigate or overcome latency and bandwidth limitation inherent in all networks. These network limitations are especially prevalent in field operations where connectivity to networks is erratic. The DoD leadership recognizes the need to improve efficiency in utilizing non-kinetic weapons. Currently, however, the ability to create and operate the realistic operational environment required to support effective integration of these systems is limited because data transfer requirements exceed real world bandwidth limitations. The software architecture will support IO Range and VisIO objectives to provide analysis, planning, rehearsal, and execution environments for US and coalition forces by enabling large-scale data transfer, and providing a central integration point with new standards, and enhancing simulation capabilities. This will save considerable time and money by eliminating rewrites of existing simulations and filtering of critical data thus providing a mission critical solution that is needed by DoD now.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Enhanced Simulation for IO Capabilities  The IO Range and VisIO programs require the transfer of large amounts of data to accomplish their mission and must mitigate or overcome latency and bandwidth limitation inherent in all networks. These network limitations are especially prevalent in field operations where connectivity to networks is erratic. IO Range and VisIO objectives provide planners the ability to analyze, plan, rehearse, and execute environments for US and coalition forces by enabling large-scale data transfer, and providing a central integration point with new standards, and enhancing simulation capabilities.	0.000	4.700	0.000	0.000	0.000

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0303166D8Z: <i>Support to Information Operations Capability</i>	<b>PROJECT</b> 004: <i>Enhanced Simulation for Information Operations Capabilities</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 2010 Plans:</i> Continued integration of data bases and toolsets for planners. Identified as a \$4.7M earmark from within the budget amount, plus a Congressional add of \$20K.					
Accomplishments/Planned Programs Subtotals	0.000	4.700	0.000	0.000	0.000

	FY 2009	FY 2010
Congressional Add: Enhanced Simulation for Information Operations Capabilities <i>FY 2009 Accomplishments:</i> Continued integration of data bases and toolsets for planners.  <i>FY 2010 Plans:</i> Continue integration of data bases and toolsets for planners.	4.974	0.020
Congressional Adds Subtotals	4.974	0.020

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

N/A

**D. Acquisition Strategy**

Through the Modeling and Simulation Board, identify and fund intelligence and information operations related projects that increase the effectiveness and clarity of intelligence products to the operational planner and provide commanders actionable recommendations

**E. Performance Metrics**

Performance metrics are measured through internal management controls and external assessments. Performance metrics include, but are not limited to time, money, realism, and fidelity as defined below:

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<ul style="list-style-type: none"><li>• Time – Will the effort enable the warfighter to speed up processes faster than current capabilities allow?</li><li>• Money – Will the effort enable the warfighter to reduce duplication of effort and to prepare and execute events at a more effective and efficient cost than current capabilities allow?</li><li>• Realism – Will the effort enable the warfighter to create an environment that is closer to the real world environment than current capabilities allow?</li><li>• Fidelity – Will the effort ensure unity of efforts throughout the IO Community?</li></ul>		

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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	4.517	4.630	5.135	0.000	5.135	5.239	5.375	5.454	5.528	Continuing	Continuing
169: <i>IT Rapid Acquisition</i>	4.517	4.630	5.135	0.000	5.135	5.239	5.375	5.454	5.528	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

The Department must rapidly transform its processes in order to better support the agile warfighter. This PE is dedicated to Rapid Acquisition Incentives – Net Centricity (RAI-NC) which serve DoD by providing RDT&E proof-of-concept early implementation of key initiatives targeted at advancing and moving the Mission Areas of DoD towards Net Centricity. For example, a coherent and timely transition across DoD Enterprise networks and infrastructure to the next generation of the Internet Protocol, IP version 6 (IPv6) is critical to leveraging the power of information by the business and warfighting mission areas through net-centric operations/warfare. The PE permits accelerating domain support processes thru rapid proof of concept development and early implementation.

RAI-NC provides funding for Net Centric initiatives that directly support and facilitate the transformation of the DoD enterprise. This effort is consistent with the Department’s strategic goals to: enable net-centric operations and warfare, reduce costs; improve efficiency; increase effectiveness by improving the efficiency and effectiveness of process redesign; business systems modernization; strategic sourcing; infrastructure reductions; and optimal-sized inventories. The objective of RAI-NC is to accelerate DoD’s net centric transformation in support of the warfighter. Fully achieving net-centricity requires the ubiquity, mobility, security and performance achievable through implementation of the value added features of IPv6. The scope of Rapid Acquisition Incentives – Net Centricity encompasses defense policies, processes, people, technologies and systems that guide, perform or support aspects of warfighter support processes within the Department. Each RAI-NC initiative provides proof of concept sustainability, as well as the scalability necessary for Domain enterprise wide implementation that will allow end-to end accessibility to net-centric based decision-making information. Successful implementation will result in more reliable, accurate and timely net centric management information upon which managers can make more effective business decisions in a timely manner for the Department.

RAI-NC enables the acceleration of DoD efforts to implement network centric operational environments while providing a secure, flexible, reliable, affordable, integrated network to achieve high effectiveness in joint and combined operations. This program employs RDT&E funds to plan, develop, prototype and oversee proof of concept initiatives. Successful initiatives with supporting business cases demonstrating the achieved goals and outcomes and mission area support will be allowed to enter full deployment. This program is funded under BA-6, Management Support because it includes studies and analyses in support of R&D efforts.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2011 Office of Secretary Of Defense	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0303169D8Z: <i>IT Rapid Acquisition</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	5.225	4.667	0.000	0.000	0.000
Current President's Budget	4.517	4.630	5.135	0.000	5.135
Total Adjustments	-0.708	-0.037	5.135	0.000	5.135
• Congressional General Reductions		0.000			
• 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			
• Program Adjustments	-0.708	-0.037	5.135	0.000	5.135

**Change Summary Explanation**

FY 2009: Program adjustment -0.708 million.  
 FY 2010: FFRDC reductions -0.018 million, Economic Assumptions -0.019 million.  
 FY 2011: Program Adjustment 5.135.

**C. Accomplishments/Planned Program (\$ 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>
IT Rapid Acquisition Plans and Accomplishments	4.517	4.630	5.135	0.000	5.135
<i>FY 2009 Accomplishments:</i>					
RAI-NC initiatives that accelerate DoD's net-centric transformation in direct support of the warfighter will continue to include:					
<ul style="list-style-type: none"> <li>• Continued to promote commodity-based software programmable radio technologies to rapidly respond to warfighter requirements and reducing costs.</li> </ul>					

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2011 Office of Secretary Of Defense	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0303169D8Z: <i>IT Rapid Acquisition</i>
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**C. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul style="list-style-type: none"> <li>• Continued to provide for rapid prototyping, test and demonstration of commodity-based software programmable radio solutions utilizing evolving technologies for near and long term solutions.</li> <li>• Continued to focus on incorporating solutions from outside programs of records:                             <ul style="list-style-type: none"> <li>• Modular software programmable radio approach enables incorporation of new offerings such as high band transceiver modules into open architecture designs</li> <li>• Encourage and provide a mechanism for test of commercial module upgrade offerings or alternative techniques to enhance capability and reduce cost</li> <li>• Foster P3I technology improvements into spirals of programs of records</li> <li>• Rapid development and demonstration of specific capabilities</li> <li>• Utilize COTS, IRAD, NDI, and CRADA Products</li> <li>• Take advantage of exercises and demonstrations to test products</li> <li>• Industry, Academia, and Government Lab participation</li> </ul> </li> <li>• Continued to provide migration path to warfighter systems.</li> <li>• Continued to support DoD transition to IPv6 and convergence of voice, video and data on IP based DoD networks by coordinated and integrated planning, policy/guidance and oversight</li> <li>• Provided oversight/direction for draft of the DoD Unified Capability Registry (UCR) 2008 document</li> <li>• Monitored and provided oversight for the implementation of the DoD UCR 2008 document</li> <li>• Coordinated and submitted the DoD response to the draft OMB IPv6 Planning Guide/Roadmap document</li> <li>• Orchestrated and led the DoD CIO IPv6 Implementation In-Progress Review</li> <li>• Participated in an effort with OMB, NIST, and General Services Administration (GSA) to draft IPv6 requirements language for the Federal Acquisition Regulation (FAR)</li> <li>• Collaborated with OMB and NIST to accredit DISA(JITC) as a USG third party IPv6 test lab</li> <li>• Provided a DoD IPv6 implementation status update to OMB for their FY 2009 Enterprise Architecture (EA) Assessment.</li> <li>• Implemented a data centric interoperability and supportability (I&amp;S) process to collect data using the Enhanced Information Support Plan application to ensure I&amp;S information is both visible and accessible.</li> </ul>					

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**C. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul style="list-style-type: none"> <li>• Began developing underpinnings for an improved interoperability and supportability process that addresses Defense Information Enterprise Architecture (DIEA) well at all tiers.</li> </ul> <p><i>FY 2010 Plans:</i></p> <ul style="list-style-type: none"> <li>• Monitor/evaluate implementation efforts of IPv6.</li> <li>• Ensure IPv6 transition efforts are synchronized across all DoD Components by conducting program reviews and review of implementation plans.</li> <li>• Incorporate into policy guidance, new direction and OMB goals regarding the management and implementation of IPv6.</li> <li>• Hold compliance sessions to address common and unique issues requiring the DoD CIO's intervention to revise policy, provide additional guidance or to surface technological concerns with vendors or OMB, that are hampering execution.</li> <li>• Update transition plan and policy to accommodate new guidance and technologies.</li> <li>• Continue to work with DISA in providing governance and oversight of the Department's implementation of IPv6, including the review of products, identifying critical issues and making recommendations for solutions.</li> <li>• Continue to provide oversight and guidance to DISA in developing and refining the NIPRNET/ SIPRNET infrastructure to achieve full IPv6 capability.</li> <li>• Oversee implementation of UCR 2008 document</li> <li>• Publish and oversee implementation of UCR 2010 document</li> <li>• Publish and oversee implementation of Universal Capabilities (UC) DoDI</li> <li>• Facilitate DoD UC Industry Advisory Council (IAC) Conferences</li> <li>• Develop DoD UC IAC Charter</li> <li>• Establish DoD UC Steering Group (UCSG), and develop a UCSG Charter</li> <li>• Continue industry and government outreach efforts to facilitate development and implementation of UC policy</li> <li>• Incorporate a UC distributed test concept, to revise the UC test and certification process, into the draft UC DoDI</li> </ul>					

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**C. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul style="list-style-type: none"> <li>• Oversee development of IPv6 Milestone Objective 3 (MO3) Information Assurance (IA) guidance</li> <li>• Oversee completion of the DoD IPv6 Joint Staff Operational Criteria T&amp;E</li> <li>• Collaborate with OMB and follow OMB IPv6 Planning Guide/Roadmap document to guide United States Government (USG) IPv6 implementation</li> <li>• Provide DoD IPv6 implementation status updates to OMB for the FY09 Enterprise Architecture Assessment</li> <li>• Continue ongoing interoperability and supportability process improvement to create an environment for an emerging DoD NC interoperability strategy, policy, process, tools/data, and metrics into improved environment for all tiers of interoperability accountability in the DoD</li> </ul> <p><i>FY 2011 Base Plans:</i></p> <ul style="list-style-type: none"> <li>• Continue monitoring and evaluate implementation efforts of IPv6.</li> <li>• Continue to ensure IPv6 transition efforts are synchronized across all DoD Components by conducting program reviews and review of implementation plans.</li> <li>• Continue to incorporate into policy guidance, new direction and OMB goals regarding the management and implementation of IPv6.</li> <li>• Continue to hold compliance sessions to address common and unique issues requiring the DoD CIO's intervention to revise policy, provide additional guidance or to surface technological concerns with vendors or OMB, that are hampering execution.</li> <li>• Update transition plan and policy to accommodate new guidance and technologies.</li> <li>• Continue to work with DISA in providing governance and oversight of the Department's implementation of IPv6, including the review of products, identifying critical issues and making recommendations for solutions.</li> <li>• Continue to provide oversight and guidance to DISA in developing and refining the NIPRNET/ SIPRNET infrastructure to achieve full IPv6 capability.</li> </ul> <p><i>FY 2011 OCO Plans:</i> N/A</p>					

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**C. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Accomplishments/Planned Programs Subtotals	4.517	4.630	5.135	0.000	5.135

**D. Other Program Funding Summary (\$ in Millions)**

N/A

**E. Acquisition Strategy**

N/A

**F. Performance Metrics**

- Timely development and issuance of policy, guidance, processes, and technologies to build, populate, govern, operate, and protect the Network.
- Development of plans and implementation activities for net centric data and IPv6 transformation capabilities.

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b>	<b>R-1 ITEM NOMENCLATURE</b>
0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i>	PE 0305193D8Z: <i>Intelligence Support to Information Operations</i>
BA 6: <i>RDT&amp;E Management 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
Total Program Element	17.493	20.481	21.272	0.000	21.272	21.746	22.346	22.673	22.981	Continuing	Continuing
001: <i>E-Space</i>	0.816	1.012	0.550	0.000	0.550	0.505	0.498	0.225	0.220	Continuing	Continuing
002: <i>Human Factors Analysis</i>	1.784	1.581	3.751	0.000	3.751	4.508	4.215	4.276	4.352	Continuing	Continuing
003: <i>IO Intelligence Integration</i>	12.908	12.907	13.301	0.000	13.301	13.626	14.123	14.855	14.780	Continuing	Continuing
004: <i>IO Indications and Warning</i>	1.985	4.981	3.670	0.000	3.670	3.107	3.510	3.317	3.629	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

Classified details provided in Defense-Wide (classified) Volume 7 book.

**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	17.527	20.648	0.000	0.000	0.000
Current President's Budget	17.493	20.481	21.272	0.000	21.272
Total Adjustments	-0.034	-0.167	21.272	0.000	21.272
• Congressional General Reductions		0.000			
• 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			
• Other Program Adjustments	-0.034	-0.167	21.272	0.000	21.272

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense									<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0305193D8Z: <i>Intelligence Support to Information Operations</i>				<b>PROJECT</b> 001: <i>E-Space</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
001: <i>E-Space</i>	0.816	1.012	0.550	0.000	0.550	0.505	0.498	0.225	0.220	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b> Classified details provided in Defense-Wide (classified) Volume 7 book).											
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
							<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
E-Space <i>FY 2009 Accomplishments:</i> Classified details provided in Defense-Wide (classified) Volume 7 book.  <i>FY 2010 Plans:</i> Classified details provided in Defense-Wide (classified) Volume 7 book.  <i>FY 2011 Base Plans:</i> Classified details provided in Defense-Wide (classified) Volume 7 book.							0.816	1.012	0.550	0.000	0.550
Accomplishments/Planned Programs Subtotals							0.816	1.012	0.550	0.000	0.550
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A											
<b>D. Acquisition Strategy</b> N/A											

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0305193D8Z: <i>Intelligence Support to Information Operations</i>	<b>PROJECT</b> 001: <i>E-Space</i>

**E. Performance Metrics**

Classified details provided in Defense-Wide (classified) Volume 7 book.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense								<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0305193D8Z: <i>Intelligence Support to Information Operations</i>				<b>PROJECT</b> 002: <i>Human Factors Analysis</i>				
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	
002: <i>Human Factors Analysis</i>	1.784	1.581	3.751	0.000	3.751	4.508	4.215	4.276	4.352	Continuing	Continuing	
Quantity of RDT&E Articles												
<b>A. Mission Description and Budget Item Justification</b> Classified details provided in Defense-Wide (classified) Volume 7 book.												
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>												
							<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	
Human Factors Analysis <i>FY 2009 Accomplishments:</i> Classified details provided in Defense-Wide (classified) Volume 7 book.  <i>FY 2010 Plans:</i> Classified details provided in Defense-Wide (classified) Volume 7 book.  <i>FY 2011 Base Plans:</i> Classified details provided in Defense-Wide (classified) Volume 7 book.							1.784	1.581	3.751	0.000	3.751	
Accomplishments/Planned Programs Subtotals							1.784	1.581	3.751	0.000	3.751	
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A												
<b>D. Acquisition Strategy</b> N/A												

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0305193D8Z: <i>Intelligence Support to Information Operations</i>	<b>PROJECT</b> 002: <i>Human Factors Analysis</i>

**E. Performance Metrics**

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense									<b>DATE:</b> February 2010		
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<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
003: <i>IO Intelligence Integration</i>	12.908	12.907	13.301	0.000	13.301	13.626	14.123	14.855	14.780	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b> Classified details provided in Defense-Wide (classified) Volume 7 book.											
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
							<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
IO Intelligence Integration <i>FY 2009 Accomplishments:</i> Classified details provided in Defense-Wide (classified) Volume 7 book.  <i>FY 2010 Plans:</i> Classified details provided in Defense-Wide (classified) Volume 7 book.  <i>FY 2011 Base Plans:</i> Classified details provided in Defense-Wide (classified) Volume 7 book.							12.908	12.907	13.301	0.000	13.301
Accomplishments/Planned Programs Subtotals							12.908	12.907	13.301	0.000	13.301
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A											
<b>D. Acquisition Strategy</b> N/A											

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0305193D8Z: <i>Intelligence Support to Information Operations</i>	<b>PROJECT</b> 003: <i>IO Intelligence Integration</i>

**E. Performance Metrics**

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense									<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0305193D8Z: <i>Intelligence Support to Information Operations</i>				<b>PROJECT</b> 004: <i>IO Indications and Warning</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
004: <i>IO Indications and Warning</i>	1.985	4.981	3.670	0.000	3.670	3.107	3.510	3.317	3.629	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b> Classified details provided in Defense-Wide (classified) Volume 7 book.											
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
							<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Information Operations Indications and Warning <i>FY 2009 Accomplishments:</i> Classified details provided in Defense-Wide (classified) Volume 7 book.  <i>FY 2010 Plans:</i> Classified details provided in Defense-Wide (classified) Volume 7 book.  <i>FY 2011 Base Plans:</i> Classified details provided in Defense-Wide (classified) Volume 7 book.							1.985	4.981	3.670	0.000	3.670
Accomplishments/Planned Programs Subtotals							1.985	4.981	3.670	0.000	3.670
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A											
<b>D. Acquisition Strategy</b> N/A											

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0305193D8Z: <i>Intelligence Support to Information Operations</i>	<b>PROJECT</b> 004: <i>IO Indications and Warning</i>

**E. Performance Metrics**

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b>			<b>R-1 ITEM NOMENCLATURE</b>								
0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>			PE 0305400D8Z: <i>Warfighting and Intelligence-Related Support</i>								
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	0.824	0.823	0.845	0.000	0.845	0.862	0.885	0.898	0.910	Continuing	Continuing
400: <i>Warfighting and Intelligence-Related Support</i>	0.824	0.823	0.845	0.000	0.845	0.862	0.885	0.898	0.910	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

This program supports the alignment of policies and programs with current operational requirements, oversight and sufficiency of special access programs, conduct of various intelligence-related activities and warfighter support efforts, strategies and assessments, and alignment of cutting-edge and emerging technologies for warfighter needs.

**B. Program Change Summary (\$ in Millions)**

	<u><b>FY 2009</b></u>	<u><b>FY 2010</b></u>	<u><b>FY 2011 Base</b></u>	<u><b>FY 2011 OCO</b></u>	<u><b>FY 2011 Total</b></u>
Previous President's Budget	0.824	0.829	0.000	0.000	0.000
Current President's Budget	0.824	0.823	0.845	0.000	0.845
Total Adjustments	0.000	-0.006	0.845	0.000	0.845
• Congressional General Reductions		-0.006			
• 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			
• Other Program Adjustments	0.000	0.000	0.845	0.000	0.845

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0305400D8Z: <i>Warfighting and Intelligence-Related Support</i>	<b>PROJECT</b> 400: <i>Warfighting and Intelligence-Related 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
400: <i>Warfighting and Intelligence-Related Support</i>	0.824	0.823	0.845	0.000	0.845	0.862	0.885	0.898	0.910	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

This program supports the alignment of policies and programs with current operational requirements, oversight and sufficiency of special access programs, conduct of various intelligence-related activities and warfighter support efforts, strategies and assessments, and alignment of cutting-edge and emerging technologies for warfighter needs.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Warfighting and Intelligence-Related Support	0.824	0.823	0.845	0.000	0.845
<p><i>FY 2009 Accomplishments:</i> Supported through new concepts, studies, and assessments, strategies for the development of policies for WMD, MASINT, threat finance, and integrated domain awareness initiatives.</p> <p><i>FY 2010 Plans:</i> Continue to develop new concepts, and conduct studies and assessments to develop strategies for aligning, creating policies, technology exploration, to support the oversight of the Defense Intelligence Enterprise.</p> <p><i>FY 2011 Base Plans:</i> Continue to develop new concepts, and conduct studies and assessments to develop strategies for aligning, creating policies, technology exploration, to support the oversight of the Defense Intelligence Enterprise.</p>					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0305400D8Z: <i>Warfighting and Intelligence-Related Support</i>	<b>PROJECT</b> 400: <i>Warfighting and Intelligence-Related Support</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
	Accomplishments/Planned Programs Subtotals	0.824	0.823	0.845	0.000	0.845
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A						
<b>D. Acquisition Strategy</b> N/A						
<b>E. Performance Metrics</b> N/A						

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0804767D8Z: <i>TRAINING TRANSFORMATION (T2)</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	0.000	40.375	92.253	0.000	92.253	93.525	101.383	79.282	78.836	Continuing	Continuing
758: <i>JOINT NATIONAL TRAINING CAPABILITY (JNTC)</i>	0.000	19.156	19.559	0.000	19.559	20.133	20.989	20.833	21.014	Continuing	Continuing
759: <i>JOINT TRAINING CAPABILITY ANALYSIS OF ALTERNATIVES (TCAoA)</i>	0.000	1.970	1.994	0.000	1.994	2.031	2.065	2.098	2.129	Continuing	Continuing
761: <i>JOINT SIMULATION SYSTEMS (JSS)</i>	0.000	7.310	7.208	0.000	7.208	7.203	7.376	7.482	7.597	Continuing	Continuing
764: <i>IRREGULAR WARFARE (IW)</i>	0.000	3.700	17.772	0.000	17.772	18.229	18.690	19.147	19.605	Continuing	Continuing
769: <i>JOINT KNOWLEDGE DEVELOPMENT &amp; DISTRIBUTION CAPABILITY (JKDDC)</i>	0.000	2.170	2.194	0.000	2.194	2.234	2.272	2.307	2.341	Continuing	Continuing
760: <i>Congressional Transactions</i>	0.000	6.069	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
770: <i>U.S. Forces Korea Training and Exercise Support</i>	0.000	0.000	10.211	0.000	10.211	10.382	10.024	7.446	4.527	Continuing	Continuing
754: <i>Immersive Simulation</i>	0.000	0.000	33.315	0.000	33.315	33.313	39.967	19.969	21.623	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

\*\* This program was previously funded in Program Element 0603757D8Z and is not a new start. \*\*

These programs are part of a coordinated effort to develop and deploy capabilities for rapidly linking and integrating Live, Virtual, and Constructive (LVC) forces for Services, Combatant Commanders (COCOMs), coalition, and other government agencies. These programs will create a realistic battlespace environment in which to train as a Joint Warfighting force to meet emerging mission requirements including the Long War. These investments support the Secretary of Defense's (SECDEF)

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0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	PE 0804767D8Z: <i>TRAINING TRANSFORMATION (T2)</i>

Commanders Exercise and Engagement Training Transformation (CE2T2) initiative to enable and enhance Joint Warfighting readiness by training as we intend to fight. The elements associated with this coordinated effort consist of:

- Joint National Training Capability (JNTC)
- Training Capability Analysis of Alternatives (TCAoA)
- Joint Simulation Systems (JSS)
- Irregular Warfare (IW)
- Joint Knowledge Development & Distribution Capability (JKDDC)
- National Program for Small Unit Excellence (NPSUE)
- U.S. Forces Korea Training & Exercise Support (USFK)
- Combatant Commanders Exercise (JTF-E HQ)
- Immersive Simulation

JNTC: Initially established in 2003, JNTC continues to develop and integrate Advanced Training Technologies (ATT) into a seamless Joint training environment. JNTC establishes the overarching Joint framework and context necessary for COCOMs and Services to achieve a Joint training environment through an integrated network of training sites and nodes. JNTC provides the common standards, architecture, and development processes required to link Joint training programs. By leveraging existing training programs or initiating specific actions, JNTC is providing credible opposing force capabilities and expanded access to assets typically unavailable to the training audience by integrating virtual or constructive representations of these capabilities. This furthers the integration of Joint training objectives into Service training events, while capturing the objective data necessary to provide a complete and accurate after action review. This program develops and enhances current and future Joint training enterprise capabilities.

