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Exhibit R-2, PB 2010 United States Special Operations Command RDT&E Budget Item Justification **DATE:** May 2009

APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE					
0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 2 - Applied Research					PE 1160401BB Special Operations Technology Development					
COST (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	32.996	35.400	27.384						Cont.	Cont.
S100: SO Technology Development	32.996	35.400	27.384						Cont.	Cont.

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 USSOCOM capability deficiencies, capability objectives, technology thrust areas, and technology development objectives.

B. Program Change Summary (\$ in Millions)

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>
Previous President's Budget	32.040	23.104	24.688	
Current BES/President's Budget	32.996	35.400	27.384	
Total Adjustments	0.956	12.296	2.696	
Congressional Program Reductions	0.000	-0.104		
Congressional Rescissions	0.000	0.000		
Total Congressional Increases	0.000	12.400		
Total Reprogrammings	1.150	0.000		
SBIR/STTR Transfer	-0.194	0.000		
rapid exploitation of innovative technologies in all areas of science and technology economic assumptions			3.077	
			-0.381	

Congressional Increase Details (\$ in Millions)

Project: S100, Foliage Penetrating Reconnaissance and Surveillance System
Project: S100, Flashlight Soldier-to-Soldier Combat Identification System (FSCIS)

	FY 2008	FY 2009
Project: S100, Foliage Penetrating Reconnaissance and Surveillance System	0.000	3.200
Project: S100, Flashlight Soldier-to-Soldier Combat Identification System (FSCIS)	0.000	5.600

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Congressional Increase Details (\$ in Millions)		FY 2008	FY 2009
Project: S100, Extended Lifetime Radioisotope Batteries		0.000	1.600
Project: S100, Miniature Remote Wideband Survey Collection and Recording System		0.000	0.800
Project: S100, Unified Management Infrastructure System		0.000	1.200
Change Summary Explanation			
Funding:			
FY08: Net increase of \$0.956 million is due to an adjustment to the Small Business Innovative Research (SBIR) account (-\$0.194 million), an above threshold reprogramming from ASD SO/LIC for Extended Lifetime Radioisotope Batteries (\$0.800 million); and a reprogramming to implement the Joint System Safety Review Process (\$0.350 million).			
FY09: Net Increase of \$12.926 million is due to Section 8101 (-\$0.104 million) and an increase of \$12.400 million for the following Congressional Adds:			
Foliage Penetrating Reconnaissance and Surveillance System (\$3.200 million)			
Flashlight Soldier-to-Soldier Combat Identification System (FSCIS) (\$5.600 million)			
Extended Lifetime Radioisotope Batteries (\$1.600 million)			
Miniature Remote Wideband Survey Collection and Recording System (\$0.800 million)			
Unified Management Infrastructure System (\$1.200 million)			
FY10: Net increase of \$2.696 million is due to the added emphasis the command has placed on rapid exploitation of innovative technologies in all areas of science and technology (\$3.077 million) and economic assumptions (-\$0.381 million).			
Schedule: None.			
Technical: None.			

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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					PROJECT NUMBER S100	
COST (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
S100: SO Technology Development	32.996	35.400	27.384						Cont.	Cont.

A. Mission Description and Budget Item Justification

This project conducts studies and develops laboratory prototypes for applied research and advanced technology development, as well as leverages 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 (SOF). This project provides an investment strategy for USSOCOM 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. Efforts include:

Rapid Exploitation of Innovative Technologies. This initiative 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 will provide new transformational capabilities while providing a compass for the direction of future SOF procurement. Capability areas include intelligence, mobility, sensors, survivability, training, and medical.

Tagging, Tracking, and Locating (TTL) technologies is a key element in the ability of the forces to find, fix, and finish targets in the overseas contingency operation (OCO). This effort invests in critical science and technology efforts to improve operational capabilities for TTL high value individuals and objects in support of the OCO.

Classified.

Intelligence Technologies. Develop technologies that provide SOF with improved situational awareness and communications in all environments. Develop technologies to provide significant improvements to SOF's capability to accurately detect and track threats or targets. Exploit and demonstrate technologies that provide enhanced sensors and command and control. Develop technologies to provide new and improved capabilities in information operations and psychological operations.

Mobility Technologies. Exploit and develop technologies to improve the performance and survivability, and reduce the detectability of SOF mobility assets. Exploit and develop technologies to provide SOF the capability to conduct ground, air, and sea mobility operations in denied areas. Exploit and develop technologies to enhance logistics support, reduce cost, and improve the performance of SOF mobility platforms.

