February 2006

BUDGET ACTIVITY **5 - System Development and Demonstration**

PE NUMBER AND TITLE

0604715A - Non-System Training Devices - Eng Dev

•	<u>-</u>			•		O	0			
	COST (In Thousands)	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total Cost
ı	Total Program Element (PE) Cost	42784	60219	121553	72634	42144	21876	18123	Continuing	Continuing
241	NSTD COMBINED ARMS	40668	58310	119538	70553	40069	19765	16015	Continuing	Continuing
573	STRICOM/NAWCTSD SUPPORT	2116	1417	1510	1565	1563	1600	1602	Continuing	Continuing
587	ARMY DEVELOP CTIA/TENA CAPABILITY	0	492	505	516	512	511	506	Continuing	Continuing

A. Mission Description and Budget Item Justification: Program Element funds development of Non-System Training Devices to support force-on-force training at the Combat Training Centers (CTC), general military training, and training on more than one item/system, as compared with system devices which are developed in support of a specific item/weapon system. Training devices and training simulations contribute to the modernization of the forces by enabling and strengthening combat effectiveness through realistic training solutions for the Warfighter. Training devices maximize the transfer of knowledge, skills, and experience from the training situation to a combat situation. Force-on-force training at the National Training Center (NTC), Ft. Irwin, CA; Joint Readiness Training Center (JRTC), Ft. Polk, LA, and Joint Multinational Readiness Center (JMRC), formerly the Combat Maneuver Training Center (CMTC), Hohenfels, Germany; and battle staff training in Battle Command Training Program (BCTP) provide increased combat readiness through realistic collective training in low, mid, and high intensity scenarios. Project 241, Non-System Training Devices-Combined Arms, develops simulation training devices for Army-wide use, including the CTCs. Project 573 funds key organizational support to Army/DoD Transformation via innovative simulation and training device efforts. Program Executive Office (PEO) Simulation, Training and Instrumentation (STRI's) unique geographic colocation with other services facilitates joint training solutions in a common environment. FY07 funding supports a more active presence in this effort. Project 587 funds development of Common Training Instrumentation Architecture (CTIA) services that are level 2 compliant with the DoD Test and Training Enabling Architecture (TENA). CTIA supports the integration of Live Training Transformation (LT2) systems with systems of the Joint National Training Capability (JNTC).

In FY07, the Non-System Training Devices, 241 project line will develop prototype training devices to support Combined Arms (Infantry, Armor, Aviation, Air Defense, Artillery, Engineer, Chemical, and Support troops) training and multi-system training within the Army. There is an increased effort to replace the instrumentation system at the National Training Center (NTC), Ft. Irwin, CA and at the Joint Readiness Training Center (JRTC), Ft. Polk, LA with a system that meets the Army's existing and future, advanced collective training objectives. This is a complete modernization of these two systems, leveraging advanced technology using a modular concept. One Tactical Engagement Simulation System (OneTESS) development continues to provide realistic force-on-force training for weapon systems that are not direct fire and maximizes embedded training capability where possible. In FY07, PEO STRI/NAWCTSD SUPT, 573 project line will provide for minimum PEO STRI core operations supporting development of training devices and simulations by PEO STRI Project Managers (PM TRADE, PM ITTS, PM CATT, PM Future Force (S) and PM Constructive Simulation).

In FY07, 587 project line will modify CTIA services code to integrate Training and Test Enabling Architechture (TENA) Middleware providing LT2 product interoperability with TENA applications and the JNTC.

ARMY RDT&E BUDGET ITEN	VI JUSTIFIC	AHUN	(KZ EX	midit)	February 2006
BUDGET ACTIVITY	PE NUMBER	R AND TITLE			
5 - System Development and Demonstration	0604715A	A - Non-Syst	em Traini	ng Devices - Eng Dev	
	FY 2005	FY 2006	FY 2007		
B. Program Change Summary					
Previous President's Budget (FY 2006)	49615	61090	124134		
Current BES/President's Budget (FY 2007)	42784	60219	121553		
Total Adjustments	-6831	-871	-2581		
Congressional Program Reductions		-264			
Congressional Rescissions		-607			
Congressional Increases					
Reprogrammings	-6831				
SBIR/STTR Transfer					
Adjustments to Budget Years			-2581		

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit) February 2006										2006		
	T ACTIVITY stem Development and Demonstration		PE NUMBER A 0604715A •		em Trainin	ng Devices	- Eng Dev		PRO 241	JECT		
	COST (In Thousands)	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate				
241	NSTD COMBINED ARMS	119538	70553	40069	19765	16015	Continuing	Continuing				

A. Mission Description and Budget Item Justification: This project supports development of prototype training devices to support Combined Arms (Infantry, Armor, Aviation, Air Defense, Artillery, Engineer, Chemical, and Support troops) training and multi-system training within the Army, to include the Reserve Components.