TCAoA: The TCAoA effort focuses on comparing current training capabilities with training requirements in order to identify gaps in our current Joint training capability, to identify alternatives for resolution and to assess the cost and effectiveness of these alternatives. Specifically, the TCAoA focuses on: (1) developing and integrating enhancements to the existing and programmed constructive simulations, (2) pursuing selected alternative training methodologies, (3) developing an innovative acquisition prototype, (4) developing solutions to implement recommendations from the Joint Staff's comprehensive study to re-engineer Joint training and (5) developing a clear management and oversight structure to meet future Joint training requirements. These efforts provide solutions to the 35 gaps and seams in Joint and Service training requirements identified by the COCOM's in the SECDEF 2004 TCAoA study. These efforts increase warfighter Joint training capabilities with improved constructive simulations and streamlined acquisition processes, leveraging industry training methodologies and technologies to provide on-demand Joint training tailorable to COCOM requirements for Joint Task Force headquarters staffs and individuals.

JSS: This effort provides warfighters with enhanced Joint Live, Virtual, and Constructive based training capabilities resident in the Joint Force Trainer Toolkit (JFTT). The JFTT is a set of training enablers, and "certified systems" that are interoperable and acceptable for usage within the Joint training environment. The JFTT is a one-stop shop that enables Services, COCOMs, Agencies and Coalition partners to deliver trained, capable, and interoperable Joint Forces.

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0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	PE 0804767D8Z: <i>TRAINING TRANSFORMATION (T2)</i>

IW: This research and development effort closes training gaps at the tactical and operational level and ensures our General Purpose Forces (GPF) receive immersive, pre-deployment training equal to that provided to Special Forces. This effort researches, develops and integrates human terrain/cueing/profiling training, enhanced and distributed interagency team training, cultural awareness training, mixed reality training, and distributed training technologies that enhance IW training for GPF.

JKDDC: This requirement is to develop a Joint Individual Training Toolkit of web enabled individual and small group training products and services. Products and services developed in response to JKDDC stakeholder (COCOMs, Services, and Combat Support Agencies) prioritized training requirements. JKDDC supports a career-long joint learning continuum, joint professional military education and tailored common training standards to Service members for tasks that are jointly executed, resulting in trained, capable, and interoperable joint forces. This supports advanced technology development and enhancement for the Joint Advanced Distributive Learning training community. JKDDC advanced technology initiatives principally include the Virtual Cultural Awareness Training (VCAT) web-based gaming and Small Group Scenario Trainer (SGST), both accessible via the Joint Knowledge Online (JKO) Learning Management System (LMS). This capability facilitates the training and preparation of tens of thousands of military and civilian personnel deployed to combat theaters of operation prior to serving in their assigned Joint Task Force (JTF) billets. Specifically, VCAT supports one of the top three identified training shortcomings of returning warriors from United States Central Command (CENTCOM) based JTFs cultural awareness training. JTF 'battle staffs' will be adequately trained warriors, as individuals and the staffs collectively based on SGST development and overcoming existent training inadequacies for joint warriors. Significant training deficiencies will be mitigated in critical 'go to war' tasks.

USFK: This program will develop a Modeling & Simulation solution that is a jointly accredited, supported, and funded federation of constructive simulations capable of satisfying all joint exercise training requirements in the Korean Theater of Operations and that is interoperable with the Republic of Korea developed Korean Simulation System. This solution will be capable of interoperating in a common battlespace that realistically represents the operating environment to all levels of training audiences, tactical to strategic, in Korean theater exercises. While supporting USFK's specific requirements, this solution will contain enhancements that will benefit all users of the JLVC.

JTF-E HQ: The establishment of a standing JTF-E HQ would give DoD the ability to conduct WMD-elimination operations rapidly and enhance planning, training, and exercising for these activities across the combatant commands, and support phase 0 activities necessary to shape the security environment successfully. Currently, a JTF-E HQ is established when a Combatant Command executes orders to conduct a WMD elimination operation. The lead time to stand up the HQ for these missions reduces the chances of establishing positive control over an adversary's WMD and provides an opportunity for hostile actors to secure WMD-related materials and constituted weapons for use against US forces. A standing HQ would minimize the reaction time when an operation is executed and decrease the likelihood that an adversary would secure WMD first.

Immersive Simulation: As part of the Department of Defense's shift to building IW capability and recognizing the percentage of casualties taken in close combat, increased funding through Undersecretaries of Defense, Personnel and Readiness to the services and USJFCOM for urgent development of infantry immersive training

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simulators as part of a broader national effort for small unit excellence. While highlighted by the need to adapt simulation now to IW demands, the value of enhanced infantry small unit immersive simulation will contribute to small unit proficiency and survival across the range of military operations, from irregular to conventional.

**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	0.000	34.306	0.000	0.000	0.000
Current President's Budget	0.000	40.375	92.253	0.000	92.253
Total Adjustments	0.000	6.069	92.253	0.000	92.253
• Congressional General Reductions		-0.331			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		6.400			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Program Adjustments	0.000	0.000	92.253	0.000	92.253

**Congressional Add Details (\$ in Millions, and Includes General Reductions)**

**Project: 770: U.S. Forces Korea Training and Exercise Support**

Congressional Add: \*\*\* PLEASE ENTER CONGRESSIONAL ADD TITLE \*\*\*

Congressional Add Subtotals for Project: 770

**Project: 754: Immersive Simulation**

Congressional Add: \*\*\* PLEASE ENTER CONGRESSIONAL ADD TITLE \*\*\*

Congressional Add Subtotals for Project: 754

Congressional Add Totals for all Projects

	<u>FY 2009</u>	<u>FY 2010</u>
	0.000	0.000
	0.000	0.000
	0.000	0.000
	0.000	0.000
	0.000	0.000

**Change Summary Explanation**

1. Agile Software Capability Intervention \$1.6M (FY 2009) and \$1.2M (FY 2010) - The Agile Software Capability Intervention (ASCI) is a process and development activity that provides a distributed testbed solution to the complex software development in the Modeling & Simulation (M&S) domain. Focus is

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on the Joint Live Virtual Constructive (JLVC) federation and requirements to represent the federation on an Enterprise level in a Service Oriented Architecture (SOA). In addition, ASCI principles are applied to process and development activities to provide database initialization solution for complex software development in the M&S domain. Focus is on the Joint Rapid Scenario Generation requirements to represent the capability on an Enterprise level in a SOA. Provides subject matter expertise, rapid reconfiguration laboratory assessment and certification of distributed test bed, products, and documentation review supporting productivity enhancements through use of ASCI in the Joint Training Environment. The ASCI project will focus on 30-day development sprints culminating in deliberate distributed test events supported by the Joint Advanced Training Technology Laboratory (JATTL). The outcome of this effort will result in demonstrable events in the JATTL using the new SOA JLVC federation supporting Political, Military, Economic, Information, and Infrastructure capability.

2. Indiana University Complex Operations Partnership (InCOP) \$2.0M (FY 2009) – Create Multidisciplinary partnership to respond to Muscutatuck Center for Complex Operation’s need for analysis and support on strategic languages and cultures, governance and the rule of law, economic reconstruction and development, and making and implementing policy in the Joint, Interagency, Intergovernmental, and Multinational/Non-Governmental Organization context. Provide venue where training, evaluation and certification of National Guard joint formations can be performed to achieve a high degree of confidence and where readiness standards are met. Evaluate Training Directorate requirements process utilizing Indiana National Guard training venue. Research to strengthen civilian and military cooperation with new concepts (IW, complex operations, etc.), Partnerships – US Strategic Command (USSTRATCOM), Indiana University, Purdue University, Northwestern University and Indiana National Guard.

3. Integrated Analysis Environment \$1.2M (FY 2009) and \$2.0M (FY 2010) - Provides enhanced joint training capability for the Home Basing Program. Integrate with Future Combat Systems. Supports distributed units in a Live, Virtual, and Constructive synthetic training environment. Integrate future Army capabilities into the joint operational environment. Builds upon USJFCOM Modeling & Simulation Flagship study through development of an implementation plan. Supports J7 move towards Service construct (freeform type training) and Unified Architecture. Consolidates and aligns USJFCOM Modeling and Stimulation Support Activities including Training, Exercises, Experimentation and Scenario Generation.

4. Playas Training and Research Center (PTRC)Joint Training Experiment \$4.8M (FY 2009) and \$3.2M (FY2010) - PTRC Joint Training Experiment provides a platform for training, evaluation and/or certification of Active and Reserve Component joint formations in intergovernmental and interagency missions. Integrate with JNTC architecture and standards. Adapt and enhance PTRC capabilities to meet the evolving needs of Active and Reserve Component joint formations in intergovernmental and interagency missions. Enhance government infrastructure capability at PTRC. Become an accredited, integral component of the Joint Training Environment (JTE) and provide dedicated program management and coordination with research institutions and JTE representatives. Monitor execution, perform analysis, conduct tests and establish transition strategy and support. Partnership between New Mexico Tech, New Mexico State University (NMSU) and White Sands Missile Range (WSMR).

5. NMSU National Security and Policy Institute \$10M (FY 2009) - Prepares national security professionals to serve as managers and policy leaders in an ever-changing global environment. WSMR Infrastructure and Networking Capability to support National Security Training. Adapts and enhances WSMR capabilities to meet the evolving needs of JNTC intergovernmental, interagency, and coalition missions. Supports Joint Training and Experimentation Network

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**APPROPRIATION/BUDGET ACTIVITY**

0400: *Research, Development, Test & Evaluation, Defense-Wide*  
BA 6: *RDT&E Management Support*

**R-1 ITEM NOMENCLATURE**

PE 0804767D8Z: *TRAINING TRANSFORMATION (T2)*

node for WSMR with backside Secret Defense Research and Engineering Network to Playas to support complex urban environments, Chemical, Biological, Radiological, Nuclear, and Explosive and other National Security scenarios in accordance with Joint Training Environment architecture and standards. Enhances Playas Training and Research Center (PTRC) Networking Capability. Enhances government data network capability at PTRC, WSMR and facilitates synergy with Fort Bliss Future Combat System training concept development program and range. Provides subject matter expertise on National Security and Policy issues. Adapts and enhances Joint Training Enterprise capabilities to meet the evolving needs of National Security and Public Policy in an ever-changing global environment. Provides National Security and Public Policy.

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<b>APPROPRIATION/BUDGET ACTIVITY</b>			<b>R-1 ITEM NOMENCLATURE</b>				<b>PROJECT</b>				
0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>			PE 0804767D8Z: <i>TRAINING TRANSFORMATION (T2)</i>				758: <i>JOINT NATIONAL TRAINING CAPABILITY (JNTC)</i>				
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
758: <i>JOINT NATIONAL TRAINING CAPABILITY (JNTC)</i>	0.000	19.156	19.559	0.000	19.559	20.133	20.989	20.833	21.014	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

DoD directed USJFCOM to establish the JNTC Advanced Training Technology to develop future training concepts and capabilities. The mission is to develop robust research, development test and evaluation (RDT&E) capabilities that integrate Live, Virtual, and Constructive (LVC) elements into a seamless Joint training environment. JNTC creates Joint warfighting conditions through a networked collection of interoperable training sites, ranges, and nodes that synthesize personnel, doctrine, and technology to deliver and achieve "Joint Context" for COCOM and Service training requirements. JNTC provides RDT&E within an LVC distributed test-bed supporting the advancement of training technologies in the context of a Joint integrated battle space. The test bed operates as a continuous training RDT&E environment, providing the foundation for a distributed and deployable Mission Rehearsal System, integrating live Intelligence, Surveillance and Reconnaissance feeding the Common Operational Picture. These funds provide critical Joint/Coalition Service members and interagency partner's enhanced training to allow requisite enhancements to existing training systems, capabilities, and technologies. These enhancements improve training efficiencies and provide an integrated LVC environment. This capability precludes the necessity for conducting large-scale live exercises to achieve the SECDEF's Commanders Exercise and Engagement Training and Transformation (CE2T2) vision.

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

	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
P758 Joint National Training Center (JNTC)	0.000	19.156	19.559	0.000	19.559
<i>FY 2010 Plans:</i> <ul style="list-style-type: none"> <li>• Complete deployable spiral 3 (enable web services and distributive knowledge management) to provide an enterprise solution to enable near-real time and post event assessment of the Joint Warfighters performance. Completed design of a Special Operating Forces/Conventional force instrumentation integration capability.</li> <li>• Research the integration of mixed reality trainers and virtual reality trainers into the JLVC.</li> </ul>					

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul style="list-style-type: none"> <li>• Continue research and development efforts to mitigate or resolve identified Joint training cross-domain information sharing issues/shortfalls/gaps.</li> <li>• move electrons instead of people to ensure the warfighter's last training experience is as close to the real thing as possible.</li> <li>• Continue research and development efforts to mitigate or resolve identified Joint training cross-domain information sharing issues/shortfalls/gaps.</li> </ul>					
<b>Accomplishments/Planned Programs Subtotals</b>	0.000	19.156	19.559	0.000	19.559

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

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• 0804767D8Z: <i>JNTC O&amp;M Funding</i>		65.600								Continuing	Continuing
• 0804767D8Z-: <i>JNTC Procurement Funding</i>		13.590								Continuing	Continuing

**D. Acquisition Strategy**

N/A

**E. Performance Metrics**

The USJFCOM Joint Warfighting Center (JWFC) Joint Force Trainer Enterprise Resource Planning Board (JFT ERPB) established in FY07 reviews all RDT&E equities. The JFT ERPB consists of senior technical, operational, program manager, and stake holder representatives within the Joint Force Trainer Community. The board's responsibilities encompass merging and prioritizing technical training requirements. It apportions work to the RDT&E elements based on an assessment of where the work is best accomplished. The board will evaluate the efficacy of development efforts based on performance metrics and will vote on whether or not to continue the effort. This process will ensure the Joint Force Trainer capabilities development effort synchronizes with warfighter requirements. Performance metrics include, but are not limited to; time, money, realism, and fidelity as defined below:

- Time – Will the effort enable the Joint Force Trainer to prepare and execute training more timely than current capabilities allow?
- Cost – Will the effort enable the Joint Force Trainer to prepare and execute training at a more effective and efficient cost than current capabilities allow?

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<ul style="list-style-type: none"><li>• Realism – Will the effort enable the Joint Force Trainer to create a training environment that is closer to the real world environment than current capabilities allow?</li><li>• Fidelity – Will the effort enable the Joint Force Trainer to create more detailed capabilities in the training environment than current capabilities allow?</li></ul> <p>The ERPB is the strategic management forum where the outcomes of performance relative to our external customers, stakeholders, and strategic stewardship of resources are the focus of discussion. Performance against the targets will be assessed and reported monthly, briefed quarterly to the ERPB, and rolled up into the JWFC Joint Training End-of-Fiscal Year Performance Report to ensure transparency and accountability.</p>		

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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
759: <i>JOINT TRAINING CAPABILITY ANALYSIS OF ALTERNATIVES (TCAoA)</i>	0.000	1.970	1.994	0.000	1.994	2.031	2.065	2.098	2.129	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

Joint Force Trainer supports development capabilities in Joint simulations to eliminate training gaps identified by the Combatant Commanders (COCOMs) and in accordance with Secretary of Defense's Training and Transformation objectives. In accordance with the Unified Command Plan 2006, US Joint Forces Command (JFCOM), Joint Warfighting Center leads the development and implementation of system architectures that directly support distributed Joint training requirements of the other COCOMs, Joint Task Forces, and Defense Agencies. The underlying premise of TCAoA centers on privatization of training support and development with the competitive market forces driving the development of technologies to reduce the cost of training. The creation of a JFCOM Joint Oversight Board establishes a governance process to review the effectiveness of the tools and the providers. Management of the toolkit, which is a set of capabilities, and system certified technologies that are interoperable and acceptable for usage within the Joint training environment and supports; Joint Exercises, Doctrine, Lessons Learned, Distributed Learning, and Modeling & Simulation. There will be a government-led Consortium with industry and academia that ensures the tools in the toolkit comply with the requirements of the common architecture. A number of emerging technologies from Industry, Government and Academic sources that offer the greatest potential to reengineer Joint training are considered for training use. These technologies include Light Simulations, Light Federations, Story-Driven Training, Massively-Multi-player Games, Training Objective Driven Simulation, Embedded Training, and Joint Community Unique Simulations.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
P759 Joint Training Capability Analysis of Alternatives (TCAoA) <i>FY 2010 Plans:</i>					
<ul style="list-style-type: none"> <li>• Complete innovation acquisition use case assessment and provide training capability to COCOMs.</li> </ul>	0.000	1.970	1.994	0.000	1.994

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul style="list-style-type: none"> <li>• Enhance existing web-based, immersive technologies simulations to enable advanced problem solving, enhanced decision making, and leadership skills for the Joint, Interagency, Intergovernmental and multi-national players deployed in Global War on Terrorism.</li> <li>• Develop an over-arching gaming technology strategy that is Joint training focused, yet, coordinated with Service training capability requirements and R&amp;D plans to identify future innovative prototypes and acquisition strategies (long term Measures of Effectiveness).</li> <li>• Enhance information operations by modeling computer-network attack and defense.</li> <li>• Implement a psychological operations capability in the Joint, Live, Virtual, and Constructive Federation.</li> <li>• Develop Service Orientated Architecture (SOA) for Joint training federation, and implement a live, virtual, and constructive capability to support COCOM and US participation in NATO events.</li> <li>• Develop Net-Centric Data Strategy (NCDS) for terrain, order of battle, weather, targeting, and infrastructure, to provide faster and higher-fidelity mission rehearsals through improved interoperability and reuse.</li> <li>• Enhance small unit home station training through inoculation of cognitive, visual, audio, thermal, olfactory effects and chaos of battle in a fully immersive live virtual constructive environment.</li> </ul>					
<b>Accomplishments/Planned Programs Subtotals</b>	0.000	1.970	1.994	0.000	1.994

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

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• 0804767D8Z: <i>Joint Training Capability Analysis of Alternatives (TCAoA)</i>		1.060								Continuing	Continuing

**D. Acquisition Strategy**

N/A

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**E. Performance Metrics**

The USJFCOM Joint Warfighting Center (JWFC) Joint Force Trainer Enterprise Resource Planning Board (JFT ERPB) established in FY07 reviews all RDT&E equities. The JFT ERPB consists of senior technical, operational, program manager, and stake holder representatives within the Joint Force Trainer Community. The board's responsibilities encompass merging and prioritizing technical training requirements. It apportions work to the RDT&E elements based on an assessment of where the work is best accomplished. The board will evaluate the efficacy of development efforts based on performance metrics and will vote on whether or not to continue the effort. This process will ensure the Joint Force Trainer capabilities development effort synchronizes with warfighter requirements. Performance metrics include, but are not limited to; time, money, realism, and fidelity as defined below:

- Time – Will the effort enable the Joint Force Trainer to prepare and execute training more timely than current capabilities allow?
- Cost – Will the effort enable the Joint Force Trainer to prepare and execute training at a more effective and efficient cost than current capabilities allow?
- Realism – Will the effort enable the Joint Force Trainer to create a training environment that is closer to the real world environment than current capabilities allow?
- Fidelity – Will the effort enable the Joint Force Trainer to create more detailed capabilities in the training environment than current capabilities allow?

The ERPB is the strategic management forum where the outcomes of performance relative to our external customers, stakeholders, and strategic stewardship of resources are the focus of discussion. Performance against the targets will be assessed and reported monthly, briefed quarterly to the ERPB, and rolled up into the JWFC Joint Training End-of-Fiscal Year Performance Report to ensure transparency and accountability.

