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Exhibit R-2, PB 2011 Army RDT&E Budget Item Justification									DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 3: Advanced Technology Development (ATD)				R-1 ITEM NOMENCLATURE PE 0603125A: Combating Terrorism - Technology Development							
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	Base FY 2011 Estimate	OCO FY 2011 Estimate	Total FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	12.656	11.927	10.550	0.000	10.550	12.191	4.856	4.941	5.016	0	72.687
DF5: AGILE INTEGRATION & DEMONSTRATION	12.656	11.927	10.550	0.000	10.550	12.191	4.856	4.941	5.016	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element (PE)/project accelerates technologies with high payoff to address current operational shortfalls or future force capability gaps. This PE demonstrates programs requiring accelerated action to fill critical technology gaps. In addition, project DF5 includes the Rapid Equipping Force (REF) effort to develop a Transportable Hybrid Electric Power Station (THEPS) that incorporates solar technology, wind technology, advanced storage technology, and intelligent power management technology to reduce use of fossil fuel generators. Work in this PE is related to and fully coordinated with PE 0603710A (Night Vision Advanced Technology), PE 0602303A (Missile Technology), PE 0602105A (Materials Technology), PE 0602618A (Ballistics Technology), PE 0602601A (Combat Vehicle and Automotive Technology), PE 0603005A (Combat Vehicle and Automotive Advanced Technology) and PE 0602705A (Electronics and Electronic Devices).The cited work is consistent with the Director, Defense Research and Engineering Strategic Plan, the Army Modernization Strategy, and the Army Science and Technology Master Plan. Work in this PE is performed by the Army Research, Development, and Engineering Command (RDECOM) and efforts are executed by the appropriate Research, Development, and Engineering Centers (RDECs).

B. Program Change Summary (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Previous President's Budget	13.022	11.989	11.375	0.000	11.375
Current President's Budget	12.656	11.927	10.550	0.000	10.550
Total Adjustments	-0.366	-0.062	-0.825	0.000	-0.825
• Congressional General Reductions		-0.062			
• Congressional Directed Reductions					
• Congressional Rescissions		0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers					
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.366	0.000			
• Adjustments to Budget Years	0.000	0.000	-0.825	0.000	-0.825

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A. Mission Description and Budget Item Justification

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B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	Base FY 2011	OCO FY 2011	Total FY 2011
Program #1 AIDE: This effort accelerates the development and testing of capabilities that address future force needs. It identifies maturing technologies from within all Army research and development (R&D) activities and the Department of Energy (DOE), to accelerate the development of suitable technologies to the Warfighter for demonstration. Emphasis continues to be on those high payoff and cost effective areas that provide the operational forces increased protection and survivability, and meet the Operational Need Statements of the deployed forces in Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF). In FY09, completed maturation, demonstration and evaluation of FY08-09 efforts in preparation for transition to operation units. Identified and matured, through prototype development and testing, 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. Projects included three power and energy programs that will introduce smart cell	8.172	7.903	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	Base FY 2011	OCO FY 2011	Total FY 2011
technologies using solar power and fuel cells to decrease the logistical Forward Operation Base (FOB) foot print and decrease fuel consumption; one program to enhance IED incident prediction tools; a smart rocket launcher interface system; a hands-on cricothyrotomy trainer; and a solar powered refrigeration unit for soldiers in OEF and OIF. In FY10, integrate 3-D fusion for persistent stare opeatioans on constant hawk, field advance trama and wound treatments for hemostasis, integrate 30mm ammunition lethailty improvements and field advance IED interegration, communication and thermal viewing technologies to clearance teams in OEF and OIF. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 Base FY 2011 Plans: FY 2011 Base OCO FY 2011 Plans: FY 2011 OCO						
Program #2 Transportable Hybrid Electric Power Station (THEPS): THEPS incorporates solar technology, wind technology, advanced storage technology, and intelligent power management technology to reduce use of fossil fuel generators. In FY09, developed and demonstrated larger size (10-15kW) THEPS that allows flexibility in support of remote operations tactical command posts; develop and demonstrated the networked THEPS to provide an intelligent power grid for more efficiencies and redundancies. In FY10, conduct THEPS demonstration at remote sites and operating bases; continue demonstrations at Forward Operating Bases (FOB) with less logistics tail and more cost avoidance as a result of consuming less fossil fuel. FY11: Hybrid Intelligent Power (HI Power): an intelligent power grid design that allows for the most efficient use of power sources available and		4.484	3.690	10.550	0.000	10.550

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	Base FY 2011	OCO FY 2011	Total FY 2011
the most intelligent distribution of power the loads required. This intelligent power grid design incorporates renewable technologies such as wind and solar along with energy storage components to reduce the consumption of fossil fuels by power sources on the battlefield and increase the reliability of the overall power grid. HI Power technologies will develop and demonstrate in the 3kW - 30kW range, thus allowing flexibility in support of remote operations and tactical command posts. In FY11 conduct efficiency testing on demonstrators and develop lighter weight power electronics systems to support the need for mobility on the battlefield. Will begin transition to the Program Manager for Mobile Electric Power (PM MEP) by conducting late stage research and development to procure the HI Power architecture.						
FY 2009 Accomplishments: FY 2009						
FY 2010 Plans: FY 2010						
Base FY 2011 Plans: FY 2011 Base						
OCO FY 2011 Plans: FY 2011 OCO						
Program #3 Small Business Innovative Research/Small Business Technology Transfer Programs		0.000	0.334	0.000	0.000	0.000
FY 2009 Accomplishments: FY 2009						

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<u>B. Accomplishments/Planned Program (\$ in Millions)</u>						
		FY 2009	FY 2010	Base FY 2011	OCO FY 2011	Total FY 2011
<i>FY 2010 Plans:</i> FY 2010 <i>Base FY 2011 Plans:</i> FY 2011 Base <i>OCO FY 2011 Plans:</i> FY 2011 OCO						
Accomplishments/Planned Programs Subtotals		12.656	11.927	10.550	0.000	10.550
<u>C. Other Program Funding Summary (\$ in Millions)</u> N/A						
<u>D. Acquisition Strategy</u> N/A						
<u>E. Performance Metrics</u> Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.						

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