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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 United States Special Operations Command **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 2: <i>Applied Research</i>				PE 1160401BB: <i>Special Operations Technology Development</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	26.600	26.545	26.591	-	26.591	28.411	28.900	29.398	28.564	Continuing	Continuing
S100: <i>SO Technology Development</i>	26.600	26.545	26.591	-	26.591	28.411	28.900	29.398	28.564	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element enables USSOCOM to conduct studies and develop laboratory prototypes for applied research and advanced technology development, as well as leverage other organizations' technology projects that may not otherwise be affordable within MFP-11. Applying small incremental amounts of investments to DoD, other government agencies, and commercial organizations allows USSOCOM to influence the direction of technology development or the schedule against which it is being pursued, and to acquire emerging technologies for Special Operations Forces. This project provides an investment strategy for USSOCOM to link technology opportunities with capability deficiencies, capability objectives, technology thrust areas, human endurance and sensory performance, and technology development objectives.

B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	30.606	26.545	29.350	-	29.350
Current President's Budget	26.600	26.545	26.591	-	26.591
Total Adjustments	-4.006	-	-2.759	-	-2.759
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-3.227	-			
• SBIR/STTR Transfer	-0.779	-			
• Other Adjustment	-	-	-2.759	-	-2.759

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: S100: *SO Technology Development*

Congressional Add: *Flashlight Soldier-to-Soldier Combat Identification System (FSCIS)*

Congressional Add: *STAR-TEC Partnership Program*

Congressional Add Subtotals for Project: S100

Congressional Add Totals for all Projects

FY 2010	FY 2011
4.481	-
1.594	-
6.075	-
6.075	-

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APPROPRIATION/BUDGET ACTIVITY 0400: Research, Development, Test & Evaluation, Defense-Wide BA 2: Applied Research	R-1 ITEM NOMENCLATURE PE 1160401BB: Special Operations Technology Development	
<p><u>Change Summary Explanation</u></p> <p>Funding:</p> <p>FY2010 Decrease of \$4.006 million is due to a transfer of funds to Small Business Innovative Research decrease (-\$.779 million), a reprogramming to higher command priorities (-\$.037 million), and a reprogramming action into PE 1160402BB, Special Operations Advanced Technology Development (-\$3.190 million).</p> <p>FY2011 None.</p> <p>FY2012 Decrease of \$2.759 million is due to a transfer of resources into Rapid Exploitation of Innovative Technology, PE 1160402BB, Special Operations Advanced Technology Development (-\$2.521 million), to reflect the correct budget activity and Department of Defense (DoD) Efficiency Initiatives (-\$.238 million).</p> <p>Schedule: None.</p> <p>Technical: None.</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2012 United States Special Operations Command **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT			
0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 2: <i>Applied Research</i>				PE 1160401BB: <i>Special Operations Technology Development</i>				S100: <i>SO Technology Development</i>			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
S100: <i>SO Technology Development</i>	26.600	26.545	26.591	-	26.591	28.411	28.900	29.398	28.564	Continuing	Continuing

A. Mission Description and Budget Item Justification

This project conducts studies and develops laboratory prototypes for applied research and advanced technology developments, and leverages other organizations' technology projects that may not otherwise be affordable within MFP-11. Small incremental co-investments with DoD, other government agencies, and commercial organizations allows USSOCOM to influence the schedule and direction of technology developments, emerging technologies, and capabilities for Special Operations Forces (SOF), with significant economies of investment. This USSOCOM investment strategy is used to link technology opportunities with USSOCOM capability deficiencies, capability objectives, technology thrust areas, and technology objectives. Requirements in these areas may be advertised to industry and government research and development agencies via broad area announcements and calls for white papers. Sub-projects include:

- **Rapid Exploitation of Innovative Technologies (REITS).** REITS provides USSOCOM the ability to identify, assess and exploit emerging innovative technologies for SOF capability deficiencies and expedite technology transitions from the laboratory to operational use. These technologies provide new transformational capabilities and immediate operational impacts, while providing a compass for the direction of future SOF procurement. REITS supports both top-down and bottom-up approaches for USSOCOM Components, Theater Special Operations Commands and Special Operations Task Forces to articulate innovative technology recommendations. Requirements are submitted to USSOCOM for review and approval. The approval process is through the USSOCOM Quick Reaction Board (USSOCOM QRB). The USSOCOM QRB is chaired by the USSOCOM Deputy Commander. Members include the Director of Operations, Director of Requirements, the USSOCOM Acquisition Executive, Science Advisors, and the Interagency Task Force Director. The tenets of the QRB are to promote speed, evolution, collaboration, and engagement in three technology Capability Areas: 1) Command, Control, Communications, and Computers (C4), Intelligence, Surveillance and Reconnaissance (ISR), and Sensors; 2) Mobility; and 3) SOF Warrior Survivability Target Engagement and Lethality and Medical. An individual Technology Activity can be submitted from every echelon of command through the USSOCOM "HardEdge" portal for initial evaluation and distribution to industry, academia, laboratories or our in-country mobile technology complex to build the solution. The process is detailed in a USSOCOM Directive, "Rapid Technology Support to Special Operations."
- **C4, ISR, and Sensors Capability Area.** Develop technologies that provide SOF with improved situational awareness and communications and computer resources in all environments. Develop and discover technologies offering significant improvements in areas such as: enhanced sensors; enhanced command and control architectures and solutions; information consolidation, dissemination, and coordination; improved man-machine interface; covert secure communications; and effective antenna solutions.
- **Mobility, Power and Energy Capability Area.** Exploit and develop technologies to improve the performance and survivability, and reduce the detectability of SOF mobility assets. Develop and discover technologies offering significant improvements in ground, sea, and air mobility areas such as: increased range/operational environment; improved durability; power/propulsion systems including new fuel sources, and reduced signature.

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<ul style="list-style-type: none"> • SOF Warrior Survivability Target Engagement and Lethality and Medical Capability Area. Exploit and develop technologies to increase the SOF warrior's survivability and performance. Develop and discover technologies offering significant improvements in areas such as: improved target identification and engagement, human identification, electro-optical vision systems, sensor fusion, human endurance, SOF medical equipment, operator safety, and improved weapons and accessories. • Special Operations Technology Development Sub-Project: This project conducts studies and develops laboratory prototypes for applied research and advanced technology developments, and leverages other organizations' technology projects that may not otherwise be affordable within MFP-11. • Tagging, Tracking, and Locating (TTL) Sub-Project: TTL technologies are a key element in the ability of SOF to find, fix, and finish targets in overseas contingency operations (OCO). This sub-project invests in critical science and technology efforts to improve operational capabilities for TTL high value individuals and objects in support of the OCO. • Classified Sub-Project (provided under separate cover). • The following technology activities were added by congress in FY 2010: • Flashlight Soldier-to-Soldier Combat ID System: Continue to develop a flashlight soldier-to-soldier combat identification system. • STAR TEC Partnership Program: Establish an ultra-responsive, local resource tied to academia, science and industry to meet unique SOF requirements. 		
B. Accomplishments/Planned Programs (\$ in Millions)		
Title: Rapid Exploitation of Innovative Technologies for SOF (REITS) - C4, ISR, and Sensors Capability Area		FY 2010
FY 2010 Accomplishments: Continued the Advanced Distributed Aperture System Joint Concept Technology Demonstration and development of the Advanced Dual Band Night Vision Goggles. Completed the Enhanced Hostile Detection System. Established capabilities that can be exploited by short-wave infrared sensors and transitioned to an acquisition program. Prototyped flexible advanced optics and developed new color digital night vision technology. Developed a software solution for super resolution residing on focal plane arrays.		7.026
FY 2011 Plans: Develops advanced sensors, multi-spectral optics, high bandwidth technologies and multi-level security systems.		FY 2011
Title: REITS - Mobility, Power and Energy Capability Area		9.799
FY 2010 Accomplishments:		FY 2012
		-
		1.500
		2.500
		-