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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
761: <i>JOINT SIMULATION SYSTEMS (JSS)</i>	0.000	7.310	7.208	0.000	7.208	7.203	7.376	7.482	7.597	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

The Secretary of Defense Program Decision Memorandum dated 12 Dec 2003 tasked USJFCOM with the responsibility of maintaining JSS software and establishing a Software Support Facility at the Joint Warfighting Center. This program supports the development of capabilities in Joint simulations to eliminate COCOM identified training gaps.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
P761 Joint Simulation System (JSS)  <i>FY 2010 Plans:</i> <ul style="list-style-type: none"> <li>• Increase US coalition training by providing technical support towards the development of an architecture for a coalition live, virtual, and constructive capability.</li> <li>• Develop a logistics capability that replicates deployment, medical and maintenance operations.</li> <li>• Continues to integrate Service models into a seamless "One World" Global Synthetic Training Environment.</li> <li>• Develop one simulation federation capable of joint and unified action to support the Joint Training Enterprise (includes coalition and interagency partners).</li> <li>• Develop a Global Missile Defense simulation capability.</li> <li>• Develop enhancements to constructive simulation models to support integration with virtual simulators and live instrumented forces.</li> </ul>	0.000	7.310	7.208	0.000	7.208

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p><i>FY 2011 Base Plans:</i></p> <ul style="list-style-type: none"> <li>• Increase US coalition training by providing technical support towards the development of an architecture for a coalition live, virtual, and constructive capability.</li> <li>• Develop a logistics capability that replicates deployment, medical and maintenance operations.</li> <li>• Continues to integrate Service models into a seamless "One World" Global Synthetic Training Environment.</li> <li>• Develop one simulation federation capable of joint and unified action to support the Joint Training Enterprise (includes coalition and interagency partners).</li> <li>• Develop a Global Missile Defense simulation capability.</li> <li>• Develop enhancements to constructive simulation models to support integration with virtual simulators and live instrumented forces</li> </ul> <p><i>FY 2011 OCO Plans:</i> N/A</p>								
Accomplishments/Planned Programs Subtotals				0.000	7.310	7.208	0.000	7.208
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A								
<b>D. Acquisition Strategy</b> N/A								
<b>E. Performance Metrics</b> : The USJFCOM Joint Warfighting Center (JWFC) Joint Force Trainer Enterprise Resource Planning Board (JFT ERPB) established in FY07 reviews all RDT&E equities. The JFT ERPB consists of senior technical, operational, program manager, and stake holder representatives within the Joint Force Trainer Community. The board's responsibilities encompass merging and prioritizing technical training requirements. It apportions work to the RDT&E elements based on an assessment of where the work is best accomplished. The board will evaluate the efficacy of development efforts based on performance metrics and will vote on whether or not to								

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<p>continue the effort. This process will ensure the Joint Force Trainer capabilities development effort synchronizes with warfighter requirements. Performance metrics include, but are not limited to; time, money, realism, and fidelity as defined below:</p> <ul style="list-style-type: none"><li>• Time – Will the effort enable the Joint Force Trainer to prepare and execute training more timely than current capabilities allow?</li><li>• Cost – Will the effort enable the Joint Force Trainer to prepare and execute training at a more effective and efficient cost than current capabilities allow?</li><li>• Realism – Will the effort enable the Joint Force Trainer to create a training environment that is closer to the real world environment than current capabilities allow?</li><li>• Fidelity – Will the effort enable the Joint Force Trainer to create more detailed capabilities in the training environment than current capabilities allow?</li></ul> <p>The ERPB is the strategic management forum where the outcomes of performance relative to our external customers, stakeholders, and strategic stewardship of resources are the focus of discussion. Performance against the targets will be assessed and reported monthly, briefed quarterly to the ERPB, and rolled up into the JWFC Joint Training End-of-Fiscal Year Performance Report to ensure transparency and accountability.</p>		

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0804767D8Z: <i>TRAINING TRANSFORMATION (T2)</i>	<b>PROJECT</b> 764: <i>IRREGULAR WARFARE (IW)</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
764: <i>IRREGULAR WARFARE (IW)</i>	0.000	3.700	17.772	0.000	17.772	18.229	18.690	19.147	19.605	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

An immediate and critical need exists for small combat unit, Irregular Warfare immersive training solutions. Front line soldiers and marines from conventional, General Purpose Forces suffer 85% of the casualties in Operation Iraqi Freedom and Operation Enduring Freedom. The U.S. military's dominance in traditional modes of combat has forced its adversaries to master irregular, hybrid, and asymmetric tactics. Moreover, mega-urbanization, large numbers of noncombatants, and the dynamic information environment increase the complexity of the overall IW environment. Meeting these current and future challenges requires better trained, more capable, and tactically enhanced small combat units. These small units and their leaders must be able to make timely, ethical and values based decisions that carry strategic implications. The leaders and staffs that employ these small units must understand their role in supporting these units during simultaneous kinetic and non-kinetic operations in a complex and dynamic human terrain based battlefield. The Department of Defense (DoD) must train and broadly educate these joint units, staffs, and leaders to understand cultures and populations, to thrive in chaotic environments, to recognize and respond creatively to dynamic and demanding situations, and to operate with coalition, interagency, and host nation partners as the norm and not the exception. To accomplish these IW training objectives, the DoD requires training facilities that fully immerse units, leaders, and staffs in live, virtual, and constructive training environments that replicate, as closely as possible, the overall IW environment. These training facilities must allow the unit to utilize the full range of assets that will be available to them in actual missions including their individual equipment, individual and crew-served weapons, command and control systems, navigation systems, and target location/ designation systems. While home station based, these facilities will link joint enablers such as Intelligence, Surveillance & Reconnaissance and joint fires from many different locations across the joint force, as well as other home station units that are conducting immersion training simultaneously. This strategy will leverage and integrate the existing and emerging Coalition, Inter-agency, Service and COCOM capabilities.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
P764 Irregular Warfare	0.000	3.700	17.772	0.000	17.772

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0804767D8Z: <i>TRAINING TRANSFORMATION (T2)</i>	<b>PROJECT</b> 764: <i>IRREGULAR WARFARE (IW)</i>
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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></p> <ul style="list-style-type: none"> <li>• Conduct analysis to determine the IW training requirements and identify shortfalls / gaps in meeting those requirements.</li> <li>• Determine best practices and identify opportunities for leveraging existing training programs.</li> <li>• Develop overarching framework and concept of operations for conducting IW training.</li> <li>• Develop proof of concept IW training systems and deliver initial enhancements to existing Service programs.</li> <li>• Integrate Service training programs to conduct distributed Joint training.</li> </ul> <p><i>FY 2011 Base Plans:</i></p> <ul style="list-style-type: none"> <li>• Conduct analysis to determine the IW training requirements and identify shortfalls / gaps in meeting those requirements.</li> <li>• Determine best practices and identify opportunities for leveraging existing training programs.</li> <li>• Develop overarching framework and concept of operations for conducting IW training.</li> <li>• Develop proof of concept IW training systems and deliver initial enhancements to existing Service programs.</li> <li>• Integrate Service training programs to conduct distributed Joint training</li> </ul>					
<b>Accomplishments/Planned Programs Subtotals</b>	0.000	3.700	17.772	0.000	17.772

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

Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• 0804767D8Z: <i>IW O&amp;M Funding</i>		2.625								Continuing	Continuing
		1.190								Continuing	Continuing

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0804767D8Z: <i>TRAINING TRANSFORMATION (T2)</i>	<b>PROJECT</b> 764: <i>IRREGULAR WARFARE (IW)</i>
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**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u> <u>Base</u>	<u>FY 2011</u> <u>OCO</u>	<u>FY 2011</u> <u>Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 0804767D8Z-: <i>IW Procurement Funding</i>											

**D. Acquisition Strategy**

N/A

**E. Performance Metrics**

The USJFCOM Joint Warfighting Center (JWFC) Joint Force Trainer Enterprise Resource Planning Board (JFT ERPB) established in FY07 reviews all RDT&E equities. The JFT ERPB consists of senior technical, operational, program manager, and stake holder representatives within the Joint Force Trainer Community. The board's responsibilities encompass merging and prioritizing technical training requirements. It apportions work to the RDT&E elements based on an assessment of where the work is best accomplished. The board will evaluate the efficacy of development efforts based on performance metrics and will vote on whether or not to continue the effort. This process will ensure the Joint Force Trainer capabilities development effort synchronizes with warfighter requirements. Performance metrics include, but are not limited to; time, money, realism, and fidelity as defined below:

- Time – Will the effort enable the Joint Force Trainer to prepare and execute training more timely than current capabilities allow?
- Cost – Will the effort enable the Joint Force Trainer to prepare and execute training at a more effective and efficient cost than current capabilities allow?
- Realism – Will the effort enable the Joint Force Trainer to create a training environment that is closer to the real world environment than current capabilities allow?
- Fidelity – Will the effort enable the Joint Force Trainer to create more detailed capabilities in the training environment than current capabilities allow?

The ERPB is the strategic management forum where the outcomes of performance relative to our external customers, stakeholders, and strategic stewardship of resources are the focus of discussion. Performance against the targets will be assessed and reported monthly, briefed quarterly to the ERPB, and rolled up into the JWFC Joint Training End-of-Fiscal Year Performance Report to ensure transparency and accountability.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense								<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0804767D8Z: <i>TRAINING TRANSFORMATION (T2)</i>				<b>PROJECT</b> 769: <i>JOINT KNOWLEDGE DEVELOPMENT &amp; DISTRIBUTION CAPABILITY (JKDDC)</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
769: <i>JOINT KNOWLEDGE DEVELOPMENT &amp; DISTRIBUTION CAPABILITY (JKDDC)</i>	0.000	2.170	2.194	0.000	2.194	2.234	2.272	2.307	2.341	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

The Department's requirement is to develop a Joint Individual Training Toolkit of web enabled individual and small group training products and services. Products and services are developed in response to JKDDC stakeholder (COCOMs, Services, and Combat Support Agencies) prioritized training requirements. JKDDC supports a career-long joint learning continuum, joint professional military education and tailored common training standards to Service members for tasks that are jointly executed, resulting in trained, capable, and interoperable joint forces. This supports advanced technology development and enhancement for the Joint Advanced Distributive Learning training community. JKDDC advanced technology initiatives principally include the Virtual Cultural Awareness Training (VCAT) web-based gaming and Small Group ScenarioTrainer (SGST), both accessible via the Joint Knowledge Online (JKO) Learning Management System (LMS). This capability facilitates the training and preparation of tens of thousands of military and civilian personnel deployment to combat theaters of operation prior to serving in their assigned Joint Task Force (JTF) billets. Specifically, VCAT supports one of the top three identified training shortcomings of returning warriors from United States Central Command (CENTCOM) based JTFs (cultural awareness training). JTF 'battle staffs' will be adequately trained, warriors as individuals and the staffs collectively, based on SGST development, overcoming existent training inadequacies for joint warriors. Significant training deficiencies will be mitigated in critical 'go to war'.

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

	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
P769 Joint Knowledge Development & Distribution Capability (JKDDC)	0.000	2.170	2.194	0.000	2.194
<i>FY 2010 Plans:</i> <ul style="list-style-type: none"> <li>Will develop Virtual Cultural Awareness Training (VCAT) version 2 web-based game, originally developed with JFCOM Training Capability Analysis of Alternatives RDT&amp;E funding in FY08. Version 2 of this web-based game will enhance joint warrior provided recommendations from version 1,</li> </ul>					

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0804767D8Z: <i>TRAINING TRANSFORMATION (T2)</i>	<b>PROJECT</b> 769: <i>JOINT KNOWLEDGE DEVELOPMENT &amp; DISTRIBUTION CAPABILITY (JKDDC)</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>expand the number of training audience areas of responsibility (AOR) environment to two, expand the operational mission sets to four, and expand the cultural scenarios to two, while simultaneously demonstrating an improved capability to deliver training via an innovative training technique. The training readiness and tactical proficiency of thousands of individual augmentees deploying to Central Command AOR will be improved via this JKO provided training enabling toolset.</p> <ul style="list-style-type: none"> <li>• Operationalize training stimulation by developing Immersive Learning Environments (ILES) version 2 of the ILES “battle staff”, a small group training capability focused on improving the training readiness of individuals and small joint headquarters staffs. Version 1 prototype was developed with JFCOM Training Capability Analysis of Alternatives RDT&amp;E funding in FY08. Version 2 will enhance joint warrior provided recommendations from version 1, and target development of three additional - ILES use cases for representative Joint Task Force (JTF) staffs, all designed to complement existing Combatant Command mission rehearsal exercises in preparation for deployment to combat theaters of operation. Thousands of joint, interagency, intergovernmental and multinational participants will be better trained as individuals and collectively as small teams prior to and during deployment in hostile environments.</li> </ul> <p>Will provide direct customized instruction or feedback through Intelligent Tutor/Avatars Advanced Technologies software embedded in learning stimulation to students without the intervention of human beings in a web-based training course. Intent is to collaboratively enhance ten JKO web-based training courses with the Advanced Distributed Learning Co-Lab (ADL Co-Lab) by creating instantiations of adaptable intelligent tutor enabled courses delivered by JKO. Learning return on investment is significant as published academic research states that learning retention, effectiveness and efficiency can increase by as much as 80% via intelligent tutor/avatar embedded courseware.</p> <p><i>FY 2011 Base Plans:</i></p> <ul style="list-style-type: none"> <li>• Will develop Virtual Cultural Awareness Training (VCAT) version 2 web-based game, originally developed with JFCOM Training Capability Analysis of Alternatives RDT&amp;E funding in FY08. Version 2 of this web-based game will enhance joint warrior provided recommendations from version 1, expand the number of training audience areas of responsibility (AOR) environment to two, expand</li> </ul>					

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0804767D8Z: <i>TRAINING TRANSFORMATION (T2)</i>	<b>PROJECT</b> 769: <i>JOINT KNOWLEDGE DEVELOPMENT &amp; DISTRIBUTION CAPABILITY (JKDDC)</i>
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**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u> <u>Base</u>	<u>FY 2011</u> <u>OCO</u>	<u>FY 2011</u> <u>Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 0804767D8Z: <i>JKDDC O&amp;M Funding</i>		6.840								Continuing	Continuing
• 0804767D8Z-: <i>JKDDC Procurement Funding</i>		0.270								Continuing	Continuing

**D. Acquisition Strategy**

N/A

**E. Performance Metrics**

The USJFCOM Joint Warfighting Center (JWFC) Joint Force Trainer Enterprise Resource Planning Board (JFT ERPB) established in FY07 reviews all RDT&E equities. The JFT ERPB consists of senior technical, operational, program manager, and stake holder representatives within the Joint Force Trainer Community. The board's responsibilities encompass merging and prioritizing technical training requirements. It apportions work to the RDT&E elements based on an assessment of where the work is best accomplished. The board will evaluate the efficacy of development efforts based on performance metrics and will vote on whether or not to continue the effort. This process will ensure the Joint Force Trainer capabilities development effort synchronizes with warfighter requirements. Performance metrics include, but are not limited to; time, money, realism, and fidelity as defined below:

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- Cost – Will the effort enable the Joint Force Trainer to prepare and execute training at a more effective and efficient cost than current capabilities allow?
- Realism – Will the effort enable the Joint Force Trainer to create a training environment that is closer to the real world environment than current capabilities allow?
- Fidelity – Will the effort enable the Joint Force Trainer to create more detailed capabilities in the training environment than current capabilities allow?

The ERPB is the strategic management forum where the outcomes of performance relative to our external customers, stakeholders, and strategic stewardship of resources are the focus of discussion. Performance against the targets will be assessed and reported monthly, briefed quarterly to the ERPB, and rolled up into the JWFC Joint Training End-of-Fiscal Year Performance Report to ensure transparency and accountability.

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R-1 Line Item #174

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense									<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0804767D8Z: <i>TRAINING TRANSFORMATION (T2)</i>				<b>PROJECT</b> 760: <i>Congressional Transactions</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
760: <i>Congressional Transactions</i>	0.000	6.069	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b> Congressional transactions; COCOM Exercise Engagement & Training Transformation Appn Conference \$6.4M less Section 8025(f) (-.161), less Section 8104 Economic Assumptions (-.170).											
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
							<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
P760 Congressional Transactions <i>FY 2010 Plans:</i> Not applicable							0.000	6.069	0.000	0.000	0.000
Accomplishments/Planned Programs Subtotals							0.000	6.069	0.000	0.000	0.000
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A											
<b>D. Acquisition Strategy</b> N/A											
<b>E. Performance Metrics</b> N/A											

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY			R-1 ITEM NOMENCLATURE				PROJECT				
0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>			PE 0804767D8Z: <i>TRAINING TRANSFORMATION (T2)</i>				770: <i>U.S. Forces Korea Training and Exercise 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
770: <i>U.S. Forces Korea Training and Exercise Support</i>	0.000	0.000	10.211	0.000	10.211	10.382	10.024	7.446	4.527	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

USFK requires an updated Joint and Combined Training Environment in order to complete their transition by 2012. USFK's current federation of models, including the overarching Joint Training Transformation Initiative Korea is used only at USFK, no longer has Service or JWFC support, does not meet Coalition interoperability requirements, and cannot fully utilize the Joint Live Virtual Constructive (JLVC) Federation's capabilities. USJFCOM will initially conduct technical planning and individual simulation software development in order to complete the detailed technical planning that enables individual simulations to develop their necessary software. USJFCOM, in collaboration with USFK and appropriate Republic of Korea agencies, will then ingrate War Simulation (WARSIM) into the JLVC Training Federation in order to field a functioning JLVC federation to USFK. This new training environment will support the extensive ground order of battle required to accurately simulate operations on the Korean Peninsula. It also maximizes existing JLVC training standards and investments, and fully leverages Service training capabilities and roadmaps. This solution will provide the initial effort to link coalition training architectures into the JLVC as well. It will also promotes the Joint Training Environment vision and goals as described in the draft DoDI 1322.xx and 1322.yy and implement selected pieces of recommendations identified in the LVC report, the Flagship Study.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
USFK Training & Exercise	0.000	0.000	10.211	0.000	10.211
<ul style="list-style-type: none"> <li>• Purchase WARSIM Test Suite.</li> <li>• Complete Technical planning to include development of detailed implementation plan.</li> <li>• Determine WARSIM Data Initialization requirements.</li> <li>• Conduct WARSIM Scalability Experiment.</li> <li>• Develop network evaluation and implementation plan and timeline.</li> <li>• Initial software development for JLVC simulations.</li> </ul>					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0804767D8Z: <i>TRAINING TRANSFORMATION (T2)</i>	<b>PROJECT</b> 770: <i>U.S. Forces Korea Training and Exercise Support</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2009 Accomplishments:</i> [*** PLEASE ENTER ACCOMPLISHMENT/PLANNED PROGRAM TEXT FOR PRIOR YEAR. ***]						
<i>FY 2011 Base Plans:</i> <ul style="list-style-type: none"> <li>• Purchase WARSIM Test Suite.</li> <li>• Complete Technical planning to include development of detailed implementation plan.</li> <li>• Determine WARSIM Data Initialization requirements.</li> <li>• Conduct WARSIM Scalability Experiment.</li> <li>• Develop network evaluation and implementation plan and timeline.</li> <li>• Initial software development for JLVC simulations.</li> </ul>						
Accomplishments/Planned Programs Subtotals		0.000	0.000	10.211	0.000	10.211
		<b>FY 2009</b>	<b>FY 2010</b>			
Congressional Add: *** PLEASE ENTER CONGRESSIONAL ADD TITLE ***		0.000	0.000			
<i>FY 2009 Accomplishments:</i> [*** PLEASE ENTER CONGRESSIONAL ADD TEXT FOR PRIOR YEAR. ***]						
Congressional Adds Subtotals		0.000	0.000			
<b>C. Other Program Funding Summary (\$ in Millions)</b>						
N/A						
<b>D. Acquisition Strategy</b>						
N/A						

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b>	<b>R-1 ITEM NOMENCLATURE</b>	<b>PROJECT</b>
0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	PE 0804767D8Z: <i>TRAINING TRANSFORMATION (T2)</i>	770: <i>U.S. Forces Korea Training and Exercise Support</i>

**E. Performance Metrics**

\*\*\* PLEASE ENTER TEXT \*\*\*

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0804767D8Z: <i>TRAINING TRANSFORMATION (T2)</i>	<b>PROJECT</b> 754: <i>Immersive Simulation</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
<i>754: Immersive Simulation</i>	0.000	0.000	33.315	0.000	33.315	33.313	39.967	19.969	21.623	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

: The immersive training simulator is a small unit, infantry focused, scalable, interactive, and rapidly reconfigurable training system that will replicate elements of the visual, audio, tactile, weather (temperature and humidity), olfactory effects, and conditions of a distributed battlefield across the gamut of operations to improve higher order cognitive decision making skills. This simulator will create dynamic and realistic conditions to facilitate accomplishment of small unit dismounted individual, collective, leader training tasks and goals within a complex environment while operating in a distributed fashion. This initiative will also incorporate best of breed lessons learned across a range of military activities that include cultural and language complexities and embraces inclusion of joint capabilities (e.g. joint fires; intelligence, surveillance and reconnaissance (ISR); counter-IED; command and control, information operations; personnel recovery; individual and small unit combat identification; logistics; medical; and force protection).

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Immersive Simulation FY11 Plans <ul style="list-style-type: none"> <li>• Develop a strategic design and engineering plan to build two close combat/infantry immersive simulators.</li> <li>• Design and test an evaluation plan to ensure efficacy of the effort.</li> <li>• Develop a rapid prototyping document describing fundamentals and outlining coordination of this close combat/infantry immersive training simulator, to ensure DoD-wide awareness.</li> <li>• Develop a facility plan and acquire space for a fully enclosed training facility area that accommodates platoon/squad elements and adapts to other small units in future environments, with additional working space for control/operations functions, classroom, after action and rehearsal capacity, and storage/admin space.</li> </ul>	0.000	0.000	33.315	0.000	33.315

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0804767D8Z: <i>TRAINING TRANSFORMATION (T2)</i>	<b>PROJECT</b> 754: <i>Immersive Simulation</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul style="list-style-type: none"> <li>• Develop innovative training approaches, strategies, and methodologies for essential personnel, logistics and support structure to meet training requirements and instructions.</li> <li>• Develop a simulator capable of replicating joint capabilities, Afghanistan theater C2 architecture and data/voice links to other select simulators and facilities.</li> <li>• Achieve realistic sounds and visual cues replicating ambient noise and visual stimulus.</li> <li>• Develop an initial capability that advances two and three dimensional displays, capable of creating realistic projected virtual entities with Afghanistan cultural and language abilities; fully integrated with select role players and, realistic weapon's effects during force on force actions.</li> <li>• Develop and build an initial prototype individual tracking of trainees/role players, weapons locations and trainee head orientation. The after action report (AAR) system will use and integrate scenario development or mission rehearsal tools in order to automate data capture of significant training decision events.</li> <li>• Develop sophisticated measurement and assessment systems that records and plays back each trainee, role player, and simulated entities movements, orientation, and communications.</li> <li>• Develop an initial prototype responsive integrating scenario generation software tool, linked to Mission Essential Task List based training standards, cognitive decision requirement standards, and innovative instructional tools.</li> <li>• Develop a realistic static and reconfigurable training structure, to include multi-story structures, and an ability to support future power and infrastructure upgrades.</li> <li>• Develop an initial prototype simulator capable of creating limited environmental conditions (wind, heat &amp; cold) and designed to accept future environmental capabilities, such as humidity and rain.</li> </ul> <p><i>FY 2009 Accomplishments:</i> [*** PLEASE ENTER ACCOMPLISHMENT/PLANNED PROGRAM TEXT FOR PRIOR YEAR. ***]</p> <p><i>FY 2011 Base Plans:</i></p> <ul style="list-style-type: none"> <li>• Develop a strategic design and engineering plan to build two close combat/infantry immersive simulators.</li> </ul>					

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0804767D8Z: <i>TRAINING TRANSFORMATION (T2)</i>	<b>PROJECT</b> 754: <i>Immersive Simulation</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul style="list-style-type: none"> <li>• Design and test an evaluation plan to ensure efficacy of the effort.</li> <li>• Develop a rapid prototyping document describing fundamentals and outlining coordination of this close combat/infantry immersive training simulator, to ensure DoD-wide awareness.</li> <li>• Develop a facility plan and acquire space for a fully enclosed training facility area that accommodates platoon/squad elements and adapts to other small units in future environments, with additional working space for control/operations functions, classroom, after action and rehearsal capacity, and storage/admin space.</li> <li>• Develop innovative training approaches, strategies, and methodologies for essential personnel, logistics and support structure to meet training requirements and instructions.</li> <li>• Develop a simulator capable of replicating joint capabilities, Afghanistan theater C2 architecture and data/voice links to other select simulators and facilities.</li> <li>• Achieve realistic sounds and visual cues replicating ambient noise and visual stimulus.</li> <li>• Develop an initial capability that advances two and three dimensional displays, capable of creating realistic projected virtual entities with Afghanistan cultural and language abilities; fully integrated with select role players and, realistic weapon's effects during force on force actions.</li> <li>• Develop and build an initial prototype individual tracking of trainees/role players, weapons locations and trainee head orientation. The after action report (AAR) system will use and integrate scenario development or mission rehearsal tools in order to automate data capture of significant training decision events.</li> <li>• Develop sophisticated measurement and assessment systems that records and plays back each trainee, role player, and simulated entities movements, orientation, and communications.</li> <li>• Develop an initial prototype responsive integrating scenario generation software tool, linked to Mission Essential Task List based training standards, cognitive decision requirement standards, and innovative instructional tools.</li> <li>• Develop a realistic static and reconfigurable training structure, to include multi-story structures, and an ability to support future power and infrastructure upgrades.</li> <li>• Develop an initial prototype simulator capable of creating limited environmental conditions (wind, heat &amp; cold) and designed to accept future environmental capabilities, such as humidity and rain.</li> </ul>					

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0804767D8Z: <i>TRAINING TRANSFORMATION (T2)</i>	<b>PROJECT</b> 754: <i>Immersive Simulation</i>
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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	0.000	0.000	33.315	0.000	33.315

	FY 2009	FY 2010
Congressional Add: *** PLEASE ENTER CONGRESSIONAL ADD TITLE *** <i>FY 2009 Accomplishments:</i> [*** PLEASE ENTER CONGRESSIONAL ADD TEXT FOR PRIOR YEAR. ***]	0.000	0.000
Congressional Adds Subtotals	0.000	0.000

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

N/A

**D. Acquisition Strategy**

N/A

**E. Performance Metrics**

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0607828D8Z: <i>Joint Integration &amp; Interoperability</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	45.795	45.840	44.139	0.000	44.139	48.745	48.882	49.333	50.412	Continuing	Continuing
P818: <i>Joint Integration &amp; Interoperability</i>	45.795	45.840	44.139	0.000	44.139	48.745	48.882	49.333	50.412	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

The Unified Command Plan 2004 assigned USJFCOM with the mission as the Joint Force Integrator for interoperability and integration of future and fielded capabilities critical to Joint, Multi-National, and Interagency warfighting operations. In addition, Management Initiative Decision (MID) 912 signed by the Deputy Secretary of Defense (DEPSECDEF) 7 January 2003 expanded the USJFCOM JI&I role to increase operational through tactical level joint integration of the following capabilities: Common Operational and Tactical Pictures; Combat Identification; Situational Awareness; Adaptive Mission Planning and Rehearsal; Interoperability among Service/Agency intelligence systems; Interoperable Joint Fires, Maneuver, and Intelligence; and Integrated Joint Battle Management Command and Control. In support of these missions, the outcome of USJFCOM JI&I program is to:

- identify, assess and develop mission capable solutions for COCOM interoperability and integration capability shortfalls;
- provide Combatant Commanders with interoperable combat identification and situational awareness capabilities among United States Interagencies, and Allied and Coalition Forces in support of the Global War on Terrorism operations;
- develop joint requirements supporting specific joint missions identified in MID 912 (Joint Close Air Support, Joint Fires, etc.);
- develop joint integrated architectures that guide service capability mapping to achieve joint interoperability; and,
- establish joint data standards and cross domain solutions to facilitate future system interoperability and integration.

