

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

February 2007

BUDGET ACTIVITY		PE NUMBER AND TITLE						
3 - Advanced technology development		0603125A - Combating Terrorism, Technology Development for						
COST (In Thousands)	FY 2006 Actual	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	9528	8503	13061	13148	13278	12761	12832	13206
DF3 CONSEQUENCE MANAGEMENT & RECOVERY	3834	1088						
DF5 AGILE INTEGRATION & DEMONSTRATION	5694	7415	13061	13148	13278	12761	12832	13206

**A. Mission Description and Budget Item Justification:** The objective of this program element (PE) is to mature and demonstrate advanced survivability technologies against asymmetric threats in support of the Future Force and, where feasible, exploit opportunities to enhance Current Force. This PE also funds efforts to accelerate technologies with high payoff to address current operational shortfalls and assist deliveries of Future Force oriented projects into current operations capabilities. Survivability and Denial, project DF1, demonstrates a survivability planning capability and lightweight low-cost blast/ballistic protective measures. This increases base camp survivability of personnel and equipment against advanced conventional weapons and terrorist threats, reduces logistics requirements, and enhances the capability of the Future Force in low-intensity conflicts and peacekeeping operations. Projects DF2, DF3, and DF6 fund congressional special interest items. Agile Integration and Demonstration, project DF5, funds critical technology acceleration efforts of selected high-payoff technologies emerging from work in other PEs that have potential to fill emerging capability gaps requiring immediate action. The cited work is consistent with Strategic Planning Guidance, Army Science and Technology Master Plan (ASTMP), the Army Modernization Plan, and the Defense Technology Area Plan (DTAP). Work in this PE is performed by the US Army Engineer Research and Development Center headquartered at Vicksburg, MI and Research, Development, and Engineering Command (RDECOM), Ft. Belvoir, VA.

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

February 2007

BUDGET ACTIVITY <b>3 - Advanced technology development</b>	PE NUMBER AND TITLE <b>0603125A - Combating Terrorism, Technology Development for</b>
---	--

<u><b>B. Program Change Summary</b></u>	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2007)	10159	7497	8102	8280
Current BES/President's Budget (FY 2008/2009)	9528	8503	13061	13148
Total Adjustments	-631	1006	4959	4868
Congressional Program Reductions		-32		
Congressional Rescissions				
Congressional Increases		1100		
Reprogrammings	-631	-62		
SBIR/STTR Transfer				
Adjustments to Budget Years			4959	4868

FY08 and FY09 funding increased to support an OSD directed Power and Energy Security effort.

One FY07 congressional add totaling \$1055 after adjustment for undistributed Congressional reductions was added to this PE.

(\$1055) Advanced Mobile Micro Grid Program

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2007

<b>BUDGET ACTIVITY</b> <b>3 - Advanced technology development</b>		<b>PE NUMBER AND TITLE</b> <b>0603125A - Combating Terrorism, Technology Development for</b>					<b>PROJECT</b> <b>DF5</b>		
COST (In Thousands)	FY 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	
DF5 AGILE INTEGRATION & DEMONSTRATION	5694	7415	13061	13148	13278	12761	12832	13206	

**A. Mission Description and Budget Item Justification:** This project allows the Army to exploit emerging technology from across the Army Research Community and focus those technologies on addressing current warfighter needs. Efforts derive from successes of the Research, Development, and Engineering Command (RDECOM), the Army's Corps of Engineers Research and Development Center, the Medical Research Materiel Command, and the Space and Missile Defense Command. Successes emerging from Department of Energy (DOE) Laboratories are also potential AIDE projects this year. This effort allows research activities to team with Program Managers and the Rapid Equipping Force to accelerate technology maturation and ready technologies to transition to the operational environment. Short term maturation could include, but is not limited to, accelerating the technology development schedule and/or performing detailed safety and validation tests in field/operational environment testing to improve technology readiness. While not limited to these areas, major efforts under this project support the accelerated maturation of counter terrorism capabilities (detection, surveillance of deployment, and disruption/destruction of threat), and Soldier and Force Protection measures and well as emerging Energy Surety technologies for transition into an operational environment. Supported requirements are approved by TRADOC or the combatant commanders. The cited work is consistent with Strategic Planning Guidance, the Army Science and Technology Master Plan, the Army Modernization Plan, and the Defense Technology Area Plan. Work in this project is managed by the US Army Research, Development, and Engineering Command, Ft. Belvoir, VA.