Corps Battle Simulation (CBS) is the Army's current command and staff training simulation at the corps/division level. CBS is the cornerstone model of the Joint Training Confederation (JTC) and the essential Brigade to Corps piece of the first two versions of the Army Constructive Training Federation (ACTF). Tactical Simulation (TACSIM) is the Army's current primary tactical intelligence module for constructive simulation and the intelligence piece of the ACTF until the Warfighters' Simulation replaces TACSIM. TACSIM also supports the JTC. The One Tactical Engagement Simulation System (One TESS) provides for an advanced, joint, collective, combined arms, live training system using tactical weapon systems supported by a family of Training Aids, Devices, Simulations and Simulators (TADSS) that support up to brigade-level exercises, including all Battlefield Operating Systems, at Homestation, Maneuver Combat Training Centers (MCTC), and deployed sites. OH-58D TESS will provide a live force-on-force training capabilty for OH-58D. The TESS will leverage existing technology used on the Longbow TESS. OH-58D TESS will use GEO-Pairing and laser engagement, and will provide a One TESS like capability. The Combat Training Center Objective Instrumentation System (CTC OIS), comprised of the prior National Training Center (NTC) and Joint Readiness Training Center (JRTC) OIS programs, provides a completely digital based system, and also provides the observer/controller, Training Analyst and Feedback analyst the ability to monitor unit approach, engagement, and departure maneuver activities and identify and isolate pertinent voice, data and video segments in a near real time manner for objective After Action Review (AAR) feedback to the unit based on approved Tactics, Techniques and Procedures(TTP) and Mission Training Plan (MTPs) for a Brigadelevel training event. The NTC Military Operations in Urban Terrain (MOUT) Instrumentation program provides the Urban Operations sites the necessary instrumentation to support training data collection, data analysis and objective AAR based on approved TTPs. The Aerial Weapon Scoring System (AWSS) is an air-to-ground scoring system designed specifically to support U.S. Army attack helicopter training. AWSS provides near real time scoring results of live fire exercises conducted from attack helicopters firing caliber .50, 7.62, 20 & 30 millimeter projectiles and 2.75 inch rockets. AWSS also scores simulated Hellfire missile engagements for helicopters using the Hellfire Training Missile. The Common Training Instrumentation Architecture (CTIA) provides the common architecture framework for developing the Live Training Transformation (LT2) Product Line of live training systems supporting Army-wide Force-On-Force (FoF) and Force-On-Target (FoT) training requirements. CTIA is a spiral development, evolutionary acquisition program that continues to provide developmental support for the LT2 Product line in compliance with the DoD Test and Training Enabling Architecture (TENA). The New Generation Army Targetry System (NGATS) program is a spiral developmental evolutionary acquisition program that continues to provide the development and planning to address shortcomings in non-NGATS targetry as well as emerging weapon system targetry requirements and technology insertion.

In FY07, this project funds development of limited enhancements and security accreditation to Corps Battle Simulation and TACSIM to ensure training relevance until the system is replaced with the objective system, continued development of NGATS, significant development efforts on OneTESS, and further implementation of Live Training Transformation through development of the Common Training Instrumentation Architecture (CTIA); enabling Joint training with the Joint Forces Command through modernization programs including the Objective Instrumentation Systems (OISs) for the Maneuver CTCs, Homestations, Military Operations in Urban Terrain (MOUT), and Digital Multi-Purpose Range Complexes (DMPRCs). These systems provide integrated Live, Virtual, and Constructive training environments and tools in support of the Contemporary Operating Environment.

