ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE
6 - Management support	**0604258A - TARGET SYSTEMS DEVELOPMENT**

	COST (In Thousands)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
	Total Program Element (PE) Cost	10113	17787	13498	13703	8888	8943	9004
238	AERIAL TARGETS	6341	6176	6226	6415	5082	5199	5318
459	GROUND TARGETS	3772	11611	7272	7288	3806	3744	3686

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

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE
6 - Management support	**0604258A - TARGET SYSTEMS DEVELOPMENT**

B. Program Change Summary	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2008/2009)	12785	13499	13570
Current BES/President's Budget (FY 2009)	10113	17787	13498
Total Adjustments	-2672	4288	-72
Congressional Program Reductions		-112	
Congressional Rescissions			
Congressional Increases		4400	
Reprogrammings	-2357		
SBIR/STTR Transfer	-315		
Adjustments to Budget Years			-72

The FY07 Change Summary includes realigning the congressional add "Next Generation Ice Protection Technologies for UAVs" ($2.0 million) to PM UAV (0305204A), to execute in accordance with Congressional intent. FY08 Change Summary includes $4.4 million of Congressional Adds ($2.0 million for Next Generation Ice Protection Technologies for Unmanned Aerial Vehicles and $2.4 million for Mobile Objects for Net-Centric Operations) and ($112 thousand) of Congressional Program Reductions.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
6 - Management support	**0604258A - TARGET SYSTEMS DEVELOPMENT**	**238**

COST (In Thousands)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
238 AERIAL TARGETS	6341	6176	6226	6415	5082	5199	5318

A. Mission Description and Budget Item Justification: Aerial Targets support Army Transformation and the Global War on Terrorism by providing for development, acquisition, operation, storage, update, and maintenance of realistic surrogate or acquired threat high-performance, multi-spectral aerial targets and development of virtual target computer models of aerial targets. Modern weapons require test, evaluation, and training using threat representative aerial targets to assess their effectiveness on the battlefield. This program encompasses a family of rotary and fixed-wing targets; full-scale, miniature and subscale targets; virtual targets; ancillary devices; and their control systems. These products are required to adequately stress weapon systems undergoing test and evaluation (T&E). In order to stress systems under test and evaluation, aerial targets must have flight characteristics, signatures, and other performance factors that emulate the modern threat. This includes long-range planning to determine future target needs and development of coordinated requirement documents; the management of target research, development, test and evaluation process; execution of the validation process to ensure that surrogate targets adequately represent the threat; development and acquisition of surrogate and acquired targets; and continuing maintenance, storage, and development/enhancements/update via engineering services of the developed and acquired threat targets to ensure availability for the T&E customer. The Army is the Reliance lead for rotary wing targets and towed target developments and the Tri-Service lead for procurement and enhancement of the MQM-107 fixed wing target.

Accomplishments/Planned Program:	FY 2007	FY 2008	FY 2009
Continues management and sustainment of 12 Army (Reliance Lead) Rotary Wing Targets, including updates for obsolescence, maintenance, and safety to support T&E programs such as Medium Extended Air Defense System (MEADS), Surface Launched Advanced Medium Range Air to Air Missile (SLAMRAAM), Apache Block III, and others.	879	668	531
Provides Research, Development, Test and Evaluation (RDT&E) portion of funds needed to update aging MQM-107 equipment to overcome obsolescence for spare and repair parts, and to maintain equipment and documentation for safe operations supporting T&E programs such as Patriot, Stinger, Joint Land Attack Cruise Missile Defense Elevated Netted Sensors (JLENS), MEADS, SLAMRAAM, and classified programs for Army and Tri-Service customers. FY 2005 began the process to acquire replacements for expended targets, which will include development of updated component/subsystem replacements of no-longer-available, obsolete equipment and systems to reduce operational cost.	1329	1302	1239
Completes redesign and testing of upgraded Target Tracking Control System (TTCS) to new design. Complete testing of upgraded initial test sets. Continue to support current TTCS to maintain operations until all TTCSs are upgraded. Continue management of Targets Management Initiative to develop and integrate a set of Common Digital Architecture control equipment into aerial targets to improve performance and reduce operating costs. Completes upgrade of remaining TTCS to new configuration and begins sustainment. Also develops/improves integrated test set, operator displays, software performance enhancements, and documentation of design. This will provide support to programs such as Patriot, SLAMRAAM, JLENS, MEADS, and others.	854	716	696
Continues development, enhancement, maintenance, and storage for all RDT&E aerial targets, towed targets, and ancillary devices. Continues development and testing of Low Cost Towed target systems (Cruise Missile Tow Target, Reduced Radar Tow Target, and the Special Low Altitude Tow Target) emulating current threats at a very low cost to Patriot, JLENS, and classified customers. Starting in FY07, signature modifications and performance enhancements to these targets began.	1079	625	712