<u>Accomplishments/Planned Program:</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
In FY06, the first year of this project, the RDECOM solicited proposals from its component labs and centers, and selected eight proposals for funding from the 65 proposals received. Major efforts support the accelerated maturation of counter terrorism technologies, force protection efforts, and enhanced Soldier capabilities. These projects include, but are not limited to; the addition of an explosives detection arm onto the Husky route clearance vehicle for roadside explosives detection; a new add-on ballistic neck and throat protection to the combat helmet to reduce combat casualties from small arms and blast fragmentation; significant operational enhancements to the Mobile RAID surveillance system, including integrated navigation, FBCB2, UTAMS, and voice communications followed by an in-theater evaluation; and the development of game based software programs providing enhanced soldier training systems, to include the Every Soldier a Sensor (ES3) training system and a Tactical Combat Casualty Care (TC3) training system to provide combat medics a virtual environment for realistic, tailorable training.	5694			
In FY07, complete maturation, demonstration, and evaluation of FY06 efforts (\$1.4M), in preparation for transition to operational units. Solicit new technology proposals, review, and select most relevant programs for funding. The FY07 program will contain technology projects to continue the maturation of counter terrorism technologies, provide enhanced force protection, introduce medical life saving projects, and provide enhanced Soldier capabilities. Planned force protection programs include adding armor to provide additional protection to route reconnaissance vehicles and to build prototypes and conduct operational testing of vehicle mounted non-lethal systems. Medical technologies include development of a small, easily portable oxygen concentrator for patient treatment and transport. Soldier and operational enhancements include the creation of a PC-based Bi-Lateral Negotiation Environment Simulation (BLNE) to provide realistic comprehensive language and cultural training for Soldiers and officers deployed to a foreign country.		7207		

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2007

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT		
<b>3 - Advanced technology development</b>	<b>0603125A - Combating Terrorism, Technology Development for</b>	<b>DF5</b>		
In FY08, will complete maturation, demonstration, and evaluation of FY07 efforts in preparation for transition to operational units, approximately \$4M. This program will continue to identify maturing technologies from within all Army R&D activities and the DOE, to accelerate the development of suitable technologies to the warfighter for demonstration and experimentation. Emphasis will continue to be on those areas that provide the operational forces increased protection and survivability, and meet the Operational Need Statements of the deployed forces in OEF and OIF. In FY09 will complete maturation, demonstration and evaluation of FY08 efforts in preparation for transition to operational units. Will identify and mature through prototype development and testing of additional new technologies from all sources that can be accelerated to overcome the changing capability gaps and requirements shortfalls experienced by operational forces around the globe.			8000	8257
The Rapid Equipping Force (REF) is developing a Transportable Hybrid Electric Power Station (THEPS). THEPS will incorporate solar technology, wind technology, advanced storage technology, and intelligent power management technology to reduce use of fossil fuel generators. Intent of these alternative power sources is to reduce the tether of fuel resupply. There is a pressing need to continue R&D to integrate advanced technologies into THEPS. In FY08, spiral development of more efficient photovoltaic technology, wind technology, and more advanced algorithms for intelligent power management will be incorporated to provided larger size (10kw and 15kw) THEPS. Larger size THEPS will allow more flexibility to support remote operations, tactical command posts, and temporary Forward Operating Bases (FOB) with less logistics tail and more cost avoidance as a result of consuming less fossil fuel. In FY09, develop and demonstrate 10-15kw THEPS and will network THEPS into an intelligent power grid to provide more efficiencies and redundancies. Field test THEPS at remote sites and operating bases.			5061	4891
Small Business Innovative Research/Small Business Technology Transfer Programs			208	
<b>Total</b>		5694	7415	13061 13148