The Quadrennial Defense Review (QDR) and follow-on Strategic Planning Guidance emphasized the need to continue building upon the Department's capability-based planning and management initiatives. To promote this shift and better integrate joint capability development across the Department's requirements, acquisition and resource allocation processes, the Deputy Secretary of Defense (DSD) appointed the CDRUSJFCOM as the designated Command and Control (C2) Capability Portfolio Manager (CPM). The C2 CPM has appointed the USJFCOM, J8 as the Command's Joint Capability Developer (JCD), charged with responsibility for day-to-day execution of CPM roles and responsibilities. The outcome of the JCD as the working management arm of the JC2 CPM is to develop courses of action to resource, acquire, and develop C2 related Doctrine, Organization, Training, Material, Leadership, Personnel, Facilities (DOTMLPF) capabilities in conjunction and coordination with the Combatant Commanders, Services and Agencies.

The primary outputs include:

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0607828D8Z: <i>Joint Integration &amp; Interoperability</i>
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-- Coordinated, synchronized and integrated development and delivery of C2 capabilities to address Warfighting capability area gaps and shortfalls, and  
 -- Provide systems engineering and data strategy expertise and analysis (C2 Communities of Interest (COIs) and appropriate architectures) on C2 portfolio capabilities development.

**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	49.371	46.214	0.000	0.000	0.000
Current President's Budget	45.795	45.840	44.139	0.000	44.139
Total Adjustments	-3.576	-0.374	44.139	0.000	44.139
• Congressional General Reductions		0.000			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	-0.255	0.000			
• SBIR/STTR Transfer	-0.770	0.000			
• Other	-2.551	-0.374	44.139	0.000	44.139

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0607828D8Z: <i>Joint Integration &amp; Interoperability</i>				<b>PROJECT</b> P818: <i>Joint Integration &amp; Interoperability</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
P818: <i>Joint Integration &amp; Interoperability</i>	45.795	45.840	44.139	0.000	44.139	48.745	48.882	49.333	50.412	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

The Unified Command Plan 2004 assigned US Joint Forces Command (USJFCOM) with the mission as the Joint Force Integrator for interoperability and integration of future and fielded capabilities critical to Joint, Multi-National, and Interagency warfighting operations. Management Initiative Decision (MID) 912 signed by the Deputy Secretary of Defense (DEPSECDEF) 7 January 2003 expanded the USJFCOM role to pursue, within its authorities in the military needs and operations domain, integration of key joint military capabilities at operational through tactical levels. In consonance with these assigned missions, the Joint Integration and Interoperability Program (JI&I) funds USJFCOM efforts to identify critical characteristics of joint military capabilities and synchronize Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel and Facilities (DOTMLPF) capability elements into a coherent package for employment by joint commanders.

The JI&I Program provides resources for a wide spectrum of efforts to define, refine, and deploy integrated joint capabilities. JI&I-funded endeavors aim to improve US and coalition capabilities to conduct coordinated operations. Necessarily, JI&I-funded projects most frequently address Command & Control (C2) and Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) - the capstone capabilities for integrating disparate elements of military force for joint and coalition operations. The JI&I Program supports tasks and projects associated with USJFCOM's role as co-lead (with ASD Networks Integration & Interoperability) of the C2 Capability Portfolio including coordination of C2 operational architectures, strategies, and policies. Likewise, JI&I partially funds integration activities associated with the C2 Configuration Integration Board (C2CIB), a senior council co-led by USJFCOM, US Strategic Command (USSTRATCOM) and ASD(NII). The C2CIB integrates oversight of C2 Configuration Portfolio Management (CPM) and the Netcentric CPM.

With USJFCOM as executive agent, the JI&I Program delivers outcomes conforming to joint integration missions.

-- In concert with the separately funded Joint Systems Integration Command (JSIC), JI&I resources investigate joint C2/C4ISR shortfalls and ascertain characteristics of DOTMLPF remedies to meet mission requirements. The remedies are then pursued through partnerships with Component force development authorities and acquisition sponsors;

-- Consistent with USJFCOM's role as operational sponsor for joint C2, JI&I underwrites Joint Combat Capability Developer (JCCD) activities compiling operational requirements for C2/C4ISR capability development and integrated testing;

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0607828D8Z: <i>Joint Integration &amp; Interoperability</i>	<b>PROJECT</b> P818: <i>Joint Integration &amp; Interoperability</i>				
<p>-- Delivers assessment and recommendations for improvement of interoperable Combat Identification (CID) and Situational Awareness (SA) capabilities among United States forces, interagency organizations, and allied/coalition forces;</p> <p>-- Establishes joint data standards and cross domain solutions to facilitate future system interoperability and integration.</p>						
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>Command and Control (C2) Capability Portfolio Manager (CPM)</p> <p>Primary OUTCOME (objective). Continued oversight and execution of the DoD C2 Strategic Plan objectives in concert with Capability Development Increments. Incremental delivery of "born joint" capabilities will be coordinated through the CPM process, enhancing the joint war fighting capability of the combatant commanders. CPM will continue to review the effectiveness of the C2 portfolio to identify emerging capability gaps and to address those gaps through CPM processes. For example, the CPM working with this unique community assessed and delivered a number of warfighting capability enhancement recommendations across the DOTMLPF-P solution spectrum that were acted upon in the FY10-15 Program Objective Memoranda; significantly closing many long-standing joint capability gaps in the areas of: Net-Enabled Command Capability, Integrated Joint Fires, Blue Force Tracking and Combat ID, Deployable C2, and Data Link architectures to manage net-enabled weapon systems, and Joint Collaborative Information Environment.</p> <p>In accordance with QDR 2006 direction and DSD designation of CDRUSJFCOM as the Department's C2 CPM, JBMC2 was assimilated into the C2 Portfolio in FY 2007. The initial JBMC2 Joint Mission Thread - Joint Close Air Support (JCAS) was completed and brought to maturity the proposed solution products initiated through static and technical assessments. The successfully proven methodology used to assess the JCAS Mission Thread remains a useful construct for the CPM in assessing other C2 programs/systems, data strategy, architectures and their linkage from Joint Capability Area(s) to Mission Tasks to Functions, to determine which functions/systems/applications within the C2 portfolio should be continued, converged or eliminated to improve warfighter capability and interoperability.</p>		10.623	11.628	12.061	0.000	12.061

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>requirements necessary to create a Live, Virtual, Simulation (L,V,S) environment for Joint testing and training.</p> <p><i>FY 2010 Plans:</i> Continued refinement of the analytic C2 baseline, methodology and portfolio management information to better identify and analyze current and future C2 capabilities in comparison to the POM 11 baseline to inform investment and trade-off recommendations for FY12-17 POM and Program/Budget Review process; refinement of Tier II and III Joint Capability Area (JCA) attributes and metrics; C2 systems and architecture mapping; C2 policy and direction, and the DoD C2 Implementation Plan.</p> <p>Continue to participate in selected venues to assess and evaluate C2 capabilities of interest to the program. Specific Joint Mission Threads (JMTs) will be identified for investigation in Limited Operational Assessment (LOA) events that exercise the JSIIL concept in more complex demonstrations with additional sites. Coalition forces C2 requirements will be considered in FY10 for possible inclusion in JSIIL. CPM will continue to work with JMETC and the NST tool development programs to ensure joint testing requirements are identified and presented to these organizations for funding consideration. Venue and JMT selections will be done in partnership with members of the Joint C2 Network Steering Group consisting of OSD/JS, Services, COCOMS and Agencies. Fully integrated joint architecture template development will be conducted to provide testing template deliverables as guidance for joint test planning and execution. A limited proof of concept/demo for architecture templates will be conducted in FY10 for a selected JMT. The output from the (NE-UJT) working group will be formally presented to the Joint Staff for consideration as a modification to a UJT. The JFCOM M&amp;S BOD will draft an M&amp;S requirements document for review by the analysis, test and training communities. A SOA effort for data management and sharing will be initiated to support the joint test and evaluation communities. The Joint Network Steering Group will plan for an integrated test and training event to include an Operational Evaluation phase based on the established Joint Experiment, T&amp;E and ACTD (JETA) process to insert OPEVAL events into training exercises.</p>					

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>The primary outputs and efficiencies to be realized are: 1) Increased development and integration of common data formats and the modification of supporting software / architectures in order to allow Position Location Information (PLI)/Situational Awareness (SA) data to flow freely among U.S., NATO and coalition forces; 2) Increased capability and capacity for Data Dissemination through the establishment of net-centric integrated services that allows for seamless access to FFT information to prosecute operations in a bandwidth limited environment by all warfighting echelons; 3) Increased / improved Joint Air - Ground Situational Awareness sharing capacity / capability through technical solutions, Concept of Operations, Tactics, Techniques and Procedures (TTP) delivery, along with the development, integration, testing, production, and deployment of airborne FFT capabilities; 4) Improved and increased force capability for Battlefield Deconfliction / Fratricide Avoidance, by increasing interoperability of systems through FFT data exchange standardization; and 5) Increased integration and availability of FFT data between tactical and logistics support forces.</p> <p><i>FY 2009 Accomplishments:</i> The following initiatives were developed to address Friendly Force Tracking (FFT)/Combat Identification (CID) capability gaps:</p> <ul style="list-style-type: none"> <li>- SOCEUR/SOCAFRICA BFT/C2 Capability: As a result of limited data collection in their respective AORs, SOCEUR/SOCAFRICA required an ability to track SOF teams operating in austere environments. The initiative provides a 24/7 on-demand Low Probability Intercept/Low Probability of Detection/Low Probability of Exploitation global capability able to track high value assets. This two-phase project focused on developing an Iridium-based capability for testing, analysis and integration into the SOF teams.</li> <li>- Radio-based Combat ID (LITENING Pod at Bold Quest 09): Provided an air-to-ground targeting pod for fixed wing aircraft to cooperatively identify, real-time, SINCGARS equipped friendly forces (joint and coalition). RBCI SINCGARS radios were fielded and flight tested in Army helicopters. In early 2009 Lightning pod integration began for fixed wing and went to ground and flight tests in March and</li> </ul>								

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p><i>FY 2010 Plans:</i> Develop enhanced capability to share C2/SA data between U.S. and Coalition forces. In addition to sharing Position Location Information (PLI), capability will allow sharing of enemy PLI, MAYDAY, MEDEVAC, maps and overlays, and free text messaging between FBCB2 and coalition C2 systems. Effort will provide increased C2 capability at the tactical edge and reduce potential for friendly fire incidents. Develop capability to provide Friendly Force Tracking (FFT) data to U.S. and Coalition aircraft over various tactical data links (i.e. Link 14, SADL). Capability will provide the location of the nearest five friendly entities equipped with and FFT device in relation to a target/area of interest. Information will be used by operators to develop SA in making a decision to engage target. Knowing the location of friendly forces will reduce potential for fratricide.</p> <p><i>FY 2011 Base Plans:</i> Develop capability for FFT systems to operate in a low-bandwidth, austere environment. Identify and assess Low Probability of Intercept (LPI)/Low Probability of Detection (LPD) waveform options, including integration of Global Personnel Recovery System capability to support Special Operations.</p>						
Coalition Combat Identification (CCID) Advanced Concept Technology Demonstration (ACTD)/BOLD QUEST		4.000	4.000	4.000	0.000	4.000
<p>Primary OUTCOME (objective) for this effort is to inform U.S. and Allied investment in combat identification interoperability. The Coalition Combat Identification Advanced Concept Technology Demonstration (CCID ACTD) assessed the military utility of emerging combat identification technologies in a series of operational demonstrations conducted during 2003-2007. The technologies assessed provide a cooperative and non-cooperative target identification capability enabling coalition ground forces and aircrew to identify friendly, enemy and neutral ground entities. During the course of the ACTD, international participation, with the commitment of both technologies and forces, grew from an original three nation partnership to a coalition team of eleven nations investing forces and technologies in the operational demonstrations, Urgent Quest (September-October 2005) and Bold</p>						

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Quest (September 2007 and July 2008 ). Upon conclusion of these events, the Coalition Military Utility Assessment (CMUA) was produced and presented, along with system cost estimates, to U.S. Service investment decision-makers. Service authorities accepted the ACTD's conclusions and recommendations aimed at joint acquisition strategies for four of the ACTD's core technologies, the Battlefield Target Identification Device (BTID), Radio Based Combat Identification (RBCI), Synthetic Aperture Radar/Aided Target Recognition and the Laser Target Imaging Program (LTIP).</p> <p>During April 2008, the USD AT&amp;L proposed the extension of the ACTD through FY 2010 with a view toward longer term continuation of Coalition Combat Identification capability development via a recurring (18-24 month cycle) series of Bold Quest events under USFCOM operational sponsorship. The international community voiced clear consensus with this sustaining this approach in the commitment of ten nations as active participants in Bold Quest 2009. The continuation of the Bold Quest coalition partnership will also include an expanded view of the Coalition Combat ID capability to encompass not only materiel, but also procedural and training elements. The Bold Quest assessments will leverage Joint and Allied requirements, capability gap analysis and metrics as documented in the Combat Identification/Blue Force Tracking Joint Capability Document and other U.S. and Allied studies. Critical Operational Issues (COI) driving the Military Utility Assessment include (1) Functionality (2) Operational Impact (3) Suitability, and map to metrics including timeliness, accuracy, completeness, range and probability of correct ID.</p> <p>The following Technical Programs/Initiatives were assessed during Urgent Quest 05, Bold Quest 07, 08:</p> <p>--Laser Target Imaging (LTI) - LTIP provides positive, day/night, timely and reliable stationary ground target detection, cueing and pilot interpreted identification at ranges compatible with advanced weapons (JDAM, JSOW).</p>					

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>--Synthetic Aperture Radar Aided Target Recognition (SAR/ATR) - SAR/ATR provides positive, all weather, day/night, timely and reliable stationary ground target detection, cueing and aided target recognition at ranges compatible with advanced weapons (i.e., JDAM, JSOW)</p> <p>--Radio Based Combat ID/Situational Awareness (RBCI/SA) - RBCI is a software only modification to existing combat radios to provide interrogation and reply combat identification capability.</p> <p>--Battlefield Target Identification Device (BTID) providing Millimeter Wave query-response capability for ground and air shooters.</p> <p>--Reverse IFF - Reverse IFF leverages onboard IFF (Mode 5/S) transponder systems to enable aircrew to query transponders installed on ground vehicles.</p> <p>--Combat Identification Server providing aircrew and other users with the capability to query ground target areas for archived friendly position location information.</p> <p><i>FY 2009 Accomplishments:</i> As outlined in the USD AT &amp;L Memo dtd April 30, 2008, the USJFCOM has taken the lead in establishing a recurring cycle of activity that produces periodic assessments of the emerging Coalition Combat Identification capability. It is estimated that this cycle will repeat every 18-24 months, with events and products timed to inform the appropriate capability development and management processes. This approach will not be limited to the assessment of materiel solutions; rather, it will address, as necessary, the doctrinal, training and other elements of the CCID capability. Properly institutionalizing this approach on a long term basis will require synchronizing CCID capability development activities with annual budget and exercise schedules. Commencing with a Concept Development Conference 9Sep 08) and continuing through three major planning conferences a collaborative team including four Services, USSOCOM and ten nations have converged to execute the next event, Bold Quest 2009 (BQ09), at U.S. Marine Corps Installations East venues (Camp</p>					

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>as providing a testable construct for developmental and operational testing. Continue interoperability demonstrations, technical evaluations and capability warfighter utility assessments to provide supporting metrics for continued development of an agile, services-based C2 capability within the acquisition system. Early assessment of the pilot capabilities modules will be conducted to track and determine if there is a decrease in the number of interoperability fixes required to operationally employ the developed system. Establish a Net-enabled Requirements Governance Council (NRGC) and accompanying charter/terms of reference. The NRGC will provide a requirements management and decision-making forum to ensure appropriate requirements governance through the life-cycle of ongoing Joint C2 programs. The NRGC will approve schedule/content of capabilities released to support agile program execution, based upon collaboration between the JCCD and PM(s). This includes conducting semi-annual incremental build conferences with materiel developers, Joint Staff and ASD(NII). The incremental build conferences will ascertain the right integrated mix of new/enhanced capabilities based upon validated need (capabilities to adopt/adapt or new capabilities that require development) for the next planned release IAW established priorities by the JCCD and executable within programmed resources. JCCD will continue interoperability efforts to link objective C2 capability with the Distributed Common Ground Systems (DCGS), to be demonstrated in the CJCSI-sponsored exercise EMPIRE CHALLENGE. The JCCD will integrate requirements development and management for emerging adaptive planning capability so there is seamless transition to a robust, Joint solution. Develop NECC Incr I CDD Change 2 Annex to support updates in Key Performance Parameter and Key System Attributes. JCCD will commence development of Increment II Capability Development Document (CDD) or its approved nomenclature equivalent. Continue to provide JCCD perspective to DoD C2 community via JCIDS document review.</p> <p><i>FY 2011 Base Plans:</i> Continued capability production and deployment. JCCD continues development and mapping of requirements (JC2, APEX, G-TSCMIS, and MNIS) to additional CDPs, including emerging requirements and engineering changes for the GCCS FoS as capabilities transition to, and integrate with, objective joint C2 capability; continues management of the NRID. Update JCCD management</p>					

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>Integration Team and Enabling Mission Partners support for capturing gaps in JTF HQ organization/manpower/training/C2 systems which may be closed and other potential means to raise the readiness level of current and future JTF Capable HQs and improve their ability to operate with mission partners. The JTF Core Architecture, consisting of Increment 1 (JTF HQ), Increment 2 (JTF Functional Component Commands), and Increment 3 (Multinational and Interagency) architectures provide support to the JTF Command and Control Equipping process, and serve as a key aspect for many of the architectural efforts. Focuses and refines Command and Control (C2) systems, applications, and telecommunications requirements for JTF HQ to increase readiness of the JTF HQ formation. To assist Multinational Architectural Initiatives analysis is conducted and architectures are developed to better enable non-DOD partners to share information. This objective also includes reviewing JCIDS integrated architectures for J8 to ensure integration and interoperability at the operational and tactical level. This objective supports Improved, integrated, interoperable, and net-enabled joint force and Reduction in duplicative C2 systems/programs across the DoD portfolio.</p> <p>JTF HQ Command and Control Equipping Process support the QDR 2006 and the Unified Command Plan 2008 task to the CDRUSJFCOM to certify the readiness of assigned HQ Staffs designated to perform as a JTF HQ. The JTF HQ C2 Equipping Process provides a flexible and tailorable 6-step process that uses the JTF HQ C2 Baseline Templates and Architectures augmented by additional specialized architecture products and staff assistance visits for the designated JTF HQ. The JTF HQ Templates provide the JTF HQ with Joint Manning Documents (JMDs) and C2 Baseline Template and Architectures that lay out the historically required and doctrinally-based capabilities, requirements and manning, in addition to systems, applications, and network requirements, including telecommunications and VTC capabilities, for various types of JTF HQ operations. Current Templates address the range of types of military operations such as Major Combat Operations (MCO), Defense Support of Civil Authorities (DSCA), Disaster Relief and Foreign Humanitarian Assistance/Disaster Relief (FHA/DR), and Crisis Response and Limited Contingency Operations (Stability Operations), and provide a starting point for the JTF Commander's forming and planning process. USJFCOM personnel work with the</p>								