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Exhibit R-2A Budget Item Justification

ARMY RDT&E BUDGET	TITEM	JUSTIF:	ICATIO	N (R2a I	Exhibit)			Februa	ry 2006
BUDGET ACTIVITY 5 - System Development and Demonstration	on		BER AND TITLI 5 A - Non-Sy		ning Device	s - Eng Dev	V		PROJECT 241
Accomplishments/Planned Program		•				FY 200	<u>5</u>	FY 2006	FY 2007
FY05-FY07: Continues development, installation, integration Fielding at both the NTC and JRTC. The NTC Maneuver	MOUT will intia produce software	te design effort e version 1.3 tha	s in FY 06 and cat will provide the	continue with in ne common arch	tegration and itecture	у	13478	33358	65753
FY06: OH-58D TESS will provide a prototype TESS set, p	ursue air worthi	ness review, C7	ΓC integration, a	nd proof of prin	ciple.		0	310	0
FY05-FY07: Continues to develop limited CBS enhancement and integration.	ents and security	y accreditation a	and provide supp	oort to JLCCTC	functionality		5912	6667	7057
FY05-FY07: Continues NGATS program development and Controller module, baselining and maintaining the NGATS signature targets.							2968	2470	0
FY05-FY07: Continues development of One Tactical Enga FCS/Joint, Live/Virtual and Constructive solutions and intedevelopment.							15795	12104	44438
FY06-FY07: Develops limited Tactical Simulation (TACS accreditation.	IM) enhanceme	nts to support J	LCCTC and pro	vide TACSIM s	ecurity		0	2606	2290
FY05: Developed Live Virtual Constructive Integration Ar C Army Interoperability.	chitecture (LVC	C-IA) and conce	ept development	to provide Join	Seamless L-V	-	1565	0	0
FY05: Initiated development of short range scoring system existing Aerial Weapon Scoring System (AWSS).	s which can sco	re 2.75 inch tra	ining rockets fro	m 800-2500 me	eters from the		950	0	0
FY06: Develops intra-Tactical Operations Center (TOC) A	BCS Collection	capability for tl	he Digital AAR	Tool (DAART)	at the MCTC's		0	795	0
Total							40668	58310	119538
B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 20	O11 To Co	mpl Total Cost
OPA3, Appropriation NA0100 Training Devices, Non- System	295044	204559	243147	194149	222284	188287	185	792 CC	ONT CONT
OPA3, Appropriation MA6601 CTC Support	85252	60026	38497	61357	27130	23682	1	193 CC	ONT CONT

C. Acquisition Strategy Competitive development efforts based on performance specifications.

ARMY RDT	&E COST	Γ ANALYSIS	(R3)							Februar	y 2006	
BUDGET ACTIVITY 5 - System Development	and Demons	tration	PE NUMBI 0604715	ER AND TIT A - Non-		raining	Devices	- Eng De	ev		PROJEC 241	СТ
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
CBS Development	C/FFP	JPL, Cal Tech, Pasadena, CA	38299	5215	1-3Q	5623	1-3Q	5982	1-3Q	Continue	Continue	Continue
TACSIM Enhancement Development	C/CPFF	Northrop Grumman, Orlando, FL	1033	0		2280	1-3Q	1645	1-3Q	Continue	Continue	Continue
NGATS	T & M	AMCOM, Redstone Arsenal, AL	5732	2087	1Q	1785	1-2Q	0		Continue	0	0
CTC OIS: NTC	CPAF	Lockheed Martin Simulation Training and Support, Orlando, FL	63498	7395	1-3Q	14868	1-2Q	24985	1-2Q	Continue	Continue	Continue
CTC OIS: JRTC	CPAF	Lockheed Martin Simulation Training and Support, Orlando, FL	0	0		5332	1-2Q	30532	1-2Q	Continue	Continue	Continue
NTC-MOUT	TBS	TBS	0	0		2400	2Q	1680	2Q	Continue	Continue	Continue
CTIA	C/FFP	Lockheed Martin Inc., Orlando, FL	31452	3461	1-3Q	6876	1-2Q	4034	1-2Q	Continue	Continue	Continue
One TESS	Various	Multiple	7481	14395	1-3Q	10000	1-2Q	40904	1-2Q	Continue	Continue	Continue
LVCIA	various	various	2067	1565		0		0		0	3632	2067
AWSS	FFP	MDS, Fullerton,CA	5682	950	2Q	0		0		6632	0	6700
CBS Security	C/FFP	TITAN, Leavenworth, KS	0	230	1-3Q	240	1-3Q	245	1-3Q	Continue	Continue	Continue
TACSIM DEVELOPMENT	various	multiple	0	0		85	1-4Q	185	1-3Q	Continue	Continue	Continue
MCTC DAART	C/FFP	TBD	0	0		795	1-2Q	0		0	795	795
OH-58D TESS	TBD	TBD	0	0		310	1-3Q	0		0	310	310
Sub	total:		155244	35298		50594		110192		Continue	Continue	Continue
II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract

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Exhibit R-3 ARMY RDT&E COST ANALYSIS

	EE COS	Γ ANALYSIS	(R3)							Februar	y 2006	
BUDGET ACTIVITY 5 - System Development a	nd Demons	stration	PE NUMBE 0604715 .			Fraining	Devices	- Eng De	ev		PROJEC 241	CT
CBS Engineering & Technical Support	Multiple	Multiple	943	177	1-4Q	111	1-4Q	113	1-4Q	Continue	Continue	Continue
TACSIM Engineering, Technical and Administrative Support	Multiple	Multiple	169	0		0		0	1-4Q	0	0	(
CTC OIS: NTC	Various	Multiple	10023	1322	1-4Q	1571	1-4Q	2167	1-4Q	Continue	Continue	Continue
CTC OIS: JRTC	Various	Multiple	0	0		711	1-4Q	785	1-4Q	Continue	Continue	Continue
NTC-MOUT	Various	Multiple	0	0		100	1-4Q	70	1-4Q	Continue	Continue	Continue
NGATS	T&M	AMCOM, Redstone Arsenal, AL	2472	881	1Q	685	1Q	0	1Q	0	0	(
CTIA	Various	Various	4875	1300	1-4Q	1500	1-4Q	1500	1-4Q	Continue	Continue	Continue
OneTESS	Multiple	Various	3243	300	1-4Q	355	1-4Q	522	1-4Q	Continue	Continue	Continue
CMTC OCCS, RDMS and Sincgars Infrastructure	Multiple	Various	625	0		0		0		0	625	625
Subtot	al:		22350	3980		5033		5157		Continue	Continue	Continue
III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Value of
III. Test And Evaluation CBS Test Support	Method &				Award		Award		Award			Target Value of Contract
	Method & Type	Location	PYs Cost	Cost	Award	Cost	Award Date	Cost	Award Date	Complete	Cost	Value of Contract
CBS Test Support	Method & Type Various	Location Multiple	PYs Cost	Cost 0	Award	Cost 93	Award Date 1-4Q	Cost 95	Award Date 1-4Q	Complete	Cost	Value of Contract
CBS Test Support TACSIM Accreditation Testing	Method & Type Various Various MIPR	Location Multiple Multiple	PYs Cost 139 81	Cost 0 0	Award Date	93 32	Award Date 1-4Q 1-4Q	95 52	Award Date 1-4Q 1-4Q	Complete Continue Continue	Cost Continue Continue	Value o Contrac Continue Continue
CBS Test Support TACSIM Accreditation Testing OneTESS Development and Test	Method & Type Various Various MIPR	Location Multiple Multiple	PYs Cost 139 81 0	0 0 800	Award Date	93 32 761	Award Date 1-4Q 1-4Q	95 52 1400	Award Date 1-4Q 1-4Q	Continue Continue Continue	Continue Continue Continue	Value o Contrac Continu Continu
CBS Test Support TACSIM Accreditation Testing OneTESS Development and Test	Method & Type Various Various MIPR	Location Multiple Multiple	PYs Cost 139 81 0	0 0 800	Award Date	93 32 761	Award Date 1-4Q 1-4Q	95 52 1400	Award Date 1-4Q 1-4Q	Continue Continue Continue	Continue Continue Continue	Value o Contrace Continue Continue Continue Continue Targe Value o
CBS Test Support TACSIM Accreditation Testing OneTESS Development and Test Subtot	Method & Type Various Various MIPR al: Contract Method &	Location Multiple Multiple Multiple Multiple Performing Activity &	PYs Cost 139 81 0 220 Total	Cost 0 0 800 800 FY 2005	Award Date 1-4Q FY 2005 Award	Cost 93 32 761 886	Award Date 1-4Q 1-4Q 1Q FY 2006 Award	Cost 95 52 1400 1547 FY 2007	Award Date 1-4Q 1-4Q 1-4Q FY 2007 Award	Continue Continue Continue Continue Continue	Cost Continue Continue Continue Continue Total	Value of Contract Continue

