

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2004

## BUDGET ACTIVITY

**5 - System Development and Demonstration**

## PE NUMBER AND TITLE

**0604715A - Non-System Training Devices - Eng Dev**

COST (In Thousands)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	55865	70870	51694	44311	59063	38846	39797	Continuing	Continuing
241 NSTD COMBINED ARMS	54644	69295	49228	42874	57576	37320	38235	Continuing	Continuing
573 STRICOM/NAWCTSD SUPPORT	1221	1575	2466	1437	1487	1526	1562	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 help to modernize the forces through force multipliers that improve combat effectiveness by providing realistic training. 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 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. PEO STRI's unique geographic colocation with other services facilitates joint training solutions in a common environment. FY05 funding supports a more active presence in this effort.

In FY05, 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. In FY05, the 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).

These systems support the Current to Future transition paths of the Transformation Campaign Plan (TCP).

**ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)****February 2004**

BUDGET ACTIVITY

**5 - System Development and Demonstration**

PE NUMBER AND TITLE

**0604715A - Non-System Training Devices - Eng Dev****B. Program Change Summary**

	FY 2003	FY 2004	FY 2005
Previous President's Budget (FY 2004)	56002	71616	62634
Current Budget (FY 2005 PB)	55865	70870	51694
Total Adjustments	-137	-746	-10940
Congressional program reductions		-674	
Congressional rescissions			
Congressional increases			
Reprogrammings	-137	-1970	
SBIR/STTR Transfer			
Adjustments to Budget Years			-10940

FY05 funding was realigned to higher Army priorities. Funding was reduced for the Advanced Morse Mission Trainer (AMMT), SATCOM Principles Transformation Trainer (SPTT), Tactical Simulation System (TACSIM) and Combat Service Support/Tactical Simulation System (CSS/TSS) and National Training Center Objective Instrumentation System (NTC OIS). Funding was increased for Corps Battle Simulation (CBS), Common Training Instrumentation Architecture (CTIA), One Tactical Engagement Simulation System (OneTESS) and the Aerial Weapon Scoring System (AWSS).

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)

February 2004

## BUDGET ACTIVITY

**5 - System Development and Demonstration**

## PE NUMBER AND TITLE

**0604715A - Non-System Training Devices - Eng Dev**

## PROJECT

**241**

COST (In Thousands)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
241 NSTD COMBINED ARMS	54644	69295	49228	42874	57576	37320	38235	Continuing	Continuing

**A. Mission Description and Budget Item Justification:** This project is used to 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, 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 part of the Army Constructive Training Federation (ACTF). Tactical Simulation (TACSIM) is the tactical intelligence module and Combat Service Support/Training Simulation System (CSS/TSS) provides logistics functions in support of warfighter exercises. 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, and deployed sites. The National Training Center Objective Instrumentation System (NTC OIS) provides a completely digital based system for full tactical system connectivity and High Level Architecture (HLA) compatibility. The NTC Range Data Measurement System (NTC RDMS) Frequency Conversion develops the architecture to resolve the frequency usage conflict at NTC. The Combat Maneuver Training Center (CMTC) RDMS replaces RDMS infrastructure and the Data Communications Interfaces (DCIs) to ensure CMTC can sustain training operations. The CMTC SINCGARS Infrastructure correctly integrates Range Measurement and Control Subsystem into the CMTC-IS communications structure. The CMTC Observer Controller Communications System (OCCS) provides a communication system that operates on non-tactical frequencies for the Hohenfels Training Area (HTA) at the CMTC. 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. In FY05, a short range (800-2500m) rocket scoring capability will be added to existing AWSS. The New Generation Army Targetry Systems (NGATS) program is an evolutionary, blocked approach 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. The Basic Electronics Maintenance Trainer (BEMT) program supports the basic electronics training of missile electronics repair, test, measurements, and diagnostics for Redstone Arsenal and Fort Gordon. The FY05 RDTE program will 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), Digital Multi-Purpose Range Complexes (DMPRCs), and Homestation Instrumentation Training System (HITS). These systems provide integrated Live, Virtual, and Constructive training environments and tools in support of the Contemporary Operational Environment (COE), and Joint, Inter-Service, Inter-Agency training requirements. In FY05, this project funds development of limited enhancements to Corps Battle Simulation to ensure training relevance until the system is replaced with objective system. In addition, the FY05 program will provide funding for emerging concepts and studies for training material needs and Army initiatives.