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>were developed to support the COAs. Shortfalls were identified and sourcing solutions were recommended. Commander USCENTCOM (GEN Petraeus) certified JTF-CR's readiness on 2 June 2009. The JTF HQ C2 Architectures, Analysis and Equipping Process people have also assisted geographic combatant commands in support their JTF HQ Improving the Readiness Programs. ISAF architectures that were developed during 2008 were modified to support the USJFCOM sponsored and conducted Coalition Warfare Interoperability Demonstration 2009. Additionally analysis was conducted during the Demonstration on selected systems and applications that could be used to better our information exchange with multinational partners, Support was provided to the JTF HQ Focus Area Team as part of J8's C2 Capability Portfolio Management (CPM) mission and other related efforts that included solving a readiness issue with DJC2. This solution which is currently being implemented involves dedicated JCSE personnel assigned to each of the combatant commands DJC2 sets. USJFCOM was tasked to conduct a study as part of the National Military Strategy for Cyberspace Operations and JTF HQ C2 Architectures and, Analysis developed architectures for various operational level constructs and conducted an extensive analysis of current systems and their Information Assurance gaps as part of the overall study effort. Supported the development of USSTRATCOM Commander's Estimate for CYBERCOM. Extensive architectures were developed for USJFCOM J9 Joint Integrated Persistent Surveillance Experiment. These architectures focused on Ad Hoc Dynamic Retasking of ISR assets in IRAQ for USCENTCOM and Collection Management processes, systems and organizations in USPACOM AOR. Additionally, specialized architectures were developed to support the model and simulations portion of the experiment. 67 Joint Capabilities Integration Development System (JCIDS) documents were reviewed to ensure that joint integration and interoperability were addressed in the associated programs. JTF HQ Templates were refined to reflect the changes in JTF organization and the lessons learned from working with real-world JTF HQs. Additionally, Increment II of the JTF Architecture (Functional Component Command Headquarters) and Increment III (Multinational and Interagency) aspects of a JTF HQ were updated. Submitted a 2010 Multi-National Coalition Warfare Project (CWP) nomination package that was selected, in partnership with a USJFCOM J7 project, for funding by AT&amp;L.</p>					

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>or the legitimacy of its pedigree. Data producers struggle with procedures on how to share their data with the operational consumers and on data description and tagging so that others understand it.</p> <p>USJFCOM, J87, has been designated the lead of the C2 Portfolio Data and Service Strategy. As the lead, JFCOM will work with COCOMs, Services, and Agencies (C/S/A) to achieve the primary outputs and efficiencies: making C2 data assets visible, accessible, understandable and interoperable by (1) Leading an effective C2 Portfolio Data Strategy Management Construct; (2) establishing a C2 Data Standards, C2 Data Framework and Best Practices; (3) Compiling authoritative data source (ADS) information supporting C2 and their exposure schedules provided by the data producers to inform C2 Capability recommendations; and (4) supporting key data pilots, Communities of Interest and other Data Strategy implementation activities in order to increase the Joint Warfighter's timely access to critical C2 information.</p> <p>The DoD Net-Centric Data Strategy: A DoD-wide effort to move from "privately" owned and stored data in disparate networks and within legacy systems/applications to an enterprise information environment where authorized known and authorized unanticipated users can access any information and can post their contributions for enterprise-wide access. If this initiative is not funded, the Warfighter will continue to not have visibility of available data for operational use, accessibility of the available data, and the ability to assess the data usefulness, pedigree and accuracy, how to communicate what data they need, how to share their data with others, and how to describe their data so that others may use it.</p> <p><i>FY 2009 Accomplishments:</i> Conducted quarterly meetings of the C2 Portfolio Data Strategy Steering Committee, which provides a formal process for the C2 CPM to establish C2 data sharing priorities and standards for C2 capabilities; Redesigned and documented the C2 Core (V0.5), a comprehensive C2 information exchange data standard which includes re-usable components, extension rules, naming and design rules and conformance rules in concert with the DoD Universal Core that will enable joint, multinational, and interagency data interoperability within C2 Portfolio capabilities; Enhanced the C2</p>								

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Data Needs Matrix and visualization tool which identifies Authoritative Data Source (ADS) for C2 and their relationship to C2 capabilities in support of the C2 Portfolio by adding increasing the content, mapping the data sources to JCAs and preparing the matrix for DoD consumption; Developed a C2 data standards concept of operations and established a configuration management process for C2 Core artifacts; Led C2 Data Pilot Phase 4A, an effort to expose C2 Data Assets and support the development and refinement of the underlying technologies supporting net-centric C2 capabilities; Development of a tactical edge data approach, an effort to transition tactical edge data exchange into the net-enable environment; Contributed to the development of the Net-Enabled UJT tasks and measures as a first significant step to increase the rigor of the Net-Ready KPP; Developed new questions, in coordination with NII, for inclusion into the Enhanced Information Support Plan (EISP) in order for the appropriate compliance authorities to accurately assess programs of record progress in implementation of the DoD Net-Centric Data Strategy.</p> <p><i>FY 2010 Plans:</i> Continued leadership of the C2 Portfolio Data Strategy Steering Committee; Measure and report progress of authoritative data source exposure as documented in the C2 Data Needs Matrix; Continue to enhance the C2 Data Needs Matrix visualization tool in support of the DoD ADS Registry and C2 CPM Capability recommendations; Integration of C2 Data Needs and C2 data standards information into the Joint Command and Control Architecture and Capability Assessment Enterprise (JACAE) tool; Develop POM12 recommendations for C2 Core implementation and adherence to ADS exposure schedules as necessary; Continued identification and refinement of COCOM data sharing needs and priorities; Further development and refinement of the C2 Core data standard and C2 Data Framework, to include vetting, desk top testing and piloting to achieve C2 Core V1.0 for early adopter implementation; Management of the C2 Namespace; Develop C2 Data Pilot Phase 4B; Execute the tactical edge data approach to achieve a net-enabled data exchange in the tactical environment; Increased involvement in multinational C2 data standards development processes to include participation in CWID10; Support to various C2 data initiatives to expose critical C2 data; Review ISP and requirement documents to assess implementation progress of the DoD Net-Centric</p>					

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>and Threat-type vehicles, maritime environment/small boat threats, and all aspect/extended range air-to-ground imagery with emphasis on concurrent development of Coalition releasable products. Additionally, the funding will allow development of a standardized air-to-ground, all aspect and range CVI training program for pilots, aircrew, Joint Terminal Attack Controllers (JTACS), and Unmanned Aerial Vehicle (UAV) operators. It will begin creation of a standardized maritime environment small boat threat CVI training program and begin the development of a deployable/portable CVI training capability. It also supports standardization efforts to incorporate these visual signatures into a Sensor Signatures Database Program for non-cooperative target identification.</p> <p>Primary Outputs and Efficiencies to be demonstrated:</p> <p>1) Expansion of data Collection / Range Support for additional combat vehicles and Navy littoral watercraft 2) Improved processing, integration, and design of ROC-V modules for a standardized Joint A-to-G training aid 3) Expansion of personnel capable of supporting data field collection 4) Increased collection of mid-wave (3-5 micron), long-wave (8-12 micron) and short-wave (1-2 micron) thermal images 5) Expansion of Thermal and Daylight Visible images by 85-100 tactical vehicles and littoral watercraft for the A-to-G CVI training aid to include 60, 45, 25, and 15 look-down slant angles at select ranges.</p> <p><i>FY 2009 Accomplishments:</i> Development of Air-to-Ground and Maritime ROC-V training software modules. Collected 60 tactical vehicle and 22 small boat thermal and daylight visible all aspect and multi-range images in a controlled range environment. Initiated Model &amp; Simulation development efforts to transition already collected images to 3-D models. Fielded CVI training products to the warfighter.</p> <p><i>FY 2010 Plans:</i> Continue development and maintenance of Air-to-Ground and Maritime ROC-V training software modules. Collect 20 tactical vehicle and 15-20 small boat thermal and daylight visible images per FY</p>								

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
in a controlled range environment. Continue Model & Simulation development efforts to transition already collected images to 3-D models. Continue fielding Air-to-Ground CVI training products to the warfighter.								
<p>System of Systems Engineering (SoSE)</p> <p>Primary OUTCOME (objective) of this effort is to provide System-of-Systems Engineering (SoSE) support to the Joint Command and Control (JC2) Capability Portfolio Manager (CPM) and Joint Capability Developer (JCD). Leveraging architectural products, data and data relationships residing in the Joint Command and Control Architecture and Capability Assessment Enterprise (JACAE) tool (including authoritative and traceable requirement sources, technical documentation, capability issues, previous analyses and assessments), the Capability Engineering branch provides detailed system analysis and end-to-end systems engineering rigor for C2 CPM decision-making. End-to-end system engineering includes capability mapping and integration, detailed analysis and assessment of CPM issues, executable architecture design and implementation, and modeling and simulation analysis.</p> <p>SoSE engineering for CPM is required by DEPSECDEF Capability Portfolio Management (CPM) MEMO date; 14 Sep 06; DOD 5000-series Directives and Instructions; Defense Acquisition Guidebook - Chapter 4.2.6., Joint Capability Developer Campaign Plan DRAFT v0.8 20 Nov 2007; and CPM Issue Findings and Recommendations. The CPM SoSE effort will follow the Office of the Secretary of Defense (Acquisition, Technology, &amp; Logistics) (OSD AT&amp;L) and Joint Staff core elements of SoSE as presented to Deputies Advisory Working Group (DAWG). Core elements of SoSE provide the context for the application of systems engineering to C2 CPM processes. Through data collection and mapping efforts SoSE will translate CPM System-of-Systems (SoS) capability objectives into high level requirements and provide the CPM an understanding of the components of the CPM SoS and their relationships over time. SoSE is an enabler for assessment and refinement of mission thread/capabilities enabling the CPM to make effective recommendations. SoSE documentation and analysis will be stored in JACAE and made available for DoD enterprise reuse.</p>				2.000	2.000	2.400	0.000	2.400

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p><i>FY 2009 Accomplishments:</i></p> <p>The Capability Engineering branch established the Digitally-Aided Close Air Support (DaCAS) Coordinated Implementation (CI) process through documentation and submission to the Joint Fires Support Executive Steering Committee (JFS ESC), through the Joint Staff Action Processing (JSAP) 136 staffing process, and now ready for Force Application Functional Control Board (FA FCB), Joint Capability Board (JCB), and Joint Requirements Oversight Council (JROC) approval. The modeling and simulation developed for the JCAS mission thread supported the J85-led effort to develop a JCAS Joint Capability Document (JCD) and the USAF effort to complete an Analysis of Alternatives for the Joint Effects Targeting System (JETS) program. The Capability Engineering branch provided analysis of Service program plans for DaCAS implementation in support of the JCAS C2 CPM team's POM-12 recommendations.</p> <p>The Capability Engineering branch developed a baseline Joint Personnel Recovery (JPR) mission thread as a continuation of the disconnected, intermittent, low-bandwidth (DIL) user analysis completed in FY-08. The thread and follow-on analysis provided the JPR C2 CPM team the necessary analysis to identify four POM-12 Service recommendations. The JPR architecture was used to support the Joint Personnel Recovery Agency (JPRA) Capability Based Assessment (CBA) and the Joint Capability Development Network Enabled Command and Control (NECC) analysis. The Capability Engineering branch observed Angel Thunder '09 and was instrumental to changing future Angel Thunder exercises. They will now support C2 CPM analysis beginning with the analysis of POM-12 recommendations. Other POM-12 recommendations will be analyzed in exercise Bold Quest '09.</p> <p>The Capability Engineering branch provided detailed architecture and analysis to the Command and Control Optimum Capability Mix (C2OCM) study, providing insight into the C2 system interactions across time. Applying Net-Centric Enterprise Services (NCES), and NECC overlays the branch</p>								

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul style="list-style-type: none"> <li>- Evaluated and monitored standardization and maintenance of Joint Terminal Attack Controller (JTAC) training and accreditation throughout Department of Defense and participating Coalition countries. Completed Biennial reviews</li> <li>- JCAS ESC continued to lead in consolidating U.S. input into the NATO standardization processes through engagement with the NATO Standardization Agency in the rewrite of NATO STANAGS.</li> <li>- Worked toward achieving C2 interoperability in the JCAS mission area through establishment of a JCAS digitally aided close air support (DACAS) standard to improve warfighting capability and reduce fratricide.</li> <li>- Continued to define and evaluate the simulation capabilities required for the JCAS mission area by exploiting existing systems and new technologies; identifying JCAS tasks where simulation can be used to obtain appropriate qualifications, update currency requirements, and maintain proficiency for key JCAS personnel.</li> <li>- Pursued initiatives that will more closely integrate the services' and SOCOM's JCAS training programs and exercises at the tactical level.</li> <li>- Evaluated and monitored standardization and maintenance of Forward Air Controller (Airborne) training throughout the Department of Defense; invited Coalition countries with evolving FAC(A) programs to participate in the standardization process</li> <li>- Developed JCAS Joint Capabilities Document (JCD) (Phase 1 - SEP 08).</li> <li>--- Completed Concept of Operations (CONOPS).</li> <li>--- Completed Phase 1 Capabilities Based Assessment (FAA &amp; FNA).</li> </ul>					

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>--- Coordinated KMDS staffing and adjudication. Briefed FA FCB July 2009.</p> <p>- Led Integration of US &amp; Coalition JTAC Standardization</p> <p>- Developed Allied/Coalition Joint Fires Capability through Technical Cooperation Program, Action Group 15 leadership</p> <p>- Supported Joint Urban Fires Prototype (JUFP) Experiments (J9 Project Resourced).</p> <p>- Developed IAMD ICD</p> <p>--- Completed Operational Concept.</p> <p>--- Completed Phase 1 Capabilities Based Assessment (FAA &amp; FNA)</p> <p>Chaired NATO Sub Committee 7 (Identification) in Brussels under NC3B. Chaired AdHoc Working Group/6 (Surface to Surface Identification. Served as US Head of Delegation to AdHoc Working Group/5 and Friendly Force Tracking Working Group.</p> <p>Transitioned the JCAS Executive Steering Committee to the Joint Fire Support ESC to broaden the scope of issues to be worked for the warfighter. Completed JROC in Feb 2009.</p> <p><i>FY 2010 Plans:</i> Continue Execution of CID-BFT Action Plan.</p> <p>- Lead actions to incorporate PLI (BFT) security policy in applicable documents and instructions.</p>					

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul style="list-style-type: none"> <li>- Monitor PR11/POM 12 execution for a synchronized Service acquisition and fielding of a Mode 5 IFF capability, with an IOC of 2014 and FOC of 2020.</li> <li>- Execute the CCID ACTD/Bold Quest operational demonstration and produce Coalition Military Utility Assessment to inform U.S. and Allied investment in Cooperative Target ID capability.</li> <li>- Provide an assessment of the reliability and estimated life of alternative BFT communications platforms in order to reduce BFT reliance on National Technical Means through the review and utilization of existing Service, COCOM, Joint Staff, and JROC assessments.</li> <li>- Maintain a Joint Friendly Fire Data Base of real world combat fratricide events, and conduct trend analysis.</li> <li>- Evaluate emerging and promising technologies to identify high pay-off, emerging technologies for CID-BFT/JBFSAs that have joint applicability and that are worthy of focused acceleration, including the Single Card Solution for SOCOM.</li> <li>- Develop CID-BFT Joint Capabilities Document (JCD) (Increment 2 (air domain) - Sept 09- Jan 10)</li> </ul> <p>Continue Execution of JCAS Action Plan:</p> <ul style="list-style-type: none"> <li>- Evaluate and monitor standardization and maintenance of Joint Terminal Attack Controller (JTAC) training and accreditation throughout Department of Defense and participating Coalition countries. Expand Coalition participation both in JCAS ESC and JTAC Standardization Team.</li> <li>- Finish integration of STANAG 3797.</li> </ul>					

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0607828D8Z: <i>Joint Integration &amp; Interoperability</i>	<b>PROJECT</b> P818: <i>Joint Integration &amp; Interoperability</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Completed numerous reviews of JCIDS documents (Periodic) to ensure that these developments complied with overarching architecture policy and standards, and the ability to integrate with other capabilities comments were provided as appropriate to the program owners.</p> <p>Made significant IT improvements to the enterprise operating environment. Deployed additional systems to support 4 tiered system architecture, to include a 64 bit operating environment. Implemented version upgrades in the CITRIX, WEBLOGIC and WINDOW 2008 applications as well as developing virtual instances to increase performance. Resulting in the increased functional user capacity from 25 users to 100 users per application server.</p> <p>Developed architecture products that supported the identification and definition of the systems and applications that compose the C2 CPM portfolio. The capability was completed and provided in conjunction with inputs from J82 and J83 as part of a cross division effort.</p> <p>Completed the mapping of selected key Family of Systems (to include GCCS-J) with the JCSFL to identify the functionality they provided. The project is ongoing and will eventually map the C2 CPM portfolio systems with their associated functionality.</p> <p>Worked with CENTCOM, AFRICOM, USFK, STRATCOM in developing selected specific architecture products, training personnel, data and configuration management strategy in support of critical Joint architectures.</p> <p><i>FY 2010 Plans:</i> Continue to refine and extend the architecture information sets to support C2 CPM-directed studies and analysis and guide operational assessments for the development of C2 Portfolio capability solutions.</p>					

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Provide architecture input to C2 portfolio capability planning guidance to Components for POM 2012-2016 development studies, analysis and operational assessments.</p> <p>Update of the JCSFL (V3.0) to include the Navy's CSFL V5.0 and functionality provided by TRANSCOM addressing Logistics and Transportation.</p> <p>Review emerging DoD policy addressing C2 capability and architecture and JCIDS document reviews for conformance.</p> <p>Through the Joint Architecture Integration Working Group (JAIWG) expand the federation effort to include other repositories of architecture information and related C2 CPM authoritative sources of information (ADS registry, C2-Pedia).</p> <p>Move Architecture Federation from proof of concept to an agile, usable, and scalable product that will support the goals and objectives of federation. Develop the policies and repeatable processes and solutions to allow federation to continue to expand.</p> <p>Continue to refine C2 Capability Mapping processes and procedures, and promulgate mapping and architecture standards, including subsequent versions of the Joint Common System Function List, which will be expanded to describe the functionality of systems within other Joint Capability Areas and capability portfolios, and will include web/net-centric service functional descriptions.</p> <p>Develop and baseline additional reference architectures (Irregular Warfare, MNC-I, MNF-I, Infantry BCT, JFACC) to make available for discovery and reuse by other efforts.</p> <p>Continue incorporation of and alignment of JACAE with data model and methodology standards in conjunction with OSD/NII, Service and COCOM communities.</p>					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0607828D8Z: <i>Joint Integration &amp; Interoperability</i>	<b>PROJECT</b> P818: <i>Joint Integration &amp; Interoperability</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>The Capabilities Transition Division actively trains all JFCOM directorates and commands in the Doctrine Organization, Training, Materiel Logistics, Personnel, -Facility (DOTMLP-F ) Policy principles with the goal of improving and enhancing the capability transition process for both material and non-material solutions. Additionally, transition activities are focused on the development and processing of acquisition documentation to include; Joint Capabilities Integration Development System (JCIDS) requirements, Certification and Accreditation documentation, Concept-of Operations (CONOPS) , and Test and Evaluation results. While the same path is followed in the transition of capabilities, the reality is that each capability transition presents its own unique set of challenges and requirements until complete. The transition division continues to refine this process and streamline the timeline defining success by two objectives that ensure capabilities transitioned are sustained for the WarFighter in the out-years.</p> <p>The objective for a material transition is to successfully transfer responsibility and ownership of developed and mature capabilities to formal acquisition programs.</p> <p>The objective for non-material transition is to ensure that the DOT_ LP-FP is institutionalized in a COCOM, Service or Agency and implemented across DoD.</p> <p><i>FY 2009 Accomplishments:</i> J86 provides transition support to the JCDE Directorate focused on non-materiel solutions, i.e. DOTMLPF-P Change Recommendations (DCR). J86 accomplishments includes 24 projects being reviewed and considered for JCIDS (DCR) transition and 3 projects reviewed and accepted for materiel transition. J86 assigned 9 Transition Case Officers (TCO) to be embedded with the J9 to perform transition responsibilities. Each TCO is assigned 2-3 projects. Each project is binned under the appropriate Joint Capabilities Area (JCA) and has a 1 or 2 year lifecycle. The lists of the FY09 JCDE projects with their solutions to be transitioned are noted below.</p>					

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **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
Project Name: Command and Control ISR (C2ISR) Project Term: FY08-09 Expected Project/Solution Outcome: CRADA CERDEC contracted L-3 to finalize development, and "militarize".					
Project Name: Enhanced Urban Reconnaissance Project Term: FY09-11 Expected Project/Solution Outcome: Awaiting Government Lead and being reconsidered for FY10					
Project Name: Geospatial Analysis and Planning Support (GAPS) Project Term: FY08-09 Expected Project/Solution Outcome: Materiel-Army					
Project Name: Joint Counterintelligence/HUMINT Improved Integration (JCHI2) Project Term: FY09 Expected Project/Solution Outcome: DCR - CENTCOM/DCHC Lead					
Project Name: Joint Force Commander Domain Awareness (JFC DA) Project Term: FY09-11 Expected Project/Solution Outcome: DCR					
Project Name: Joint Integrated Persistent Surveillance (JIPS) Project Term: FY09-10 Expected Project/Solution Outcome: DCR for change in definitions (Doctrine focus)					
Project Name: Assured Air Access Project Term: FY09-11					

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **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>Expected Project/Solution Outcome: GVT Lead assigned project ramping up</p> <p>Project Name: CWMD Radiological and Nuclear (RN) Detection and Disablement Project Term: FY09-11 Expected Project/Solution Outcome: DCR and Materiel Solutions</p> <p>Project Name: Joint Distributed Operations (JDO) Project Term: FY09-11 Expected Project/Solution Outcome: CONOPS</p> <p>Project Name: Cross Domain Collaborative Information Exchange Project Term: FY08-09 Expected Project/Solution Outcome: Materiel to DISA</p> <p>Project Name: Cyberspace Operations Project Term: FY09-11 Expected Project/Solution Outcome: DCR (Cyberspace Operations (CO) Authorities - SCI project)</p> <p>Project Name: Joint Force Commander Command and Control (JFC C2) Project Term: FY09-11 Expected Project/Solution Outcome: DCR-(Doctrine Org, Training focus, possibly Psnl, and Leadership)</p> <p>Project Name: Planning, Assessment and Decision Support System (PADSS) Project Term: FY08-09 Expected Project/Solution Outcome: DCR (DISA IMT to takeover June 09)</p>					