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Exhibit R-3 ARMY RDT&E COST ANALYSIS

ARMY RDT	&E COS	ST ANALYSIS	(R3)							Februar	y 2006	
BUDGET ACTIVITY 5 - System Development			PE NUMBER 0604715			Training 1	Devices	- Eng De	v		PROJEC 241	СТ
OneTESS Program Management	Various	PEO STRI, Orlando, FL 32826	1719	300	1-4Q	988	1-4Q	1612	1-4Q	Continue	Continue	Continu
Subto	otal:		3311	590		1797		2642		Continue	Continue	Contin
Project Total (Cost:		181125	40668		58310		119538		Continue	Continue	Contin

Schedule Profile (R4 Exhibit)																	I	Febi	rua	ry 2	000	6		
BUDGET ACTIVITY 5 - System Development and Demonstration		PE NUM 060471				tem	ı Tr	rain	ing	De	evic	es	- En	ıg D	ev						PRO 24 2)JEC 1	Т	
Event Name		FY 05		FY (06		FY	07			FY	08		1	FY (FY 1				Y 1	
1) NGATS MS B, (2) NGATS IOC	1	2 3 4	1	2	3 4	1	2	3	4	1	2	3	4	1	2	3 4	4	1 .	2 :	3 4	. 1	1 2	<i>i</i> <i>i</i>	3
B) One TESS MS B, (4) One TESS MS C		3											4											
5) NTC OIS CTC Mod Block I													5											
CBS/TACSIM Annual Version Releases for ACTF																								
6) JRTC OIS CTC Mod Block II																	6							

Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY

5 - System Development and Demonstration

PE NUMBER AND TITLE

0604715A - Non-System Training Devices - Eng Dev

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Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
CBS/TACSIM Annual Version Releases for ACTF	1-3Q	1-3Q	1-3Q				
CTC OIS: NTC Installation/Integration & Fielding	2Q						
CTC OIS: NTC CTC MOD Block I				4Q			
CTC OIS: JRTC Installation/Integration & Fielding			1Q				
CTC OIS: JRTC CTC MOD Block II					4Q		
OneTESS Core Capability MSB/MSC/IOC	4Q			4Q		3Q	
OneTESS Medical Capability Begin System Integration/Production and Deployment					4Q		4Q
OneTESS Aviation Capability Begin System Integration/Production and Deployment						4Q	
OneTESS Engineers Capability Begin System Integration/Production and Deployment							4Q
NGATS MS B				4Q			
NGATS IOC						4Q	
CTIA Development Contract Award	1-2Q						
TACSIM Enhancement Development Contract Award		2Q	1Q				
AWSS Contract Award	2Q						

	ARMY RDT&E BUDGET IT	RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit) February											
	ET ACTIVITY stem Development and Demonstration		PE NUMBER <i>A</i> 0604715A -		em Trainin	g Devices ·	Eng Dev		PROJECT 573				
	COST (In Thousands)	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total Cost			
573	STRICOM/NAWCTSD SUPPORT	2116	1417	1510	1565	1563	1600	1602	Continuing	Continuing			

A. Mission Description and Budget Item Justification: In support of Non-System Training Devices (NSTD), this project funds the US Army Program Executive Officer Simulation, Training and Instrumentation (PEO STRI) core operations supporting development of training devices and simulations by PEO STRI project managers (PM TRADE, PM ITTS, PM CATT, PM Constructive Simulation and PM (Future Force) Simulation. FY07 project funds labor in support of PEO operations.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
FY05-FY07: Continues to support PEO STRI labor for project managers in PM TRADE, PM ITTS, PM CATT, PM Constructive Simulation and PM (Future Force)Simulation.	2116	1417	1510
Total	2116	1417	1510

C. Acquisition Strategy Not Applicable.