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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	PROJECT NUMBER S100
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Sensor Technologies. Exploit and develop technologies to provide SOF with standoff capabilities for targeting and locating personnel and equipment. Exploit technologies to provide real-time active decision-making capabilities, increased situational awareness, improved multi-spectral sensors, and advanced processing and display capabilities. Exploit technologies that enhance logistics, reduce cost and enhance performance of SOF weapons and munitions. Exploit technologies to provide multipurpose, adaptable weapons applicable to SOF platform and missions.

Warrior Technologies. Exploit and develop technologies to increase SOF's survivability and performance. Exploit technologies to improve the human endurance and sensory performance without interfering with normal sensory functions. Exploit and develop technologies to counter the threat of electro-optical devices--devices that detect human presence and enhance individual operator capabilities.

Technology Studies. Conduct concept studies to explore/validate projects that support USSOCOM strategic capability guidance.

Training Technologies. Develop technologies to meet critical SOF training capability objectives. Develop and apply software and hardware improvements for state-of-the-art training systems and equipment.

Additionally, these efforts were added by Congress in FY 2009:

Flashlight Soldier-to-Soldier Combat ID System. Develop a flashlight soldier-to-soldier combat identification system.

Foliage Penetrating Reconnaissance and Surveillance System. Develop and evaluate a multi-sensor foliage penetrating reconnaissance and surveillance system.

Extended Lifetime Radioisotope Batteries. Develop power solutions that will provide long-lasting, high density power for small autonomous devices.

Unified Management Infrastructure System. Develop a network-based remote communication and control platform for monitoring, managing and controlling many different types of net-centric devices and platforms.

Miniature Remote Wideband Survey Collection and Recording System. Design and develop state-of-the-art software and hardware products for the Signals Intelligence (SIGINT) market.