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0607828D8Z: <i>Joint Integration &amp; Interoperability</i>	<b>PROJECT</b> P818: <i>Joint Integration &amp; Interoperability</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Project Name: Deployable Security Sector Reform (DSSR) Project Term: FY09 Expected Project/Solution Outcome: DCR ( Organization Prototype)</p> <p>Project Name: Interagency Shared Situational Awareness (IASSA) Project Term: FY09 Expected Project/Solution Outcome: White Paper for NORTHCOM and DHS</p> <p>Project Name: Joint Logistics DCR (JxDS) Project Term: FY08-09 Expected Project/Solution Outcome: DCR (Logistics Ops)</p> <p>Provided Subject Matter Expert (SME) on the JFCOM Multinational Force-Iraq (MNF-I) and CDR USFORCES Afghanistan Rear Support Element (RSE). Collected, reviewed, and consolidated requirements from the deployed force and the JFCOM Forward Support Element (FSE), coordinated and submitted these requirements to the JFCOM Joint Planning Group (JPG) for review, approval, and assignment to the appropriate directorate. Provided transition expertise to institutionalize enduring capabilities resulting from JCOA studies and JFCOM Directorate proposed solutions.</p> <p><i>FY 2010 Plans:</i> Expand integration and transition support to the Command Directorates, Commands, and Activities to include: J3/4, J5, J7, J9, JCOA, JECC, and JIWC. Assign Transition Case Officers (TCO) as required to become familiar with project capabilities being developed (materiel and non-materiel) and the associated transition requirements.</p> <p>Continue to provide assistance to help develop and implement the FY 10-11 JCDE Campaign Plan (CP). A total of 113 Warfighting Challenges (WFC) were submitted. In FY10 there are 66 WFCs being addressed. J86 will provide TCOs' for 27 JCDE project teams. Develop transition plans IAW</p>					

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul style="list-style-type: none"> <li>- abilities that enhance coalition logistics planning and nation</li> <li>- capabilities that enhance coalition, military, government agency, international organization and non-governmental organization partnership</li> <li>- building capabilities;</li> <li>- capabilities that improve secure information sharing between disparate security domains and communities of interest in an operational environment;</li> <li>- capacities that improve centralized command, decentralized control for irregular / hybrid warfare units</li> </ul> <p><i>FY 2009 Accomplishments:</i> Managed year-long planning effort executed CWID 09 in June 2009 consisting of 41 Trials, at five linked sites with US and Coalition forces participating. This year's demonstration saw improved support to the DOD acquisition community through the use of sponsor provided key performance parameters and key system attributes in technical and Information Assurance assessments. Subjective assessments of commercial capabilities were eliminated from the 2009 CWID demonstration. Initial planning and work breakdown structure for a CWID system integration laboratory (CWID SIL) which will provide a persistent capability to capture and store assessment, test and certification data for US and Coalition C2ISR systems for the DOD and Coalition defense communities at large.</p> <p><i>FY 2010 Plans:</i> Serve as the JFCOM lead for CWID responsible for the overall success of the annual demonstration event. Activities in FY10 include; Issue CWID 2009 final report and select the Top Performing Technologies for continued evaluation ( 1st QTR FY10) Direct and conduct five major planning conferences that select the trials to be presented in CWID 2010. The CWID 2010 level of effort and participation is forecast to be similar to CWID 2009 with</p>					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense				<b>DATE:</b> February 2010				
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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>approximately 40 Trials assessed and over 400 participants conducting evaluations on a linked secure network. USJFCOM coordinates with USEUCOM, and USCENTCOM, for the 2010 CWID effort; Oversight and management of the CWID program governed by the CJCSI 6260.01 series. While still under review, USJFCOM is anticipating assumption of additional CWID responsibilities that have been traditionally performed by the Joint Staff to include; COCOM and Coalition Partner on information sharing agreements, lead for coordination of Service program offices for risk reduction efforts in CWID and programmatic related to funding CWID.</p> <p><i>FY 2011 Base Plans:</i> Continue oversight and management of the CWID program governed by the CJCSI 6260.01 series instruction and the CWID 2011 approved program objectives; CWID 2010 final report; planning and execution of 5 major conferences; network, security and execution of CWID 2011 in coordination with USEUCOM, and USCENTCOM. Beginning with CWID 11 the expansion of the CWID assessment process will be implemented to include; evaluation of national security information assurance requirements, warfighter utility assessments that are tied to metric parameters, measures of effectiveness and measures of performance as defined in approved JCIDS documents.</p>								
Accomplishments/Planned Programs Subtotals				45.795	45.840	44.139	0.000	44.139
<b>C. Other Program Funding Summary (\$ in Millions)</b>								
N/A								
<b>D. Acquisition Strategy</b>								
Not applicable for this item.								
<b>E. Performance Metrics</b>								
FY09								

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense		<b>DATE:</b> February 2010
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<p>Performance of Joint Integration and Interoperable systems is measured by successful delivery of systems solutions to Combatant Commands by required delivery dates. Six initiatives were developed to address Friendly Force Tracking and Combat Identification capability gaps. Two new Recognition of Combat Vehicles (ROC-V) training software modules (Air-to-Ground and Maritime) were developed. Two designated JTF Headquarters (JTF-South and JTF-E, 20th Support Command) readiness as a JTF Capable Headquarters was improved.</p> <p>Performance of the C2 Portfolio Manager is measured by the delivery of warfighting capability enhancement recommendations. C2 CPM POM recommendations favorably influenced material and non-material decisions related to: Combat ID and Blue Force Tracking, Adaptive Planning, Deployable C2, Data Strategy and JTF manning and equipping. Capability Definition Packages (CDPs) 1 thru 6 were completed and forwarded to material developers in support of objective C2 requirements for use in the development of Joint net-enabled and agile C2 capabilities. Bold Quest 09 will serve as the primary forum for demonstration and assessment of the Joint Aerial Layer Network and evaluation of Personnel Recovery C2 systems and techniques.</p>		

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**Exhibit R-4, RDT&E Schedule Profile: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0607828D8Z: <i>Joint Integration &amp; Interoperability</i>	<b>PROJECT</b> P818: <i>Joint Integration &amp; Interoperability</i>
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Event Name	FY 09				FY 10				FY 11				FY 12				FY 13				FY 14				FY 15			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
<b>FY 2010 JI&amp;I Profile</b>	FY 2010 Project Assessments				FY 2010 JI&I Profile																							
(1) FY 2010 Project Selections					FY 2010 Selections																							
FY 2010 Assessments					FY 2010 Assessments																							
Project Funding					Funding																							
Project Development					FY 2010 Development																							

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**Exhibit R-4A, RDT&E Schedule Details:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0607828D8Z: <i>Joint Integration &amp; Interoperability</i>	<b>PROJECT</b> P818: <i>Joint Integration &amp; Interoperability</i>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
FY 2010 JI&I Profile	2	2010	4	2012
FY 2010 Project Selections	4	2010	4	2010
FY 2010 Assessments	2	2010	4	2010
Project Funding	1	2011	1	2013
Project Development	1	2011	4	2013

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b>			<b>R-1 ITEM NOMENCLATURE</b>								
0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i>			PE 0303140D8Z: <i>Information Systems Security Program</i>								
BA 7: <i>Operational Systems Development</i>											
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	13.041	14.955	14.077	0.000	14.077	14.360	14.736	15.104	15.405	Continuing	Continuing
140: <i>Information Systems Security Program</i>	13.041	14.955	14.077	0.000	14.077	14.360	14.736	15.104	15.405	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

The NII Information Systems Security Program (ISSP) provides focused research, development, testing and integration of technology and technical solutions critical to the Defense Information Assurance Program (10 USC 2224) through pilot programs and technology demonstration; investment in high leverage, near-term programs that offer immediate Information Assurance (IA) benefit; federal and multi-national initiatives; and short-term studies and research critical to protecting and defending information systems by ensuring their availability, integrity, authentication, confidentiality, and non-repudiation. These efforts focus on Computer Network Defense (CND) and the restoration of information systems by incorporating protection, detection, analysis and reaction and response capabilities; emerging cryptographic technologies; technology transition and IA research capabilities. This program is designed to meet the requirements of 10 USC 2224 (Defense Information Assurance Program), 44 USC 3544, (Federal Information Security Management Act of 2002), OMB Circular A-130, and DoD Directives 8500.1, and 0-8530.1. This program is funded under Budget activity 7, Operational System Development because it integrates technology and technical solutions to the Defense Information Assurance Program.

**B. Program Change Summary (\$ in Millions)**

	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Previous President's Budget	13.386	13.477	0.000	0.000	0.000
Current President's Budget	13.041	14.955	14.077	0.000	14.077
Total Adjustments	-0.345	1.478	14.077	0.000	14.077
• Congressional General Reductions		0.000			
• 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	0.000	0.000			
• Other	-0.345	-0.122	14.077	0.000	14.077

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**Congressional Add Details (\$ in Millions, and Includes General Reductions)**

**Project:** 140: *Information Systems Security Program*

Congressional Add: *IASTAR Federal Information Security Management Act Compliance*

Congressional Add Subtotals for Project: 140

Congressional Add Totals for all Projects

	FY 2009	FY 2010
	0.000	1.600
Congressional Add Subtotals for Project: 140	0.000	1.600
Congressional Add Totals for all Projects	0.000	1.600

**Change Summary Explanation**

FY 2009: Program adjustment -1.164 million.

FY 2010: Congressional Add 1.600 million, FFRDC reduction -0.059 million, Economic Assumptions -0.063 million.

FY 2011: Program Adjustment 14.077 million.

**C. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Information Systems Security Program Plans and Accomplishments	13.041	13.355	14.077	0.000	14.077
<p><i>FY 2009 Accomplishments:</i></p> <ul style="list-style-type: none"> <li>• Continued oversight and integration of Tier 1 and Tier 2 Security Information Manager (SIM) capability that consolidates sensor data information from the Military Services and provided a unified intrusion detection picture to the Joint Task Force-Global Network Operations (JTF-GNO), and coordinate the standard data strategy necessary to provide data sharing between the Tiers;</li> <li>• Developed Network Analysis and Design and Information Assurance Engineering to enhance the security posture of the DISN and any associated networks, the underlying infrastructure, and operations centers.</li> <li>• Continued refinement of IA architecture, policy and IA capabilities necessary to support “end-to-end” IA capability for the GIG-including enterprise services such as discovery, collaboration, messaging,</li> </ul>					

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2011 Office of Secretary Of Defense	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0303140D8Z: <i>Information Systems Security Program</i>
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**C. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>mediation, data tagging, etc. Support technology demonstration, development and pilots focusing functions required in mid-term (2009-2012) increment of the IA Component of the GIG Architecture.</p> <ul style="list-style-type: none"> <li>• Further developed and refined engineering in-depth and vulnerability detection to support the DoD Software Assurance Strategy.</li> <li>• Continued refinement of SAST to provide more robust and realistic T&amp;E, training and exercise environment. Improvements include creation of a virtual or “fake” internet, instrumentation to support CEMAT collection capabilities, DoD CAC Engine and new traffic protocols in support of IA joint exercises and the Department’s international exercise program.</li> <li>• Continued refinement of CEMAT for automated test/exercise data collection, reduction and analysis</li> <li>• Piloted an IA/CND exercise and training workshop among multiple nations, of various technical skill and capability levels and perform a technology demonstration of SAST and proof-of-concept of distributed CND exercise and training focusing on “train-as-you-fight” techniques and advance partner nation collaboration.</li> <li>• Developed national supply chain risk management plan to mitigate threats to software/hardware to USG information communications and technology infrastructure.</li> <li>• Developed a pilot plan for authority based access control (ABAC).</li> <li>• Finalized NATO and European agreements to expand bilateral sharing agreements fro incident and threat information sharing.</li> <li>• Continued CND improvements for the Integration and Certification of CND Pilot to support interoperability and operational initiatives including additional data feeds, small agency asset SCAP</li> </ul>					

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2011 Office of Secretary Of Defense	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0303140D8Z: <i>Information Systems Security Program</i>
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**C. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>data collection, authentication and authorization, SCAP remediation standards and continued development/validation of CND data-standards.</p> <p><i>FY 2010 Plans:</i></p> <ul style="list-style-type: none"> <li>• Continue refinement of IA architecture, policy and IA capabilities necessary to support “end-to-end” IA capability for the GIG-including enterprise services such as discovery, collaboration, messaging, mediation, data tagging, etc. Support technology demonstration, development and pilots focusing functions required in mid-term (2009-2012) increment of the IA Component of the GIG Architecture.</li>   <li>• Further develop and refine engineering in-depth and vulnerability detection to support the DoD Software Assurance Strategy.</li>   <li>• Continue refinement of SAST to provide more robust and realistic T&amp;E, training and exercise environment. Improvements include creation of a virtual or “fake” internet, instrumentation to support CEMAT collection capabilities, DoD CAC Engine and new traffic protocols in support of IA joint exercises and the Department’s international exercise program.</li>   <li>• Continue refinement of CND improvements for integration and certification to support interoperability and operational initiatives including additional data feeds, small agency SCAP data collections, authentication and authorization, SCAP remediation standards and continued development/validation of CND data-standards.</li> </ul> <p><i>FY 2011 Base Plans:</i></p> <ul style="list-style-type: none"> <li>• Continue refinement of IA architecture, policy and IA capabilities necessary to support “end-to-end” IA capability for the GIG-including enterprise services such as discovery, collaboration, messaging, mediation, data tagging, etc. Support technology demonstration, development and pilots focusing functions required in mid-term (2009-2012) increment of the IA Component of the GIG Architecture.</li> </ul>					

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0303140D8Z: <i>Information Systems Security Program</i>
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**C. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul style="list-style-type: none"> <li>• Further develop and refine engineering in-depth and vulnerability detection to support the DoD Software Assurance Strategy.</li> <li>• Continue refinement of SAST to provide more robust and realistic T&amp;E, training and exercise environment. Improvements include creation of a virtual or “fake” internet, instrumentation to support CEMAT collection capabilities, DoD CAC Engine and new traffic protocols in support of IA joint exercises and the Department’s international exercise program.</li> <li>• Continue refinement of CND improvements for integration and certification to support interoperability and operational initiatives including additional data feeds, small agency SCAP data collections, authentication and authorization, SCAP remediation standards and continued development/validation of CND data-standards.</li> </ul> <p><i>FY 2011 OCO Plans:</i> N/A</p>					
<b>Accomplishments/Planned Programs Subtotals</b>	13.041	13.355	14.077	0.000	14.077

	FY 2009	FY 2010
Congressional Add: IASTAR Federal Information Security Management Act Compliance  <i>FY 2009 Accomplishments:</i> N/A  <i>FY 2010 Plans:</i> Program and Planning Support	0.000	1.600
<b>Congressional Adds Subtotals</b>	0.000	1.600

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0303140D8Z: <i>Information Systems Security Program</i>
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**D. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u> <u>Base</u>	<u>FY 2011</u> <u>OCO</u>	<u>FY 2011</u> <u>Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 0303140D8Z: <i>Information System Security Program</i>	17.443	16.093	15.026		15.026	15.244	15.845	16.103	16.382	Continuing	Continuing

**E. Acquisition Strategy**

N/A

**F. Performance Metrics**

- SAST supports CEMAT capability
- SAST available as a core enterprise IA/CND simulation tool
- CEMAT effectively supports T&E community data collection, reduction, analysis and reporting

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b>			<b>R-1 ITEM NOMENCLATURE</b>								
0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i>			PE 0303260D8Z: <i>Joint Military Deception Initiative</i>								
BA 7: <i>Operational Systems Development</i>											
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	0.000	0.934	1.161	0.000	1.161	1.243	1.292	1.252	1.084	Continuing	Continuing
891: <i>Joint Military Deception Initiative</i>	0.000	0.934	1.161	0.000	1.161	1.243	1.292	1.252	1.084	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

Joint Military Deception Initiative (JMDI) is an initiative to revitalize DoD military deception planning and execution capability in the combatant commands. RDT&E funds will support development of next generation devices and capabilities. Program details are classified.

**B. Program Change Summary (\$ in Millions)**

	<b><u>FY 2009</u></b>	<b><u>FY 2010</u></b>	<b><u>FY 2011 Base</u></b>	<b><u>FY 2011 OCO</u></b>	<b><u>FY 2011 Total</u></b>
Previous President's Budget	0.000	0.942	0.000	0.000	0.000
Current President's Budget	0.000	0.934	1.161	0.000	1.161
Total Adjustments	0.000	-0.008	1.161	0.000	1.161
• Congressional General Reductions		-0.008			
• 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			
• Other	0.000	0.000	1.161	0.000	1.161

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0303260D8Z: <i>Joint Military Deception Initiative</i>	<b>PROJECT</b> 891: <i>Joint Military Deception Initiative</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
891: <i>Joint Military Deception Initiative</i>	0.000	0.934	1.161	0.000	1.161	1.243	1.292	1.252	1.084	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

Joint Military Deception Initiative (JMDI) is an initiative to revitalize DoD military deception planning and execution capability in the combatant commands. RDT&E funds will support development of next generation devices and capabilities. Program details are classified.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Joint Military Deception Initiative (JMDI)	0.000	0.934	1.161	0.000	1.161
<i>FY 2010 Plans:</i> Mission Support (Classified details provided in Defense-Wide (classified) Volume 7 book)					
<i>FY 2011 Base Plans:</i> Mission Support (Classified details provided in Defense-Wide (classified) Volume 7 book)					
Accomplishments/Planned Programs Subtotals	0.000	0.934	1.161	0.000	1.161

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0303260D8Z: <i>Joint Military Deception Initiative</i>	<b>PROJECT</b> 891: <i>Joint Military Deception Initiative</i>
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**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u> <u>Base</u>	<u>FY 2011</u> <u>OCO</u>	<u>FY 2011</u> <u>Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 0303260D8Z O&M DW: <i>Joint Military Deception Initiative</i>		2.850	3.064		3.064	4.462	5.720	6.637	7.392	Continuing	Continuing

**D. Acquisition Strategy**

N/A

**E. Performance Metrics**

Performance metrics are measured through revitalization of military capabilities for combatant commands.

- Time - Enables combatant command to field new capabilities
- Money - Reduces duplication of effort
- Realism - Allows exploration of new environments and capabilities
- Fidelity - Designed to achieve unity of effort throughout IO community

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0305103D8Z: <i>Cyber Security Initiative</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	0.992	0.985	0.501	0.000	0.501	0.502	0.508	0.520	0.531	Continuing	Continuing
371: <i>Cyber Security Initiative</i>	0.992	0.985	0.501	0.000	0.501	0.502	0.508	0.520	0.531	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

This initiative supports a family of Program Elements within this Program Element number that will properly align DoD-wide activities associated with Cyber Security. Activities include development/implementation of Cyber Security plans, assessments and strategies and procurement of associated hardware/software technologies. This program is funded under Budget Activity 7, Operational System Development.

**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	0.994	0.993	0.000	0.000	0.000
Current President's Budget	0.992	0.985	0.501	0.000	0.501
Total Adjustments	-0.002	-0.008	0.501	0.000	0.501
• Congressional General Reductions		0.000			
• 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			
• Program Adjustments	-0.002	-0.008	0.501	0.000	0.501

**Change Summary Explanation**

FY 2009: Program adjustment -0.002 million.  
 FY 2010: FFRDC reduction -0.004 million, Economic Assumptions -0.004 million..  
 FY 2011: Program adjustment 0.501 million.

**C. Accomplishments/Planned Program (\$ in Millions)**

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0305103D8Z: <i>Cyber Security Initiative</i>
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**C. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Cyber Security Initiative	0.992	0.985	0.501	0.000	0.501
<i>FY 2009 Accomplishments:</i> •Details provided at higher classification under separate cover.					
<i>FY 2010 Plans:</i> •Details provided at higher classification under separate cover.					
<i>FY 2011 Base Plans:</i> •Details provided at higher classification under separate cover.					
<b>Accomplishments/Planned Programs Subtotals</b>	0.992	0.985	0.501	0.000	0.501

**D. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• 0305103D8Z: <i>Cyber Security Initiative</i>	13.402	17.429	3.659		3.659	3.871	4.086	4.352	4.636	Continuing	Continuing

**E. Acquisition Strategy**

•Details provided at higher classification under separate cover.

**F. Performance Metrics**

•Details provided at higher classification under separate cover.

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0305125D8Z: <i>CRITICAL INFRASTRUCTURE PROTECTION (CIP)</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	15.594	16.590	10.486	0.000	10.486	14.608	14.433	13.826	14.099	Continuing	Continuing
125: <i>CRITICAL INFRASTRUCTURE PROTECTION (CIP)</i>	15.594	16.590	10.486	0.000	10.486	14.608	14.433	13.826	14.099	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

The Defense Critical Infrastructure Program (DCIP) is a Department of Defense (DOD) risk management program that seeks to ensure the availability of networked assets critical to DOD missions, to include DOD and non-DOD, domestic and foreign infrastructures essential to planning, mobilizing, deploying, executing, and sustaining United States military operations on a global basis. Through identifying Defense Critical Assets, assessing them to determine vulnerabilities, incorporating specific threat and hazard information and analysis, and visually displaying relevant infrastructure data and analysis, DOD will be positioned to make risk management decisions to ensure the appropriate infrastructure is available, when needed, to support DOD missions.

Specifically, Combatant Commands (COCOMs) are responsible for identifying the mission capability requirements and coordinating with the Military Departments, Defense Agencies, DOD Field Activities, and Defense Sector Lead Agents to identify and assess Defense Critical Assets. As asset owners and capability providers, the Secretaries of the Military Departments and the Directors of Defense Agencies and DOD Field Activities, coordinate with the COCOMs to identify and prioritize the assets required to support mission-essential functions. Asset owners will also assess identified Defense Critical Assets to identify vulnerabilities and apply appropriate remediation and mitigation measures. The Defense Sector Lead Agents are responsible for identifying the specific functions, systems, assets (DOD and non-DOD owned), and interdependencies within the Defense Sector infrastructure networks supporting the identified critical missions.

Each Defense Sector Lead Agent, as identified in DODD3020.40, represents one of ten (10) functional areas that provide support to the Combatant Commanders and asset owners. These functional areas are as follows: defense industrial base (DIB); financial services; global information grid (GIG); health affairs; intelligence, surveillance, and reconnaissance (ISR); logistics; personnel; public works; space; and transportation.

In addition, DCIP manages specific analytic efforts in the identification and maintenance of specific inter- and intra-dependencies DOD has on the foundational commercial infrastructure networks supporting the identified critical missions. Specific analytic efforts are focused within six (6) commercial infrastructure areas: energy (electric power, natural gas); chemicals; transportation; telecommunications; water; and petroleum, oil, lubricants (POL).

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0305125D8Z: <i>CRITICAL INFRASTRUCTURE PROTECTION (CIP)</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	15.594	12.725	0.000	0.000	0.000
Current President's Budget	15.594	16.590	10.486	0.000	10.486
Total Adjustments	0.000	3.865	10.486	0.000	10.486
• Congressional General Reductions		0.000			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		4.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• other	0.000	-0.135	10.486	0.000	10.486

**Congressional Add Details (\$ in Millions, and Includes General Reductions)**

**Project: 125: CRITICAL INFRASTRUCTURE PROTECTION (CIP)**

Congressional Add: *Electrical Grid Reliability*

Congressional Add: *Disaster Response*

	<u>FY 2009</u>	<u>FY 2010</u>
	4.000	0.000
	1.200	4.000
Congressional Add Subtotals for Project: 125	5.200	4.000
Congressional Add Totals for all Projects	5.200	4.000

**Change Summary Explanation**

Note: FY09 total includes \$5.2M in Congressional Adds

Note: FY10 total includes \$4M in Congressional Adds

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0305125D8Z: <i>CRITICAL</i> <i>INFRASTRUCTURE PROTECTION (CIP)</i>				<b>PROJECT</b> 125: <i>CRITICAL INFRASTRUCTURE</i> <i>PROTECTION (CIP)</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
125: <i>CRITICAL INFRASTRUCTURE PROTECTION (CIP)</i>	15.594	16.590	10.486	0.000	10.486	14.608	14.433	13.826	14.099	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

The Defense Critical Infrastructure Program (DCIP) is a Department of Defense (DOD) risk management program that seeks to ensure the availability of networked assets critical to DOD missions, to include DOD and non-DOD, domestic and foreign infrastructures essential to planning, mobilizing, deploying, executing, and sustaining United States military operations on a global basis. Through identifying Defense Critical Assets, assessing them to determine vulnerabilities, incorporating specific threat and hazard information and analysis, and visually displaying relevant infrastructure data and analysis, DOD will be positioned to make risk management decisions to ensure the appropriate infrastructure is available, when needed, to support DOD missions.