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)

February 2004

## BUDGET ACTIVITY

**5 - System Development and Demonstration**

## PE NUMBER AND TITLE

**0604715A - Non-System Training Devices - Eng Dev**

## PROJECT

**241**

These systems support the Current, Stryker and Future Force transition path of the Transformation Campaign Plan.

### Accomplishments/Planned Program

	FY 2003	FY 2004	FY 2005
Continue development of devices, simulators and simulations to support training at the Combat Training Centers (CTCs), to include establishment of CTIA version 1.0 baselines for Live Training Transformation (LTT) product line to include NTC OIS, initiate development of renovation to the Range Data Measurement System and complete engineering development of Army Tactical Command and Control Systems (ATCCS) modules required for Army Battle Command Systems Integration (ABCSI) integration at NTC. Continue development of CMTC OCCS, RDMS and SINCGARS infrastructure.	42307	50486	21843
Continued to develop limited CBS enhancements and provided support to ACTF functionality and integration.	3714	6257	6495
Funding for emerging engineering manufacturing and development programs and studies for training material needs and Army initiatives.	580	0	0
Continue NGATS program development and planning for weapon system targetry requirements. Block I will correct shortcomings in non-NGATS target systems' reliability, availability, maintainability, supportability, interoperability, and deployability. Block II and future Blocks will address emerging weapon systems targetry requirements and technology insertion.	1012	1771	2127
Develop limited enhancements to Combat Service Support/Training Simulation System (CSS/TSS).	0	743	0
Continue development of One Tactical Engagement Simulation System One TESS. Refine systems architecture, develop FCS/Join, Live/Virtual and Constructive solutions and integrate operational testing.	7031	3633	17768
Develop limited Tactical Simulation (TACSIM) enhancements and to provide TACSIM security accreditation.	0	1439	0
Live Virtual Constructive Integration Architecture (LVC-IA) Concept Development to provide Joint Seamless L-V-C Army Interoperability.	0	2567	0
Evaluate Basic Electronics Maintenance Trainer (BEMT) computerized instructional devices with the capability for computer based instruction and hands-on practical exercise training. This system supports the Future Force transition plan of the TCP.	0	441	0
Development of short range scoring systems which can score 2.75 inch training rockets from 800-2500 meters from the existing Aerial Weapon Scoring System (AWSS).	0	0	995
Small Business Innovation Research/Small Business Technology Transfer Programs	0	1958	0
<b>Totals</b>	<b>54644</b>	<b>69295</b>	<b>49228</b>

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)

February 2004

BUDGET ACTIVITY

**5 - System Development and Demonstration**

PE NUMBER AND TITLE

**0604715A - Non-System Training Devices - Eng  
Dev**

PROJECT

**241**

## B. Other Program Funding Summary

FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Compl	Total Cost
156811	311963	241946	197566	226341	171085	209303	Continuing	Continuing
58218	42807	86421	106422	80905	94086	38262	Continuing	Continuing