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B. Accomplishments/Planned Programs (\$ in Millions)			FY 2010	FY 2011	FY 2012
Continued to test the Maverick unmanned aerial vehicle (UAV) using various payloads. Started developmental work on a Counter UAV Pulsed Energy Projectile. FY 2011 Plans: Pursues low observable and counter low observable technologies to develop advanced lightweight armor and materials. Investigates multi-domain mobility platforms.					
Title: REITS - SOF Warrior Survivability Target Engagement and Lethality and Medical Capability Area FY 2010 Accomplishments: Conducted concept studies to explore and validate mission-based experiments. Continued application of a blast-wave sensor for the detection of blast overpressure in the screening of mild traumatic brain injury. Developed a prototype altitude readiness management system decision aid, which will monitor the efficacy of pulse waves for mobile triage capability for SOF Medics. Studied health hazards of breaching charges in complex environments. FY 2011 Plans: Develops far-forward Tactical Combat Casualty Care kits. Pursues rapid assays/diagnostics, reduces operator load, and provides advanced protection.			2.000	2.100	-
Title: Special Operations Technology Development FY 2012 Plans: Pursue reduced signature technologies; develop advanced lightweight armor and materials; and begin development of multi-domain mobility platforms, long duration small form factor power supplies, alternative fuel power systems and "green" energy devices. Continue to advance technologies for combat medical equipment and tactics. Continue pursuit of methods to reduce operator load and provide advanced protection. Develop technologies for improved Man-Machine Interface and functionality of Target Engagement Systems and investigate technologies that can be applied to increase human performance and endurance; pursue enhancements to technologies that can aid in detection of enemy intentions and movement. Continue further development of Multi-spectral Optics, Digital Night Vision, Digital Fusion, Short-Wave Infrared Radar Characterization, Power Systems and Advanced Optics transition mature technology into programs of record.			-	-	11.944
Title: Tagging, Tracking, and Locating Technologies (TTL) FY 2010 Accomplishments:			8.286	10.109	12.567

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B. Accomplishments/Planned Programs (\$ in Millions)			FY 2010	FY 2011	FY 2012
Specific objectives, priorities, and technical approaches are classified. Continued projects to exploit nanotechnology, biotechnology, chemistry, and microelectronics for application to TTL systems. Initiated projects identified in the USSOCOM/DoD Roadmap. Supported the Joint Chiefs of Staff TTL Quick Look Capability Assessment. FY 2011 Plans: Specific objectives, priorities, and technical approaches are classified. Continues projects to exploit nanotechnology, biotechnology, and chemistry for application to TTL systems. Initiates projects identified in the USSOCOM/DoD Roadmap. Supports the Joint Chiefs of Staff TTL Quick Look Capability Assessment. FY 2012 Plans: Specific objectives, priorities, and technical approaches are classified. Continue projects to exploit nanotechnology, biotechnology, and chemistry for application to TTL systems. Initiate projects identified in the USSOCOM/DoD Roadmap. Support the Joint Chiefs of Staff TTL Quick Look Capability Assessment.					
Title: Classified FY 2010 Accomplishments: Details provided under separate cover. FY 2011 Plans: Details provided under separate cover. FY 2012 Plans: Details provided under separate cover.			1.713	2.037	2.080
Accomplishments/Planned Programs Subtotals			20.525	26.545	26.591
			FY 2010	FY 2011	
Congressional Add: Flashlight Soldier-to-Soldier Combat Identification System (FSCIS) FY 2010 Accomplishments: Continued to provide technology that reduces friendly fire casualties and increases combat effectiveness.			4.481	-	
Congressional Add: STAR-TEC Partnership Program FY 2010 Accomplishments: Established an ultra-responsive, assessment capability that is tied to academia, science and industry to meet unique SOF requirements.			1.594	-	
Congressional Adds Subtotals			6.075	-	

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<u>C. Other Program Funding Summary (\$ in Millions)</u> N/A		
<u>D. Acquisition Strategy</u> N/A		
<u>E. Performance Metrics</u> N/A		