Specifically, Combatant Commands (COCOMs) are responsible for identifying the mission capability requirements and coordinating with the Military Departments, Defense Agencies, DOD Field Activities, and Defense Sector Lead Agents to identify and assess Defense Critical Assets. As asset owners and capability providers, the Secretaries of the Military Departments and the Directors of Defense Agencies and DOD Field Activities, coordinate with the COCOMs to identify and prioritize the assets required to support mission-essential functions. Asset owners will also assess identified Defense Critical Assets to identify vulnerabilities and apply appropriate remediation and mitigation measures. The Defense Sector Lead Agents are responsible for identifying the specific functions, systems, assets (DOD and non-DOD owned), and interdependencies within the Defense Sector infrastructure networks supporting the identified critical missions.

Each Defense Sector Lead Agent, as identified in DODD3020.40, represents one of ten (10) functional areas that provide support to the Combatant Commanders and asset owners. These functional areas are as follows: defense industrial base (DIB); financial services; global information grid (GIG); health affairs; intelligence, surveillance, and reconnaissance (ISR); logistics; personnel; public works; space; and transportation.

In addition, DCIP manages specific analytic efforts in the identification and maintenance of specific inter- and intra-dependencies DOD has on the foundational commercial infrastructure networks supporting the identified critical missions. Specific analytic efforts are focused within six (6) commercial infrastructure areas: energy (electric power, natural gas); chemicals; transportation; telecommunications; water; and petroleum, oil, lubricants (POL).

**B. Accomplishments/Planned Program (\$ in Millions, Articles in Whole Units)**

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0305125D8Z: <i>CRITICAL INFRASTRUCTURE PROTECTION (CIP)</i>		<b>PROJECT</b> 125: <i>CRITICAL INFRASTRUCTURE PROTECTION (CIP)</i>		
<b>B. Accomplishments/Planned Program (\$ in Millions, Articles in Whole Units)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
DCIP Strategic Partnerships and Enabling Technologies  <i>FY 2009 Accomplishments:</i> -- Develop, leverage, maintain, and enhance tools and data sets based on requirements derived from the DCIP community and the output of assessments performed on Critical Assets. -- Deploy the Knowledge Display and Aggregation System (KDAS) on the SIPR-net.  <i>FY 2010 Plans:</i> - Develop, leverage, maintain, and enhance tools and data sets based on requirements derived from the DCIP community and the output of assessments performed on Critical Assets. - Continue to maintain and enhance KDAS capability.  <i>FY 2011 Base Plans:</i> - Develop, leverage, maintain, and enhance tools and data sets based on requirements derived from the DCIP community and the output of assessments performed on Critical Assets. - Continue to maintain and enhance KDAS capability.		1.500	1.550	1.600	0.000	1.600
DCIP Plans, Programs, and Capabilities Integrated and Implemented at All Levels  <i>FY 2009 Accomplishments:</i> -- Incorporate DOD DCIP assessment training curriculum into established DOD education and training programs -- Provide technical analysis and recommendations on infrastructure networks, points of service, interdependencies, and priority restoration for pre-event and post-event analysis for manmade or natural disaster incidents, and intelligence relating to possible terrorist threats. -- Apply risk management methodology to all identified Defense Critical Assets. -- Perform trend analysis and develop remediation and mitigation options for addressing risks identified as part of the assessment process.		8.894	11.040	8.886	0.000	8.886

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0305125D8Z: <i>CRITICAL INFRASTRUCTURE PROTECTION (CIP)</i>	<b>PROJECT</b> 125: <i>CRITICAL INFRASTRUCTURE PROTECTION (CIP)</i>
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**B. Accomplishments/Planned Program (\$ in Millions, Articles in Whole Units)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p><i>FY 2010 Plans:</i></p> <ul style="list-style-type: none"> <li>-- Provide technical analysis and recommendations on infrastructure networks, points of service, interdependencies, and priority restoration for pre-event and post-event analysis for manmade or natural disaster incidents, and intelligence relating to possible terrorist threats.</li> <li>-- Apply risk management methodology to all identified Defense Critical Assets.</li> <li>- Perform trend analysis and develop remediation and mitigation options for addressing risks identified as part of the assessment process</li> <li>- Incorporate DOD DCIP assessment training</li> </ul> <p><i>FY 2011 Base Plans:</i></p> <ul style="list-style-type: none"> <li>-- Provide technical analysis and recommendations on infrastructure networks, points of service, interdependencies, and priority restoration for pre-event and post-event analysis for manmade or natural disaster incidents, and intelligence relating to possible terrorist threats.</li> <li>-- Apply risk management methodology to all identified Defense Critical Assets.</li> <li>- Perform trend analysis and develop remediation and mitigation options for addressing risks identified as part of the assessment process</li> <li>- Incorporate DOD DCIP assessment training</li> </ul>					
<b>Accomplishments/Planned Programs Subtotals</b>	10.394	12.590	10.486	0.000	10.486

	FY 2009	FY 2010
<p>Congressional Add: Electrical Grid Reliability</p> <p><i>FY 2009 Accomplishments:</i> This project will enhance electrical power grid modeling capabilities used for analysis of Defense Critical Infrastructure interdependencies with commercial electrical power. It will investigate other power grid models and their utility within CIPRSim and it will integrate those modes with the Real Time</p>	4.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0305125D8Z: <i>CRITICAL INFRASTRUCTURE PROTECTION (CIP)</i>	<b>PROJECT</b> 125: <i>CRITICAL INFRASTRUCTURE PROTECTION (CIP)</i>
<b>B. Accomplishments/Planned Program (\$ in Millions, Articles in Whole Units)</b>		
	<b>FY 2009</b>	<b>FY 2010</b>
Digital Simulator (RTDS©) system such that larger geographic areas can be efficiently modeled. The CIPRSim is a tool for running predictive analysis of the future of the power grid and other infrastructure components, but it does not currently tie to real power data. In addition, a current limitation of the CIPRSim is an inability to receive and display current power grid data. For effective disaster management, the analyst must be able to determine the current state of the power grid and run predictive analysis based upon the real and current state.		
Congressional Add: Disaster Response  <i>FY 2009 Accomplishments:</i> The Idaho National Lab (INL) will build upon the Critical Infrastructure Protection and Resilience Simulator (CIPRsim), developed in FY08, to create a high fidelity simulation environment for risk assessments of Defense and Task Critical Assets (DCAs and TCAs). Because electrical power and communications networks are supporting foundational infrastructure to TCAs and DCAs, the focus of this effort will be to develop a high fidelity, dynamic, agent based, simulation that links electrical power, communications networks, and their control systems for specific selected assets that will afford an opportunity to apply this capability in analyzing Defense and Task Critical Assets. The final product will be suitable for use as a risk management and decision making tool, for evaluating risk mitigation and remediation options, and for wargaming scenarios involving the loss or disruption of critical systems and assets.  <i>FY 2010 Plans:</i> The Idaho National Lab (INL) will build upon the Critical Infrastructure Protection and Resilience Simulator (CIPRsim), developed in FY08, to create a high fidelity simulation environment for risk assessments of Defense and Task Critical Assets (DCAs and TCAs). Because electrical power and communications networks are supporting foundational infrastructure to TCAs and DCAs, the focus of this effort will be to develop a high fidelity, dynamic, agent based, simulation that links electrical power, communications networks, and their control systems for specific selected assets that will afford an opportunity to apply this capability in analyzing Defense and Task Critical Assets. The final	1.200	4.000

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0305125D8Z: <i>CRITICAL INFRASTRUCTURE PROTECTION (CIP)</i>	<b>PROJECT</b> 125: <i>CRITICAL INFRASTRUCTURE PROTECTION (CIP)</i>
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**B. Accomplishments/Planned Program (\$ in Millions, Articles in Whole Units)**

	FY 2009	FY 2010
product will be suitable for use as a risk management and decision making tool, for evaluating risk mitigation and remediation options, and for wargaming scenarios involving the loss or disruption of critical systems and assets.		
Congressional Adds Subtotals	5.200	4.000

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

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u> <u>Base</u>	<u>FY 2011</u> <u>OCO</u>	<u>FY 2011</u> <u>Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 0902198D8Z: <i>Critical Infrastructure Protection</i>	18.664	18.427	18.613		18.613	19.079	19.352	19.739	20.134	Continuing	Continuing

**D. Acquisition Strategy**

N/A

**E. Performance Metrics**

DCIP uses the performance metrics documented in the DCIP Program Plan. These metrics are based on the requirements and responsibilities listed in DODD 3020.40 and DODI 3020.45.

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0305186D8Z: <i>Policy R&amp;D Programs</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	8.870	6.892	9.136	0.000	9.136	9.419	9.705	10.095	10.410	Continuing	Continuing
186: <i>Policy R&amp;D Programs</i>	8.870	6.892	9.136	0.000	9.136	9.419	9.705	10.095	10.410	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

Continues the development of tools to overcome military security issues. Since the global environment is dynamic, research is necessary to continue understanding military structures, foreign cultures, and ethnic issues. Examines demographic data, investigates information awareness concerning catastrophic events, and develops links to information and data warehouses. Continues to build partnership capabilities through analytical projects that counter organizational warfare and develops infrastructure and sanctuary denial options. Blends several disciplines including surveillance, operations, policy, information, training and 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	8.870	6.948	0.000	0.000	0.000
Current President's Budget	8.870	6.892	9.136	0.000	9.136
Total Adjustments	0.000	-0.056	9.136	0.000	9.136
• Congressional General Reductions		0.000			
• 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			
• Other	0.000	-0.056	9.136	0.000	9.136

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0305186D8Z: <i>Policy R&amp;D Programs</i>	<b>PROJECT</b> 186: <i>Policy R&amp;D Programs</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
186: <i>Policy R&amp;D Programs</i>	8.870	6.892	9.136	0.000	9.136	9.419	9.705	10.095	10.410	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

Continues the development of tools to overcome military security issues. Since the global environment is dynamic, research is necessary to continue understanding military structures, foreign cultures, and ethnic issues. Examines demographic data, investigates information awareness concerning catastrophic events, and develops links to information and data warehouses. Continues to build partnership capabilities through analytical projects that counter organizational warfare and develops infrastructure and sanctuary denial options. Blends several disciplines including surveillance, operations, policy, information, training and technology.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
International Technologies  Identifies international technologies and provides program management oversight and technical support for projects cooperating with international partners. Anticipates exploitation of technology, including available and advanced capabilities, and works through the international commercial sector and academia concerning adversary's application of technology. Explores processes and policy to integrate international capabilities across the spectrum of international security issues.  <i>FY 2009 Accomplishments:</i> <ul style="list-style-type: none"> <li>• Expanded the development of software tools into a broader focus within Asia/Pacific and South/Central America.</li> <li>• Funded researchers who will begin to integrate process tools within the military and promote homeland defense initiatives.</li> <li>• Further developed ongoing research efforts within the Services to better analyze, modify, design, and demonstrate enduring counterinsurgency technical and operational capabilities.</li> </ul>	3.339	2.164	3.292	0.000	3.292

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense				<b>DATE:</b> February 2010		
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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2009 Accomplishments:</i> No funding available.  <i>FY 2010 Plans:</i> Specific efforts are classified.  <i>FY 2011 Base Plans:</i> Specific efforts are classified.  <i>FY 2011 OCO Plans:</i> N/A						
Defense Planning Scenarios Activities This program is classified.  <i>FY 2009 Accomplishments:</i> No funding available.  <i>FY 2010 Plans:</i> Specific efforts are classified.  <i>FY 2011 Base Plans:</i> Specific efforts are classified.  <i>FY 2011 OCO Plans:</i> N/A		0.000	2.000	2.200	0.000	2.200
Accomplishments/Planned Programs Subtotals		8.870	6.892	9.136	0.000	9.136

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense		<b>DATE:</b> February 2010
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<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A		
<b>D. Acquisition Strategy</b> N/A		
<b>E. Performance Metrics</b> N/A		

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification: PB 2011 Office of Secretary Of Defense</b>										<b>DATE:</b> February 2010	
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0305199D8Z: <i>Net Centricity</i>							
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	12.277	1.467	29.831	0.000	29.831	30.434	31.230	32.009	32.649	Continuing	Continuing
199: <i>GIG Evaluation Facilities (GIG-EF) and GIG Enterprise-Wide Systems Engineering Advisory Activities</i>	12.277	1.467	29.831	0.000	29.831	30.434	31.230	32.009	32.649	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

This program element will support enterprise-wide systems engineering, information management and information technology activities focused on the development, integration, testing and assessment of capabilities and applications in support of joint and coalition warfighter needs. Resources will support net centric collaborative development and operations to improve situational awareness, interoperability and performance and operational planning efforts. This program will instantiate enterprise-wide systems engineering guidance and provide technical solutions to solve enterprise interoperability and performance issues to enable the warfighter, intelligence, and business communities to meet their respective mission requirements. This program is funded under Budget Activity 7, Operational System Development, because it supports engineering development.

The Enterprise-Wide Systems Engineering (EW SE) project provides the engineering resources necessary for performing the Global Information Grid (GIG) enterprise-wide systems engineering oversight function and supplying effective guidance and direction for the ongoing evolution of the GIG from an end-to-end (E2) perspective. The project provides the capability needed to enable the DoD programs to synchronize and integrate GIG Net-Centric solutions to meet the E2E mission execution. Resources will be applied to enterprise-wide systems engineering topics related to the successful integration of several programs that will form the GIG in areas such as information assurance (IA), quality of service (QOS), network management, interface definition and standards selection, and routing protocols. The EW SE effort:

- Provides continuous oversight of the GIG's evolution
- Develops and evolves an enterprise-wide technical foundation to support the GIG evolution using an innovative, standard based technology approach and industry best practice
- Analyzes gaps and identifies new capabilities needed for enterprise-wide applications by synchronizing an integrating existing and future capabilities from the DoD programs
- Oversees cross-program and cross portfolio GIG experiments, pilots, demonstrations, testing and studies to ensure operational relevance of the technical foundation
- Provides oversight of technical and operational compliance with the technical foundation
- Maintains a GIG enterprise-wide technical foundation
- Provides an independent, overarching review of technology and interface standards.

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- Ensures technical issues are identified early and schedules synchronized to produce a jointly interoperable, timely and cost-effective architecture development.
- Prevents costly program reworks and restructuring, and more importantly, avoid delays in providing joint warfighter connectivity.

Note that FY09/10/11 funding disconnect resulted from duplicate cuts to a program titled Horizontal Fusion (HF) formerly part of this PE to support priority net centric transformation. These cuts not only zeroed out the HF funding but also cut deeply into the GIG Evaluation Facility and GIG End-to-End Systems Engineering Activities in FY2010.

**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	12.647	1.479	0.000	0.000	0.000
Current President's Budget	12.277	1.467	29.831	0.000	29.831
Total Adjustments	-0.370	-0.012	29.831	0.000	29.831
• Congressional General Reductions		0.000			
• 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			
• Program Adjustment	-0.370	-0.012	29.831	0.000	29.831

**Change Summary Explanation**

FY 2009: Program adjustment -0.370 million.  
 FY 2010: FFRDC reduction -0.006 million, Economic Assumptions -0.006 million.  
 FY 2011: Program adjustment 29.831 million.

**C. Accomplishments/Planned Program (\$ 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>
Net Centricity Plans and Accomplishments	12.277	1.467	29.831	0.000	29.831

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**C. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p><i>FY 2009 Accomplishments:</i></p> <ul style="list-style-type: none"> <li>– Ensured the GIG end-to-end quality of service framework evolves in accordance with the evolution of commercial products, services and technology</li> <li>– Refined the GIG IA, routing architecture, and network management framework to be consistent with evolving commercial products, services, and technology</li> <li>– Evolved the service oriented architecture for tactical users and translate to GIG technical guidance</li> <li>– Evolved the interface requirements for tactical network management and translate to GIG technical guidance</li> <li>– Evolved the HAIPE peer discovery service description and translate to GIG technical guidance</li> <li>– Evolved the HAIPE Peer Discovery Service solution for the tactical edge</li> <li>– Developed the draft EW SE Roadmap to define EWS SE strategic functions and provide overview of EW SE implementation plan</li> <li>– Engaged with DISA EW SE, Joint Staff and USD (AT&amp;L) to develop guidance, directives and policies in support of the GIG enterprise-wide systems engineering</li> <li>– Developed and evolved the enterprise-wide technical foundation to support the GIG evolution</li> <li>– Evolved the NCID 3.0 to the GIG Technical Guidance (GTG) and multiple associated GIG Enterprise Service Profiles (GESPs)</li> <li>– Evolved the GIG Interoperability Compliance Assessment tool into the GTG Online tool and coordinated with multiple program offices on potential pilot efforts</li> <li>– Used the GIG Performance Evaluation Tool (PET) to support end to end enterprise level analysis and the NC Portfolio Management process</li> <li>– Completed and released PET 5.0 and completed performance analysis of terrestrial transport performance</li> <li>– Completed PET accuracy assessment for nearly 1000 satellite network architectures</li> <li>– Completed satellite bandwidth saving analysis for Southwest Asia</li> <li>– Began development of Scenario PET v1.0 for evaluation scenario level E2E performance</li> </ul>					

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0305199D8Z: <i>Net Centricity</i>
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<b>C. Accomplishments/Planned Program (\$ in Millions)</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<ul style="list-style-type: none"> <li>- Worked with Services and Defense Agencies to identify and address cross-program issues and influence programs to implement compatible designs that maximize end to end performance</li> <li>- Performed end-to-end analysis for encrypting unclassified traffic across the GIG</li> <li>- Performed end-to-end analysis for converging top secret WANs</li> <li>- Evaluated vulnerability of IPv6 networks and address issues</li> <li>- Evaluated cross program technical dependencies of the NECC program and address technical issues</li> </ul> <p><i>FY 2010 Plans:</i> Due to the reduced funding level only a minimal, skeletal effort will be accomplished. Most of the previously planned technical work required to continue to evolve the GIG to provide the basis for net centricity will need to shift to FY2011.</p> <ul style="list-style-type: none"> <li>- Ensure DoD Policy evolves to support effective governance to implement an interoperable GIG infrastructure</li> <li>- Complete development of EW SE Roadmap and implementation plan</li> <li>- Evolve the GIG compliance effort through continued participation in the GTG Configuration Management Board (GTG CMB) and inputs to technical review</li> <li>- Work with Services and Defense Agencies to promote net centricity, identify and address cross-program issues and influence programs to implement compatible designs that maximize end to end performance</li> <li>- Evolve the GIG Technical Guidance to include developing additional GIG Enterprise Service Profiles (GESPs) in the areas of enterprise services and network management at the tactical edge</li> <li>- Work with Programs to pilot the PET and the GICA to refine the tools</li> <li>- Complete development of Scenario PET</li> <li>- Interface with Portfolio Managers, DISA, the Services and Joint Staff to promote and co-ordinate GIG EW SE effort</li> </ul>					

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**C. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>The following efforts were planned but will be deferred due to the funding shortfall:</p> <ul style="list-style-type: none"> <li>- Ensure the GIG end-to-end quality of service (QoS) framework evolves in accordance with the evolution of commercial products, services and technology</li> <li>- Examine the GIG "Black Core" vision and define a plan for evolving to this vision, tracking implementation of the plan, and focusing on the tactical edge</li> <li>- Develop the Cost Benefit Analysis and Implementation Plan for the Black Core, focusing on the tactical environment, to support future POMs</li> <li>- Implement the HAIPE Peer Discovery Service based on the previously developed specification that supports fielding of this capability prior to FY12 to allow for the migration to the Black Core</li> <li>- Develop a specification to support HAIPE Peer Discovery in the tactical environment</li> <li>- Evolve the GIG Interoperability Compliance Assessment (GICA) tool with new technical guidance, to include enterprise level information assurance guidance</li> <li>- Evolve the GIG Performance Evaluation Tool (PET) and Performance Assessment Framework (PAF) and use these tools as part of the end-to-end performance analysis process in support of the Capability Portfolio Management decisions</li> </ul> <p><i>FY 2011 Base Plans:</i></p> <ul style="list-style-type: none"> <li>- Ensure the GIG end-to-end quality of service framework evolves in accordance with the evolution of commercial products, services and technology, in particular at the tactical edge</li> <li>- Examine the GIG "Black Core" vision and define a plan for evolving to this vision, tracking implementation of the plan, and focusing on the tactical edge</li> <li>- Develop the Cost Benefit Analysis and Implementation Plan for the Black Core, focusing on the tactical environment, to support future POMs</li> <li>- Ensure DoD Policy continues to evolve to support effective governance to implement an interoperable GIG infrastructure</li> <li>- Continue to work with Services and Defense Agencies to promote net centricity, identify and address cross-program issues and influence programs to implement compatible designs that maximize end to end performance</li> </ul>					

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<b>C. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<ul style="list-style-type: none"> <li>- Implement the HAIPE Peer Discovery Service based on the previously developed specification that supports fielding of this capability prior to FY12 to allow for the migration to the Black Core</li> <li>- Develop a specification to support HAIPE Peer Discovery in the tactical environment</li> <li>- Develop GIG Technical Guidance artifacts to enable seamless interoperability between NECC and several supporting Programs such as NCES, PKI, CDS, and JEDS.</li> <li>- Evolve Data interoperability standards to promote interoperability and insert into the GIG Technical Guidance.</li> <li>- Evolve the GIG Technical Guidance (GTG) to include developing GIG Enterprise Service Profiles (GESPs) in the areas of enterprise services and network management at the tactical edge</li> <li>- Evolve the GTG Online tool with new technical guidance, to include enterprise level information assurance guidance</li> <li>- Evolve the GIG Performance Evaluation Tool (PET) and Framework, and use this tool as part of the end-to-end performance analysis process in support of Capability Portfolio Management decisions</li> <li>- Utilize the PET, PAF, and GICA to conduct interoperability and E2E performance studies across programs and portfolios in support of warfighter requirements</li> <li>- Work with Programs to formally pilot the PET, PAF and GICA to refine the tools and gain their acceptance</li> <li>- Execute a GIG Program compliance effort and work with Portfolio Managers to determine cost/benefit of addressing compliance issues</li> <li>- Continue to interface with Portfolio Managers, DISA, the Services and Joint Staff to promote and coordinate GIG EWSE effort</li> </ul> <p><i>FY 2011 OCO Plans:</i> N/A</p>						
Accomplishments/Planned Programs Subtotals		12.277	1.467	29.831	0.000	29.831

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**D. Other Program Funding Summary (\$ in Millions)**

N/A

**E. Acquisition Strategy**

N/A

**F. Performance Metrics**

User Activity and Participation - A key measurement of GIG-EF success is the amount of user/program participation and usage of the GIG-EF in support of Joint warfighting requirements.