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

ARMY RDT&E COST ANALYSIS(R3)									February 2004			
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT		
5 - System Development and Demonstration					0604715A - Non-System Training Devices - Eng Dev					241		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . CBS Development	C/FFP	JPL, Cal Tech, Pasadena, CA	30022	3166	1-4Q	4832	1-4Q	5200	1-4Q	Continue	43220	Continue
b . TACSIM Enhancement Development	C/FFP	Northrop Grumman, Orlando, FL	0	0		1033	1-4Q	0		0	1033	1033
c . CSS/TSS Upgrade Development	Various	Multiple	0	0		515	1-2Q	0		0	515	515
d . NGATS	T & M	AMCOM, Redstone Arsenal, AL	4141	677	2Q	914	1Q	1280	1Q	Continue	7012	Continue
e . NTC-OIS	CPAF	Lockheed Martin Corp, Orlando, FL	6493	12930	2Q	44075	2Q	15210	2Q	Continue	78708	Continue
f . CTIA	C/FFP	Lockheed Martin Inc., Orlando, FL	17330	9884	1-2Q	4238	1-2Q	4263	1-2Q	Continue	35715	Continue
g . One TESS	TBD	TBD	0	6348	2Q	3256	2Q	16168	1-2Q	Continue	25772	Continue
h . CMTC OCCS, RDMS & Sincgars Infrastrucure	FFP	TBD	65	3119	2Q	1436	1Q	0		0	4620	7788
i . NTC RDMS	FFP	SAIC, San Diego, CA	3903	0		0		0		0	3903	3812
j . VERTS	FFP	SAIC, San Diego, CA	2541	0		0		0		0	2541	2541

ARMY RDT&E COST ANALYSIS(R3)									February 2004			
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT		
5 - System Development and Demonstration					0604715A - Non-System Training Devices - Eng Dev					241		
I. Product Development (continued)	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
k . LVCIA	TBD	TBD	0	0		2067	2-4Q	0		0	2067	0
l . BEMT	SS/FFP	Nida Corp., Melbourne, FL	0	0		208	2Q	0		0	208	0
m . CTIA, NTC Fiber Optic	FFP	SAIC, San Diego, CA	0	13414	3-4Q	0		0		0	13414	0
n . AWSS	FFP	MDS, Fullerton,CA	0	0		0		995	1Q	0	995	0
Subtotal:			64495	49538		62574		43116		Continue	219723	Continue
II. Support Cost	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . CBS Engineering & Technical Support	Various	Multiple	517	350	1-4Q	1200	1-4Q	1040	1-4Q	Continue	3107	Continue
b . TACSIM Engineering, Technical and Administrative Support	Various	Multiple	0	0		169	1-4Q	0		0	169	185
c . CSS/TSS Engineering & Technical Support	Various	Multiple	0	0		120	1-4Q	0		0	120	120

ARMY RDT&E COST ANALYSIS(R3)									February 2004			
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT		
5 - System Development and Demonstration					0604715A - Non-System Training Devices - Eng Dev					241		
II. Support Cost (continued)	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
d . NTC-OIS	Various	Multiple	6843	1510	1-4Q	1670	1-4Q	1670	1-4Q	Continue	Continue	Continue
e . ABCS Integration	C/FFP	Madison Res Corp, Orlando, FL	4064	0		0		0		0	4064	4512
f . NGATS	T&M	AMCOM, Redstone Arsenal, AL	1280	335	1Q	857	1Q	847	1Q	Continue	Continue	Continue
g . CTIA	MIPR	Various	3025	1150	1-4Q	700	1-4Q	700	1-4Q	Continue	Continue	Continue
h . Concept Exploration	Multiple	Various	908	580	1-3Q	0		0		0	1488	1488
i . OneTESS	Multiple	Various	0	683	1-4Q	377	1-4Q	1600	1-4Q	Continue	2660	Continue
j . CMTC OCCS, RDMS and Sincgars Infrastructure	Multiple	Various	0	300	1-4Q	325	1-4Q	0		0	625	625
k . LVC-IA	Multiple	Various	0	0		500	2-3Q	0		0	500	0
Subtotal:			16637	4908		5918		5857		Continue	Continue	Continue

ARMY RDT&E COST ANALYSIS(R3)									February 2004			
BUDGET ACTIVITY <b>5 - System Development and Demonstration</b>					PE NUMBER AND TITLE <b>0604715A - Non-System Training Devices - Eng Dev</b>					PROJECT <b>241</b>		
III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . CBS Test Support	Various	Multiple	59	59	2-4Q	87	1-4Q	100	1-4Q	Continue	Continue	Continue
b . TACSIM Accreditation Testing	MIPR	NAVAIR Orlando, FL 32826	0	0		81	1-3Q	0		0	81	81
Subtotal:			59	59		168		100		Continue	Continue	Continue
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . CBS Program Management	Various	PEO STRI, Orlando, FL 32826	412	139	1-4Q	138	1-4Q	155	1-4Q	Continue	Continue	Continue
b . TACSIM Program Management	Various	Multiple	0	0		156	1-4Q	0		0	156	196
c . CSS/TSS Program Management	Various	Multiple	0	0		108	1-4Q	0		0	108	137
d . BEMT program Management	MIPR	PEO STRI/NAVAIR, Orlando, FL	0	0		233	1-4Q	0		0	233	0

