ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE
3 - Advanced technology development	**0603734A - Military Engineering Advanced Technology**

COST (In Thousands)		FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate
Total Program Element (PE) Cost		21716	21390	7848	6890	7690	5754	6786
T08	COMBAT ENG SYSTEMS	3701	7196	7848	6890	7690	5754	6786
T13	Stationary Power & Energy Tech Demonstrations (CA)	12745	10153	0	0	0	0	0
T15	MILITARY ENGINEERING TECHNOLOGY DEMONSTRATION (CA)	5270	4041	0	0	0	0	0

A. Mission Description and Budget Item Justification: The objective of this advanced technology development program element is to mature and demonstrate advanced military engineering and battlespace environment technologies that support the Future Force, and where feasible, exploit opportunities to enhance Current Force capabilities. Technologies demonstrated within this program element are transitioned from PE 0602784A (Military Engineering Technology). Military engineering technologies demonstrated include Joint Rapid Airfield Construction (JRAC) technologies that support the expedient upgrading of existing airfields and rapid construction of new contingency airfields. Battlespace environment technologies demonstrated include Battlespace Terrain Reasoning and Awareness (BTRA) and Joint-Geospatial Enterprise Services (J-GES) technologies. BTRA enables the warfighter to understand the impact of the terrain and weather effects during planning and execution of military operations. The J-GES program matures and demonstrates technology that supports network centric delivery and update of geospatial data and services to all echelons for battle command planning and mission rehearsal. The cited work is consistent with Strategic Planning Guidance, the Army Science and Technology Master Plan (ASTMP), the Army Modernization Plan, and the Defense Technology Area Plan (DTAP). The U.S. Army Engineer Research and Development Center, headquartered at Vicksburg, Mississippi, executes the project work.

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B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	25657	7301	7562
Current BES/President's Budget (FY 2007)	21716	21390	7848
Total Adjustments	-3941	14089	286
Congressional Program Reductions		-95	
Congressional Rescissions		-216	
Congressional Increases		14400	
Reprogrammings	-3941		
SBIR/STTR Transfer			
Adjustments to Budget Years			286

FY05 decrease of $3.941 million attributed to reprogramming of Congressional Adds for Mobile Transformers ($.959 million after adjustment for Congressional Undistributed Reductions) and Mobile and Advanced Mobile Microgrid Program ($2.973 million after adjustment for Congressional Undistributed Reductions) to PEs 0603005A and 0603125A respectively for proper execution.

Nine FY06 Congressional adds totaling $14400 were added to this PE.

FY06 Congressional adds with no R-2A (appropriated amount is shown):
($2000) Advanced Structure and Composites in Construction for Protective Structures
($1400) Battlefield Production of Hydrogen for Fuel Cell Vehicles
($1500) Defense Applications of Stationary Carbonite Fuel Cells
($1100) Fireproofing/Corrosion Resistant Coating System
($3500) Fuel Cell Hybrid Generating System - Ramgen Technology
($1800) GEDAC Demonstration
($1000) Integration of Commercial GIS capabilities into Army C4ISR
($1000) Real-Time Drinking Water Security Program
($1100) Reforming Technologies for Renewable and Flexible Fuel Sources

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
3 - Advanced technology development	**0603734A - Military Engineering Advanced Technology**	**T08**

COST (In Thousands)	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate
T08 COMBAT ENG SYSTEMS	3701	7196	7848	6890	7690	5754	6786

A. Mission Description and Budget Item Justification: The objective of this advanced technology development project is to mature and demonstrate advanced military engineering and battlespace environment technologies that support the Future Force and, where feasible, exploit opportunities to enhance Current Force capabilities. Technologies demonstrated within this project are transitioned from program element 0602784A (Military Engineering Technology), Projects 855, T40 and T42. Joint Rapid Airfield Construction (JRAC) technologies support the expedient upgrading of existing airfields and rapid construction of new contingency airfields. Battlespace Terrain Reasoning and Awareness (BTRA) technologies enable the warfighter to understand the impact of the terrain and weather effects during planning and execution of military operations. The Joint-Geospatial Enterprise Services (J-GES) program matures and demonstrates technology that supports network centric delivery and update of geospatial data and services to all echelons for battle command planning and mission rehearsal. The cited work is consistent with Strategic Planning Guidance, the Army Science and Technology Master Plan (ASTMP), the Army Modernization Plan, and the Defense Technology Area Plan (DTAP). The U.S. Army Engineer Research and Development Center, headquartered at Vicksburg, Mississippi, executes the project work.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Joint Rapid Airfield Construction - In FY05, integrated performance models into the site selection process and selected lightweight matting systems and all-weather soil stabilizers. In FY06, evaluate select maintenance and repair techniques for contingency airfields and develop integrated site selection tools including integrated advanced site assessment models, terrain analysis technologies and performance prediction modeling to optimize contingency airfield site selection. In FY07, will demonstrate all JRAC technologies for C-17 contingency airfield operations.	3701	3943	2027
Joint-Geospatial Enterprise Services (J-GES) - In FY06, utilize a network-centric architecture to demonstrate basic geospatial information services from multiple locations and develop technology that supports network centric delivery and update of geospatial data and services. In FY07, will expand J-GES capabilities and demonstrate and test these geospatial services across a broader, more complex network to Army programs and other Command and Control /Intelligence, Surveillance, and Reconnaissance systems; and will test and evaluate geospatial data/information flow across multiple echelons to support battle command planning and mission rehearsal.	0	2045	3028
Battlespace Terrain Reasoning and Awareness Demonstrations - - In FY06, establish a terrain reasoning node within the Multi-cell and Dismounted Experimentation Program to measure the benefit of terrain reasoning for informed command and control decision making; conduct initial demonstration of tactical bandwidth compatible situation and threat assessment tools within battlefield functional area processes and battlefield operating systems architectures. In FY07, will demonstrate, test and evaluate spatial and predictive analysis tools in warfighter experiments within battle command and intelligence, surveillance and reconnaissance user tools and experiment within Joint Geospatial Enterprise Service- Army Prototype Program (JGES-APP) as a specific beta evaluation.	0	1208	2793
Total	3701	7196	7848