- Contributions to GIG development and transition.
- Demonstrations in support of GIG overall goals.
- Number of GIG Enterprise-Wide Systems Engineering Oversight working group requirements addressed.
- Tangible products such as frameworks and design guidance used for program assessments and reviews.
- Streamlined business processes for documenting GIG enterprise-wide technical guidance.
- Prioritized listing of enterprise-wide technical issues.
- Technical solutions to enterprise interoperability and performance issues.
- Specific modifications to Programs based on the frameworks and guidance that improve program compatibility and end-to-end performance.
- A more collaborative environment where systems engineering organizations of individual GIG programs and the enterprise-wide systems engineering oversight organization mutually identify and solve issues related to maximizing end to end performance.

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b>			<b>R-1 ITEM NOMENCLATURE</b>								
0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i>			PE 0305387D8Z: <i>Homeland Defense Technology Transfer Program</i>								
BA 7: <i>Operational Systems Development</i>											
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	0.000	2.939	2.988	0.000	2.988	2.988	3.037	3.096	3.152	Continuing	Continuing
387: <i>Homeland Defense Technology Transfer Program</i>	0.000	2.939	2.988	0.000	2.988	2.988	3.037	3.096	3.152	Continuing	Continuing

**Note**

**A. Mission Description and Budget Item Justification**

Continues Congressionally directed Technology Transfer Program to consolidate and coordinate various military endeavors that pass technology and equipment to first responders.

**B. Program Change Summary (\$ in Millions)**

	<u><b>FY 2009</b></u>	<u><b>FY 2010</b></u>	<u><b>FY 2011 Base</b></u>	<u><b>FY 2011 OCO</b></u>	<u><b>FY 2011 Total</b></u>
Previous President's Budget	0.000	2.963	0.000	0.000	0.000
Current President's Budget	0.000	2.939	2.988	0.000	2.988
Total Adjustments	0.000	-0.024	2.988	0.000	2.988
• Congressional General Reductions		0.000			
• 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			
• other	0.000	-0.024	2.988	0.000	2.988

**C. Accomplishments/Planned Program (\$ in Millions)**

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0305387D8Z: <i>Homeland Defense Technology Transfer Program</i>
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**C. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Homeland Defense Technology Transfer Program  Provides outreach through coordination and cooperation with inter-agency partners to provide dual-use technology and equipment to first responders. Ensure DoD components conduct Technology Transfer programs that are appropriate for the respective component. Provides information to stakeholders on equipment and technology use and availability. Funding was previously in PE 0305186D8Z.  <i>FY 2009 Accomplishments:</i> Funding for FY09 efforts is included in PE 0605186D8Z.  <i>FY 2010 Plans:</i> <ul style="list-style-type: none"> <li>• Use metrics as tools for measurement of program success.</li> <li>• Continue conducting the technology transfer program in a consolidated environment.</li> <li>• Use a consortium of subject matter experts/governance council to prioritize technology transfer requirements.</li> <li>• Continue program outreach programs, identifying potential opportunities for expansion.</li> <li>• Implement a transfer process.</li> </ul> <i>FY 2011 Base Plans:</i> <ul style="list-style-type: none"> <li>• Continue conducting the technology transfer program in a consolidated environment.</li> <li>• Finalize metrics for continued use in program success.</li> <li>• Use a consortium of subject matter experts/governance council to prioritize technology transfer requirements.</li> <li>• Continue program outreach programs, identifying potential opportunities for expansion.</li> <li>• Refine transfer process.</li> </ul> <i>FY 2011 OCO Plans:</i> N/A	0.000	2.939	2.988	0.000	2.988
<b>Accomplishments/Planned Programs Subtotals</b>	0.000	2.939	2.988	0.000	2.988

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0305387D8Z: <i>Homeland Defense Technology Transfer Program</i>
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**D. Other Program Funding Summary (\$ in Millions)**

N/A

**E. Acquisition Strategy**

N/A

**F. Performance Metrics**

N/A

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b>			<b>R-1 ITEM NOMENCLATURE</b>								
0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>			PE 0305600D8Z: <i>International Intelligence Technology Assessment, Advancement &amp; Integration</i>								
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	0.000	1.378	1.416	0.000	1.416	1.446	1.476	1.522	1.561	Continuing	Continuing
997: <i>International Intelligence Technology Assessment, Advancement &amp; Integration</i>	0.000	1.378	1.416	0.000	1.416	1.446	1.476	1.522	1.561	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

Provides for the research and development required for the migration and integration of existing and advanced multinational and bi-lateral international intelligence information based algorithmic and data fusion technologies into an integrated US, NATO, and coalition based intelligence service oriented architecture / data repository such as the U.S. and NATO Battlefield Information Collection and Exploitation System(s). Provides the research and development for rapid implementation of intelligence based decision applications and data mechanisms in support of USD(I)'s mission to ensure necessary intelligence information is being acquired, analyzed, and disseminated rapidly amongst our allies and coalition partners.

**B. Program Change Summary (\$ in Millions)**

	<u><b>FY 2009</b></u>	<u><b>FY 2010</b></u>	<u><b>FY 2011 Base</b></u>	<u><b>FY 2011 OCO</b></u>	<u><b>FY 2011 Total</b></u>
Previous President's Budget	0.000	1.389	0.000	0.000	0.000
Current President's Budget	0.000	1.378	1.416	0.000	1.416
Total Adjustments	0.000	-0.011	1.416	0.000	1.416
• Congressional General Reductions		-0.011			
• 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			
• Other	0.000	0.000	1.416	0.000	1.416

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense								<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0305600D8Z: <i>International Intelligence Technology Assessment, Advancement &amp; Integration</i>				<b>PROJECT</b> 997: <i>International Intelligence Technology Assessment, Advancement &amp; Integration</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
997: <i>International Intelligence Technology Assessment, Advancement &amp; Integration</i>	0.000	1.378	1.416	0.000	1.416	1.446	1.476	1.522	1.561	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

Provides for the research and development required for the migration and integration of existing and advanced multinational and bi-lateral international intelligence information based algorithmic and data fusion technologies into an integrated US, NATO, and coalition based intelligence service oriented architecture / data repository such as the U.S. and NATO Battlefield Information Collection and Exploitation System(s). Provides the research and development for rapid implementation of intelligence based decision applications and data mechanisms in support of USD(I)'s mission to ensure necessary intelligence information is being acquired, analyzed, and disseminated rapidly amongst our allies and coalition partners.

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

	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
International Intelligence Technology Assessment, Advancement, & Integration <i>FY 2010 Plans:</i> Identify and capture existing USPACOM and USEUCOM intelligence data fusion applications for integration into the U.S. and coalition architectures.  <i>FY 2011 Base Plans:</i> Establish applications to transfer data fusion techniques and data structures to include metadata structures into existing U.S., NATO, and coalition networks supporting on-going operations in support of counter-terrorism.	0.000	1.378	1.416	0.000	1.416
Accomplishments/Planned Programs Subtotals	0.000	1.378	1.416	0.000	1.416

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0305600D8Z: <i>International Intelligence Technology Assessment, Advancement &amp; Integration</i>	<b>PROJECT</b> 997: <i>International Intelligence Technology Assessment, Advancement &amp; Integration</i>
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**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u> <u>Base</u>	<u>FY 2011</u> <u>OCO</u>	<u>FY 2011</u> <u>Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 0305600D8Z Proc DW: <i>International Intelligence Technology Assessment, Advancement &amp; Integration</i>		3.839	20.138		20.138	20.208	20.429	20.445	20.522	Continuing	Continuing
• 0305600D8Z O&M DW: <i>International Intelligence Technology Assessment, Advancement &amp; Integration</i>		11.900	80.643		80.643	80.702	80.926	81.477	81.519	Continuing	Continuing

**D. Acquisition Strategy**

N/A

**E. Performance Metrics**

Performance will be monitored on a monthly basis via Program Reviews, Current Expenditures, Estimated Future Expenditures, and Cost/Schedule Adherence. R&D will provide increased intelligence fusion capabilities in support of US and coalition forces utilizing the US BICES and NATO networks within the Afghanistan theater and provide increased database information via a DCGS-A like architecture. Provides an increase in intelligence disciplines (IMINT, SIGINT, and potential HUMINT) in support of US and Allied/Coalition forces that currently is very limited to the warfighter. Increased intelligence fusion tools will significantly increase the timeliness of intelligence and bring US BICES/NSCC/IFC capabilities into the current technology baselines (e.g. A-Space for collaboration).

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0305600D8Z: <i>International Intelligence Technology Assessment, Advancement &amp; Integration</i>	<b>PROJECT</b> 997: <i>International Intelligence Technology Assessment, Advancement &amp; Integration</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
<b>Project Cost Totals</b>	0.000	0.000	0.000	0.000	0.000			

**Remarks**  
N/A

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0909999D8Z: <i>Financing for Cancelled Account Adjustments</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	4.455	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
546: <i>Financing for Cancelled Account Adjustments</i>	4.455	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

Not applicable for this item

**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	0.000	0.000	0.000	0.000	0.000
Current President's Budget	4.455	0.000	0.000	0.000	0.000
Total Adjustments	4.455	0.000	0.000	0.000	0.000
• Congressional General Reductions		0.000			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	4.455	0.000			
• SBIR/STTR Transfer	0.000	0.000			

**C. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Not applicable for this item. <i>FY 2009 Accomplishments:</i> Not applicable for this item.	4.455	0.000	0.000	0.000	0.000

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0909999D8Z: <i>Financing for Cancelled Account Adjustments</i>
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<b>C. Accomplishments/Planned Program (\$ in Millions)</b>	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Accomplishments/Planned Programs Subtotals	4.455	0.000	0.000	0.000	0.000

**D. Other Program Funding Summary (\$ in Millions)**

N/A

**E. Acquisition Strategy**

N/A

**F. Performance Metrics**

Not applicable for this item.

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 1001018D8Z: NATO AGS
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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	22.471	68.923	93.885	0.000	93.885	83.182	83.579	181.633	252.668	Continuing	Continuing
P018: NATO AGS	22.471	68.923	93.885	0.000	93.885	83.182	83.579	181.633	252.668	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

This project is the U.S. share of the cost for the North Atlantic Treaty Organization (NATO) to acquire ground surveillance capability-based on the U.S. Global Hawk (GH) Block 40 Unmanned Aircraft System (UAS).

The North Atlantic Council (NAC) validated the requirement in 1995 for a NATO-owned and operated core air-to-ground surveillance capability supplemented by interoperable national assets. Since then, the Major NATO Commanders have consistently made Alliance Ground Surveillance (AGS) their number one equipment acquisition priority.

- October 1997, NATO Conference of National Armaments Directors (CNAD) approved AGS NATO Staff Requirement (NSR).
- April 1999, NATO Washington Summit Defense Capabilities Initiatives (DCI) included need for a NATO-owned and operated core system for ground surveillance.
- September 2001, Reinforced NAC (RNAC) re-affirmed need for a NATO-owned and operated AGS capability by 2010 and to move forward with the program.
- November 2002, NATO Prague Summit approved Prague Capabilities Commitment (PCC) that includes an airborne ground surveillance capability.
- December 2003, AGS Steering Committee approved in principle the merger of NATO AGS and the Trans-Atlantic Cooperative AGS Radar (TCAR) sensor projects.
- May 2004, Following a competitive Project Definition Study, CNAD endorsed the Trans-Atlantic Industrial Proposed Solution (TIPS) consortium's selection as the program of record to enter the Design and Development Phase and directed that the TCAR sensor development project be integrated into the AGS program.
- May 2004, AGS Steering Committee approved an updated Master Schedule supporting a 2010 Initial Operating Capability (IOC) with Full Operational Capability (FOC) by 2013.
- November 2005, Risk Reduction Study (RRS) was completed providing the Nations a higher degree of confidence in six areas of concern: program management; harmonization with other pending NATO aircraft programs; interoperability with existing national systems; compatibility with the NATO intelligence, surveillance and reconnaissance architecture; integration of the TCAR sensor; and affordability.
- April 2006, CNAD approved release of a Request for Proposal (RFP) to industry for the Design and Development (D&D) phase, including a mixed fleet (manned and unmanned) and development of at least one radar for either, with a total procurement Not to Exceed of ~3.3B (Base Year Euros equivalent to \$5.4B Then Year dollars).
- October 2006, AGS Industries (AGSI, former TIPS consortium) formally submitted a proposal compliant with the RFP. CNAD agreed that the proposal, as submitted by AGSI, would form the basis for negotiations of the D&D contract and tasked the AGS Support Staff (AGS3) to begin negotiations with AGSI.

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b>	<b>R-1 ITEM NOMENCLATURE</b>
0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i>	PE 1001018D8Z: NATO AGS
BA 7: <i>Operational Systems Development</i>	

- May 2007, Contract negotiations with AGSI were completed. Total value of the D&D contract was ~545M (Then Year Euros equivalent to \$763M Then Year dollars) for the system design activity (to be funded by all participating nations) plus ~385M (Then Year Euros equivalent to \$539M Then Year dollars) for the radar development activity (to be funded by six nations, including the U.S.). The period of performance was 31 months after award and the contract prices were valid until December 1, 2007.
- June 2007, The AGS Funding Documents Program Memorandum of Understanding (PMOU), Design & Development Supplement, and the TCAR Implementing Arrangement (IA)) were released to nations for final staffing, leading to their approval and signature. Target completion date was the Fall CNAD meeting in October 2007.
- July 2007, At an Extra-ordinary CSC meeting, Canada, France, Germany, and The Netherlands indicated they could not support the Program of Record due to affordability. The CSC recommended ceasing work on the Program of Record in favor of a UAV only capability based on an Off-The-Shelf Global Hawk (OTS-GH) equipped with the U.S. Multi-Platform Radar Insertion Program (MP-RTIP) sensor. This capability was previously endorsed by the user, Supreme Headquarters Allied Command Europe (SHAPE).
- September 2007, CSC directed AGS3 to revise the procurement strategy and update the funding documents and the NATO Management Organization Charter for the re-structured program.
- June 2008, NATO AGS Program Memorandum of Understanding released for national staffing.
- October 2008, Request for Proposal for NATO AGS prime development contract released to industry.
- June 2009, U.S. signs the NATO AGS PMOU. Including the U.S. signature, 13 of 15 participating nations have signed the PMOU.
- September 3, 2009, PMOU in effect.

**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	27.274	74.485	0.000	0.000	0.000
Current President's Budget	22.471	68.923	93.885	0.000	93.885
Total Adjustments	-4.803	-5.562	93.885	0.000	93.885
• Congressional General Reductions		0.000			
• 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	-0.749	0.000			
• Other Program Adjustments	-0.054	-5.562	93.885	0.000	93.885
• FY09/10 RDT&E Omnibus Reprogramming	-4.000	0.000	0.000	0.000	0.000

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 1001018D8Z: NATO AGS	<b>PROJECT</b> P018: NATO AGS
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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
P018: NATO AGS	22.471	68.923	93.885	0.000	93.885	83.182	83.579	181.633	252.668	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

This project is the U.S. share of the cost for North Atlantic Treaty Organization (NATO) to acquire a ground surveillance capability-based on the U.S. Global Hawk (GH) Block 40 Unmanned Aircraft System (UAS).

The North Atlantic Council (NAC) validated the requirement in 1995 for a NATO-owned and operated core air-to-ground surveillance capability supplemented by interoperable national assets. Since then, the Major NATO Commanders have consistently made Alliance Ground Surveillance (AGS) their number one equipment acquisition priority.

- October 1997, NATO Conference of National Armaments Directors (CNAD) approved AGS NATO Staff Requirement (NSR).
- April 1999, NATO Washington Summit Defense Capabilities Initiatives (DCI) included need for a NATO-owned and operated core system for ground surveillance.
- September 2001, Reinforced NAC (RNAC) re-affirmed need for a NATO-owned and operated AGS capability by 2010 and to move forward with the program.
- November 2002, NATO Prague Summit approved Prague Capabilities Commitment (PCC) that includes an airborne ground surveillance capability.
- December 2003, AGS Steering Committee approved in principle the merger of NATO AGS and the Trans-Atlantic Cooperative AGS Radar (TCAR) sensor projects.
- May 2004, Following a competitive Project Definition Study, CNAD endorsed the Trans-Atlantic Industrial Proposed Solution (TIPS) consortium's selection as the program of record to enter the Design and Development Phase and directed that the TCAR sensor development project be integrated into the AGS program.
- May 2004, AGS Steering Committee approved an updated Master Schedule supporting a 2010 Initial Operating Capability (IOC) with Full Operational Capability (FOC) by 2013.
- November 2005, Risk Reduction Study (RRS) was completed providing the Nations a higher degree of confidence in six areas of concern: program management; harmonization with other pending NATO aircraft programs; interoperability with existing national systems; compatibility with the NATO intelligence, surveillance and reconnaissance architecture; integration of the TCAR sensor; and affordability.
- April 2006, CNAD approved release of a Request for Proposal (RFP) to industry for the Design and Development (D&D) phase, including a mixed fleet (manned and unmanned) and development of at least one radar for either, with a total procurement Not to Exceed of ~3.3B (Base Year euros equivalent to \$5.4B Then Year dollars).
- October 2006, AGS Industries (AGSI, former TIPS consortium) formally submitted a proposal compliant with the RFP. CNAD agreed that the proposal, as submitted by AGSI, would form the basis for negotiations of the D&D contract and tasked the AGS Support Staff (AGS3) to begin negotiations with AGSI.

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 1001018D8Z: NATO AGS	<b>PROJECT</b> P018: NATO AGS
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- May 2007, Contract negotiations with AGSI were completed. Total value of the D&D contract was ~545M (Then Year euros equivalent to \$763M Then Year dollars) for the system design activity (to be funded by all participating nations) plus ~385M (Then Year euros equivalent to \$539M Then Year dollars) for the radar development activity (to be funded by six nations, including the U.S.). The period of performance was 31 months after award and the contract prices were valid until December 1, 2007.
- June 2007, The AGS Funding Documents (Program Memorandum of Understanding (PMOU), Design & Development Supplement, and the TCAR Implementing Arrangement (IA)) were released to nations for final staffing, leading to their approval and signature. Target completion date was the Fall CNAD meeting in October 2007.
- July 2007, At an Extra-ordinary CSC meeting, Canada, France, Germany, and The Netherlands indicated they could not support the Program of Record due to affordability. The CSC recommended ceasing work on the Program of Record in favor of a UAV only capability based on an Off-The-Shelf Global Hawk (OTS-GH) equipped with the U.S. Multi-Platform Radar Insertion Program (MP-RTIP) sensor. This capability was previously endorsed by the user, Supreme Headquarters Allied Command Europe (SHAPE).
- September 2007, CSC directed AGS3 to revise the procurement strategy and update the funding documents and the NATO Management Organization Charter for the re-structured program.
- June 2008, NATO AGS Program Memorandum of Understanding released for national staffing.
- October 2008, Request for Proposal for NATO AGS prime development contract released to industry.
- June 2009, U.S. signs the NATO AGS PMOU. Including the U.S. signature, 13 of 15 participating nations have signed the PMOU.
- September 3, 2009, PMOU in effect.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
NATO AGS  <i>FY 2009 Accomplishments:</i> <ul style="list-style-type: none"> <li>- North Atlantic Council selected Sigonella, IT as the North Atlantic Treaty Organization (NATO) Alliance Ground Surveillance (AGS) Main Operating Base.</li> <li>- Allies agreed to provide NATO common funding for NATO AGS operations and support phase.</li> <li>- Released the request for proposal for a single, 2-phase contract consisting of a Design, Development, and Demonstration (DD&amp;D) Phase and a Production Phase for a two-orbit, Unmanned Air Vehicle (UAV)-only, ground surveillance capability. Dialogue with industry and industry proposal started.</li> </ul>	22.471	68.923	93.885	0.000	93.885

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Office of Secretary Of Defense		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 1001018D8Z: <i>NATO AGS</i>	<b>PROJECT</b> P018: <i>NATO AGS</i>
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A		
<b>D. Acquisition Strategy</b> The U.S. signed a multi-national Program Memorandum of Understanding (PMOU) committing the U.S. government to NATO-derived cost shares of the AGS prime contract consisting of a Design, Development & Demonstration and Production of the NATO AGS system. The NATO AGS procurement strategy is consistent with NATO AGS PMOU provisions and includes award of a fixed price contract to the Northrop Grumman Corporation prime contractor.		
<b>E. Performance Metrics</b> Not applicable for this item.		

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Office of Secretary Of Defense** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 1001018D8Z: NATO AGS	<b>PROJECT</b> P018: NATO AGS
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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			
NATO AGS PRIME CONTRACT	SS/FFP	NORTHROP GRUMMAN CORPORATION MELBOURNE, FL	19.000	14.438	Apr 2010	91.885	Sep 2011	0.000		91.885	0.000	125.323	Continuing
NATO AGS MISSION SECURITY	SS/CPAF	NORTHROP GRUMMAN CORPORATION MELBOURNE, FL	0.000	45.000	Jan 2010	0.000	Sep 2011	0.000		0.000	0.000	45.000	Continuing
NATO AGS INTEROPERABILITY	SS/TBD	U.S. AIR FORCE DAYTON, OH	0.000	6.000	Apr 2010	0.000	Sep 2011	0.000		0.000	0.000	6.000	Continuing
<b>Subtotal</b>			19.000	65.438		91.885		0.000		91.885	0.000	176.323	

**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			
NATO AGS MANAGEMENT SUPPORT	C/CPFF	U.S. AIR FORCE DAYTON, OH	3.471	3.485	Sep 2010	2.000	Sep 2011	0.000		2.000	0.000	8.956	Continuing
<b>Subtotal</b>			3.471	3.485		2.000		0.000		2.000	0.000	8.956	

**Remarks**

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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2011 Office of Secretary Of Defense		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 1001018D8Z: <i>NATO AGS</i>	<b>PROJECT</b> P018: <i>NATO AGS</i>

	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
PMOU IN NATIONAL STAFFING	■	■	■	■	■	■	■	■																								
CONTRACT AWARD																																
DESIGN, DEVELOPMENT AND DEMONSTRATION PHASE																																
PRODUCTION PHASE																					■	■	■	■	■	■	■	■	■	■	■	■

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**Exhibit R-4A, RDT&E Schedule Details:** PB 2011 Office of Secretary Of Defense **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 1001018D8Z: <i>NATO AGS</i>	<b>PROJECT</b> P018: <i>NATO AGS</i>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
PMOU IN NATIONAL STAFFING	1	2009	4	2010
CONTRACT AWARD	4	2010	4	2010
DESIGN, DEVELOPMENT AND DEMONSTRATION PHASE	4	2010	4	2010
PRODUCTION PHASE	4	2013	4	2015

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