<b>ARMY RDT&amp;E COST ANALYSIS(R3)</b>									<b>February 2004</b>			
BUDGET ACTIVITY <b>5 - System Development and Demonstration</b>					PE NUMBER AND TITLE <b>0604715A - Non-System Training Devices - Eng Dev</b>					PROJECT <b>241</b>		
IV. Management Services (continued)	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			412	139		635		155		Continue	Continue	Continue
Project Total Cost:			81603	54644		69295		49228		Continue	Continue	Continue

Schedule Profile (R4 Exhibit)																				February 2004												
BUDGET ACTIVITY 5 - System Development and Demonstration										PE NUMBER AND TITLE 0604715A - Non-System Training Devices - Eng Dev																		PROJECT 241				
Event Name	FY 02				FY 03				FY 04				FY 05				FY 06				FY 07				FY 08				FY 09			
	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	1	2	3	4
CBS Annual Version Release																																
(1) NTC OIS MS B																																
OneTESS Phase I Dev																																
(2) OneTESS MS B																																
(3) NTC IOC																																
(4) NTC RDMS FOC																																
(5) CMTC RDMS/OCCS FOC																																
AWSS Dev																																
NGATS Dev																																
CTIA Dev																																

Schedule Detail (R4a Exhibit)						February 2004	
BUDGET ACTIVITY <b>5 - System Development and Demonstration</b>			PE NUMBER AND TITLE <b>0604715A - Non-System Training Devices - Eng Dev</b>			PROJECT <b>241</b>	
<u><b>Schedule Detail</b></u>	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
CBS Contract Award	1-4Q	1-4Q	1-4Q	1-4Q			
NTC OIS MS B	2Q						
NTC OIS Block 1 Review			1Q				
NGATS Contract Award	2Q	1Q	1Q	1Q	1Q	1Q	1Q
CTIA MS B							
CTIA Development Contract Award	1-2Q	1-2Q	1-2Q	1-2Q	1-2Q	1-2Q	1-2Q
CMTC OCCS, RDMS & SINCGARS Cont Awd	2Q	1Q					
One TESS Contract Award	2Q	2Q	1Q	1Q	1Q	1Q	1Q
One TESS MS B			4Q				
One TESS MS C					1Q		
BEMT Equipment Delivery		2Q					
TACSIM Enhancement Development Contract Award		1-4Q					
CSS/TSS Upgrade Development Contract Award		1-4Q					
HITS Contract Award		2Q					
AWSS Contract Award			1Q				

<b>ARMY RDT&amp;E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)</b>	<b>February 2004</b>
--	----------------------

BUDGET ACTIVITY <b>5 - System Development and Demonstration</b>	PE NUMBER AND TITLE <b>0604715A - Non-System Training Devices - Eng Dev</b>	PROJECT <b>573</b>
--	--	-----------------------

COST (In Thousands)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
573     STRICOM/NAWCTSD SUPPORT	1221	1575	2466	1437	1487	1526	1562	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. FY05 project funds labor in support of PEO operations.

<u>Accomplishments/Planned Program</u>	FY 2003	FY 2004	FY 2005
PEO STRI labor in support of project managers PM TRADE, PM ITTS, PM CATT, PM Constructive Simulation and PM (Future Force) Simulation	1221	1566	2466
Small Business Innovative Research/Small Business Technology Transfer Programs	0	9	0
<b>Totals</b>	1221	1575	2466

**B. Other Program Funding Summary:** Not applicable for this item.

**C. Acquisition Strategy:**Not Applicable.