Integrated Avionics Program incorporates Central Test and Evaluation Investment Program (CTEIP) Common Digital Architecture into aerial targets controlled by TTCS, improving reliability, maintainability, and target performance while reducing operational cost. Provides RDT&E funding to initialize production and provide maintainer and operator training, and finalize technical documentation. The customer will provide funding and training for production units.	221	299	238
Funding supports the Aerial Virtual Targets in the research and development of evolving Army and DoD simulation standards and evolving implementation techniques; fabricates additional simulation target models of airplanes, helicopters, missiles, and unmanned aerial vehicles in commonly used model formats; develops simulation target model infrared and radar signature models, and provides archiving and distribution of simulation target models to simulation developers throughout the Army and DoD test and evaluation communities. Simulation target models are employed to facilitate simulations for both developmental and operational testing (test planning, test rehearsal, post-test analysis, hardware-in-the-loop testing, and execution of test events that are too costly or difficult to be conducted under actual field conditions). These models will be used by Developmental Test Command's (DTC) simulations, Operational Test Command's (OTC) Analytical Simulation and Instrumentation Suite (OASIS), and multiple weapon systems' T&E (e.g. Future Combat System, Patriot, SBCT (Stryker), MEADS, etc.). These models are available on-line to all T&E simulation developers.	609	904	913
Develops, tests and provides generic, tactical class Unmanned Aerial System Targets (UAS-T) to provide threat representative support for MEADS/SLAMRAAM testing in FY08-10 and MEADS testing in future years. Provides management of approximately 20 customer funded production air vehicles for Developmental Testing (DT) and initial targets fleet, ground support equipment, and maintainer and operator training. TTCS will be utilized for target control. This effort provides significant cost avoidances over using real UAVs for T&E Targets.	794	478	552
Initiated Airborne Control System for Rotary Wing targets, incorporated the Central Test and Evaluation Investment Program(CTEIP)Common Digital Architecture into aerial rotary wing targets controlled by TTCS; improving reliability, maintainability, and target performance while reducing operational cost.	576		
Provides for management testing and fielding of replacement Rotary Wing (RW) targets to replace the current aging and unsupportable targets (aircraft & drone kits) with new fully supportable/maintainable RW capability for T&E customers. This capability is required to provide RW targets for kill and non-kill missions for T&E tests for customers such as MEADS, SLAMRAAM, FCS-SoS, EAADS, APACHE and others.		1025	1345
Small Business Innovative Research / Small Business Technology Transfer Programs		159	
Total	6341	6176	6226

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
6 - Management support	**0604258A - TARGET SYSTEMS DEVELOPMENT**	**459**

COST (In Thousands)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
459 GROUND TARGETS	3772	11611	7272	7288	3806	3744	3686

A. Mission Description and Budget Item Justification: This program funds Army efforts to support test and evaluation (T&E) of advanced weapon systems and supports Army Transformation by developing surrogates, acquiring foreign equipment and developing virtual target computer models of ground vehicle targets. These products are required to adequately stress weapon systems undergoing T&E. This tasking includes long-range planning to determine future target needs and development of coordinated requirement documents; the centralized management of the ground target research, development, test and evaluation processes; execution of the validation process; acquisition of foreign equipment; and continuing maintenance, storage, and development/enhancement/update via engineering services of developed and acquired targets to ensure availability for T&E customers. This program also manages use of current assets and operates centralized spare parts program. The US Army is the Tri-Service lead for providing mobile ground targets for T&E.

Accomplishments/Planned Program:	FY 2007	FY 2008	FY 2009
Funds management and oversight of five Primary Operating Centers to include operation, storage, maintenance, and configuration management for the repair of 158 active and 188 inactive Mobile Ground Target Vehicles, and acquisition of new material and spare parts. Supports users such as Future Combat Systems (FCS), Armed Reconnaissance Helicopter (ARH), Guided Multiple Launch Rocket System (GMLRS), Excalibur, Mid-Range Munition (MRM), Non-Line-of-Sight Launch System (NLOS-LS), Precision Guided Mortar Munition (PGMM), and others.	2148	2055	2515
Manages Mobile Ground Target Surrogates development effort. Supplements the Mobile Ground Targets threat fleet with up to date threat representatives surrogates that emulate the visual, infrared and radio frequency signatures to support T&E (e.g. ARH, FCS, NLOSLS, CKEM, and others. FY08 begins development and fielding of SCUD-B and T-90 Surrogate Vehicles.	358	3212	2828
Supports research and development of the Ground Virtual Targets of evolving Army and DOD simulation standards and evolving implementation techniques; fabricates additional simulation target models of wheeled and tracked ground vehicles in commonly used model formats; develops simulation target model infrared (IR) and radio frequency (RF) signature models support vertification and validation of models, and provides archiving and distribution of simulation target models to simulation developers throughout the Army and DOD T&E communities. Simulation target models are employed to facilitate simulations for both developmental testing (DT) and operational testing (OT)(test planning, test rehearsal, post-test analysis, hardware-in-the-loop testing, and execution of test events that are too costly or difficult to be conducted under actual field conditions). These models will be used by DTC's simulations, OTC's Analytical Simulation and Instrumentation Suite (OASIS), and multiple weapon systems' T&E (e.g. Future Combat System [FCS], Excalibur, Precision Guided Mortar Munition[PGMM], Mid Range Munition[MRM], etc.). These models are available on-line to all T&E simulation developers.	1266	1651	1929
Next Generation Ice Protection Technology System for UAVs. Funding will be moved to PM UAV.		2000	
Mobile objects for Net-Centric Operations. Funding will be moved from this line.		2400	
Small Business Innovative Research / Small Business Technology Transfer Program		293	