B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
Rapid Exploitation of Innovative Technologies for SOF	0.000	0.000	14.794	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
<p><i>FY 2010 Plans:</i> Initiate the ability to identify, assess, and exploit emerging innovative technologies for SOF capability deficiencies. This initiative is intended to expedite demonstration and rapid fielding of SOF-peculiar technologies.</p>				
<p>Tagging, Tracking, and Locating (TTL) Technologies</p> <p>Tagging, Tracking, and Locating (TTL) Technologies</p> <p><i>FY 2008 Accomplishments:</i> Specific objectives, priorities, and technical approaches are classified. Initiated projects that exploit TTL relevant technologies (nanotechnology, biotechnology, and chemistry) to provide and demonstrate the maturity for the capability enhancements. Enabled very small packaging, functional elements, and increased endurance. Enabled very small sensor packages for object detection and identification, enhancement of biometric observables, and increased processing in small devices. Initiated new forms of communications, forward based and embedded processing. Enhanced long distant TTL and increased communication range and network agility. Projects included leveraging and cooperative efforts with DOD, other government agencies, and industry.</p> <p><i>FY 2009 Plans:</i> 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.</p> <p><i>FY 2010 Plans:</i> 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.</p>	8.479	12.110	10.487	
Classified	1.997	2.028	2.103	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
<p><i>FY 2008 Accomplishments:</i> Details provided under separate cover.</p> <p><i>FY 2009 Plans:</i> Details provided under separate cover.</p> <p><i>FY 2010 Plans:</i> Details provided under separate cover.</p>				
<p>Intelligence Technologies</p> <p>FY08 Continued Athena project. Initiated intelligence technology projects to address identified intelligence S&T capability gaps.</p> <p><i>FY 2008 Accomplishments:</i> Continued Athena project. Initiated intelligence technology projects to address identified intelligence S&T capability gaps.</p>	0.512	0.000	0.000	
<p>Mobility Technologies</p> <p><i>FY 2008 Accomplishments:</i> Initiated follow-on studies and Joint Capabilities Integration and Development System support analyses needed to support a Mark V Special Operations Craft (SOC) replacement requirements validation. Initiated mobility technology projects to address mobility S&T capability gaps such as the Seal Delivery Vehicle vertical launch.</p>	1.403	0.000	0.000	
<p>Sensor Technologies</p> <p><i>FY 2008 Accomplishments:</i> Continued investigations of S&T focus areas. Continued Enhanced Hostile Detection Capability, Night Vision Windshield/Distributed Aperture System and Battlefield Helicopter Emulator.</p>	3.559	7.533	0.000	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
<p><i>FY 2009 Plans:</i> Continue development of FY08 efforts. Continue to exploit technologies to provide SOF with standoff capabilities for targeting and locating personnel and equipment, enhancing sensors and situational awareness. Exploit technologies that enhance logistics, reduce cost and enhance performance of SOF sensors. Continue investigations of S&T focus areas.</p>				
<p>Warrior Technologies</p> <p><i>FY 2008 Accomplishments:</i> Continued Advanced Digital Multispectral Night Vision Goggle.</p>	0.519	0.000	0.000	
<p>Technology Studies</p> <p><i>FY 2008 Accomplishments:</i> Initiated follow-on studies and Joint Capabilities Integration and Development System support analyses needed to support a MK V SOC replacement requirements validation. Continued to conduct concept studies to explore/validate projects that support SOF strategic capability gaps.</p> <p><i>FY 2009 Plans:</i> Continue to conduct concept studies to explore/validate projects that support SOF strategic capability gaps.</p>	2.973	1.675	0.000	
<p>Training Technologies</p> <p><i>FY 2008 Accomplishments:</i> Initiated training technology for the Joint Heavy Lift project.</p>	1.525	0.000	0.000	
<p>Pulsed Energy Projectile</p> <p><i>FY 2008 Accomplishments:</i> This initiative was a Congressional add. Developed secure data storage in support of multi-level and classification stateless networks</p>	0.967	0.000	0.000	
SOF Network-Centric Sharing and Storage	0.967	0.000	0.000	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
<p><i>FY 2008 Accomplishments:</i> This initiative was a Congressional add. Developed secure data storage in support of multi-level and classification stateless networks</p>				
<p>Nickel Boron Coating for SOCOM Vehicles</p> <p><i>FY 2008 Accomplishments:</i> This initiative was a Congressional add. Investigated coatings for military utility within ground vehicles to increase service life as application to support breaching operations, investigated application on propellers to reduce cavitations, and investigated applications as an anti-corrosive coating.</p>	1.549	0.000	0.000	
<p>Athena-Threat Signal Locator</p> <p>FY08</p> <p><i>FY 2008 Accomplishments:</i> This initiative was a Congressional add. Designed, developed and demonstrated a modular capability to detect, locate and defeat combatant communications on the asymmetric battlefield.</p>	0.968	0.000	0.000	
<p>Advanced Multi-Purpose Micro-Display System</p> <p><i>FY 2008 Accomplishments:</i> This initiative was a Congressional add and a follow on to FY07 where the funding was in Program Element 1160402BB. Integrated micro-display and miniature electronics heads-up displays.</p>	0.967	0.000	0.000	
<p>Flashlight Soldier-to-Soldier Combat ID System</p> <p><i>FY 2008 Accomplishments:</i> This initiative was a Congressional add. Developed a flashlight soldier-to-soldier combat identification system.</p> <p><i>FY 2009 Plans:</i> This initiative is a Congressional add. Continue FY08 development.</p>	1.937	5.444	0.000	

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B. Accomplishments/Planned Program (\$ in Millions)			FY 2008	FY 2009	FY 2010
Improved Sensor System <i>FY 2008 Accomplishments:</i> This initiative was a Congressional add. Continued development of sensor package design for the Advanced Distributed Aperture system project.			1.937	0.000	0.000
Foliage Penetrating Reconnaissance and Surveillance <i>FY 2008 Accomplishments:</i> This initiative was a Congressional add. Developed and evaluated a Multi-Sensor Foliage Penetrating Reconnaissance and Surveillance system <i>FY 2009 Plans:</i> This initiative is a Congressional add. Continue FY08 development.			1.937	3.111	0.000
Extended Lifetime Radioisotope Batteries <i>FY 2008 Accomplishments:</i> This initiative was a Congressional add. Develop power solutions that will provide long-lasting, high density power for small autonomous devices. <i>FY 2009 Plans:</i> This initiative is a Congressional add. Continue FY08 development.			0.800	1.555	0.000
Unified Management Infrastructure System <i>FY 2009 Plans:</i> This initiative is a Congressional add. Develop a network-based remote communication and control platform for monitoring, managing and controlling many different types of net-centric devices and platforms.			0.000	1.166	0.000
Miniature Remote Wideband Survey Collection and Recording System			0.000	0.778	0.000

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
<i>FY 2009 Plans:</i> This initiative is a Congressional add. Design and develop state-of-the-art software and hardware products for the Signals Intelligence market.				
C. Other Program Funding Summary (\$ in Millions) N/A				
D. Acquisition Strategy N/A				
E. Performance Metrics N/A				

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