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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 United States Special Operations Command	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 3: <i>Advanced Technology Development (ATD)</i>				PE 1160402BB: <i>Special Operations Advanced Technology Development</i>							
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	41.212	30.242	45.317	-	45.317	46.356	41.645	42.409	43.131	Continuing	Continuing
S200: <i>SO Advanced Technology Development</i>	41.212	30.242	45.317	-	45.317	46.356	41.645	42.409	43.131	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element conducts rapid prototyping and Advanced Technology Demonstrations (ATDs). ATDs provide a means for demonstrating and evaluating the utility of emerging/advanced technologies in as realistic an operational environment as possible by Special Operations Forces (SOF) users. Evaluation results are included in a transition package, which assists in the initiation of or insertion into an acquisition program. The program element also addresses projects that are a result of unique joint special mission or area-specific needs for which a few-of-a-kind prototypes must be developed on a rapid response basis, or are of sufficient time sensitivity to accelerate the prototyping effort of a normal acquisition program in any phase.

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	30.806	35.242	39.684	-	39.684
Current President's Budget	41.212	30.242	45.317	-	45.317
Total Adjustments	10.406	-5.000	5.633	-	5.633
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	3.587	-			
• SBIR/STTR Transfer	-0.964	-			
• Other Adjustments	7.783	-5.000	5.633	-	5.633

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

Project: S200: *SO Advanced Technology Development*

Congressional Add: *SOF Advance Concept Technology Demonstration (ACTD) Programs*

Congressional Add Subtotals for Project: S200

Congressional Add Totals for all Projects

FY 2011	FY 2012
7.958	-
7.958	-
7.958	-

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APPROPRIATION/BUDGET ACTIVITY 0400: Research, Development, Test & Evaluation, Defense-Wide BA 3: Advanced Technology Development (ATD)	R-1 ITEM NOMENCLATURE PE 1160402BB: Special Operations Advanced Technology Development	
<u>Change Summary Explanation</u> Funding: FY 2011 Net increase of \$10.406 million is due to an increase for a Congressional add for Advance Capabilities Technology Demonstration (ACTD) (\$8.000 million), below threshold reprogrammings to support YMQ-18A Unmanned Aerial Vehicle (\$2.577 million), and a technical and user assessment of SOCOM APPS Store Software (\$0.990 million), an economic assumption reduction (-\$0.197 million), and a transfer of funds to Small Business Innovative Research (-\$0.964 million). FY 2012 Decrease of \$5.000 million for an excess to need congressional reduction. FY 2013 Net increase of \$5.633 million is due to a new start program, Special Communications Field Segment-Enterprise, which will manage and provide clandestine exchanges of information between SOF elements (\$5.100 million), a reprogramming to higher command priorities (-\$0.011 million) and an economic assumption increase (\$0.544 million). Schedule: None. Technical: None.		

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APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT			
0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 3: <i>Advanced Technology Development (ATD)</i>				PE 1160402BB: <i>Special Operations Advanced Technology Development</i>				S200: <i>SO Advanced Technology Development</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
S200: <i>SO Advanced Technology Development</i>	41.212	30.242	45.317	-	45.317	46.356	41.645	42.409	43.131	Continuing	Continuing

A. Mission Description and Budget Item Justification

This project provides for rapid prototyping, Advanced Technology Demonstrations (ATDs) and Joint Capability Technology Demonstrations. It is a means for demonstrating and evaluating the utility of emerging/advanced technologies in operationally relevant environments with Special Operations Forces (SOF) users. This project integrates emerging technologies and presents them in technology demonstrations, in conjunction with joint experiments and other assessment events. Evaluation results often facilitate the initiation of new programs and the insertion of appropriate technologies to acquisition programs. The element also addresses unique, joint special mission or area-specific needs for which a few rapid prototypes must be developed on a responsive basis, or are of sufficient time sensitivity to accelerate prototyping efforts of a normal acquisition program in any phase. Sub-projects within the Special Operations Special Technology Development effort include:

- **Rapid Exploitation of Innovative Technologies (REITS).** This sub-project 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. Concepts, ideas, and needs will be submitted to HQ USSOCOM for review and/or approval as appropriate. The tenets promote speed, evolution, collaboration, and engagement between the SOF user and the technical problem solver. Individual projects or ideas can be submitted from every echelon of command. Initial evaluation clears new ideas for distribution to industry, academia, laboratories or SOF in-country mobile technology repair complexes that have the capability to augment or build solutions in-place. The USSOCOM directive, "Rapid Technology Support to Special Operations" outlines the processes to identify, assess and exploit emerging innovative technologies for SOF in the following Capability Areas: 1) Command, Control, Communications, and Computers (C4), Intelligence, Surveillance and Reconnaissance (ISR), and Sensors; 2) Mobility, Power, and Energy; 3) SOF Warrior Systems and 4) Weapons and Munitions. Technical activities in these areas will provide new operational capabilities and will mature technologies to better shape future SOF procurements.
- **REITS C4, ISR, and Sensors Capability Area.** Exploit emerging technologies to conduct ATDs that provide SOF with robust C4 and intelligence capabilities such as, but not limited to, ensuring uninterrupted information exchange, influencing situations to support mission accomplishments, reducing an adversary's ability to use information, increasing sensory performance, improving antenna technologies, and achieving near real-time data fusion for sensor systems.
- **REITS Mobility, Power, and Energy Capability Area.** Exploit emerging technologies to conduct ATDs such as, but not limited to, providing SOF with durable, survivable mobility capabilities in high threat areas; enhanced situational awareness; reconnaissance and direct action in high threat areas using unmanned systems, improved power system technologies for signature reduction, longer endurance, or smaller size; and advanced energy storage for vehicles, sensors, and operational needs.
- **REITS SOF Warrior Systems Capability Area.** Exploit emerging technologies to conduct ATDs that provide SOF with increased survivability and performance to enhance individual operator capabilities including, but not limited to, ballistic protection, personal equipment, and night vision and optics systems.

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<ul style="list-style-type: none"> • Weapons and Munitions Capability Area. Exploit technologies such as tunable weapons, reduce signature capability, and reduce size and weight. • Special Operations Special Technology Development Sub-Project. This sub-project integrates emerging technologies and presents them in technology demonstrations, in conjunction with joint experiments and other assessment events. • Joint Task Force SWORD Sub-Project. Explore use of experimental technologies to provide emergent technologies to quick response task force deployments. • Tagging, Tracking, and Locating (TTL) Technologies Sub-Project. Exploit emerging technologies as identified in the TTL users' Capabilities Based Assessments. Exploit emerging technologies to locate and track targets or items of interest. Pursue advanced development and prototyping of TTL capabilities that have been proven to be feasible and operationally useful. • National to Theater Transition Sub-Project. Conduct additional testing required to transition items from national forces to theater forces. • Foliage Penetration Reconnaissance, Surveillance, Targeting and Engagement Radar (YMQ-18A Unmanned Aerial Vehicle). Conducts planning, payload integration, air vehicle improvements, and training in support of multiple operational demonstrations to evaluate the military utility of the YMQ18A unmanned aerial vehicle. • Classified Sub-Project (provided under separate cover). • The Special Communications Field Segment-Enterprise program includes organizations, practices, processes, services, networks, systems and subsystems that manage and provide clandestine exchange of information between elements (field-to-field, field-to-base, base-to-field). <p>The following technology activity was added by Congress for FY 2011:</p> <ul style="list-style-type: none"> • SOF Advance Concept Technology Demonstration (ACTD). Expand and enhance current Unclassified Test Bed (UTB) capabilities such as evaluating, developing, prototyping and fabricating quick reaction prototypes. A classified area is being configured and certified, this area will provide SOF the ability to quickly transition candidate technologies from the unclassified Test and Evaluation (T&E) environment to a classified T&E environment. 		
B. Accomplishments/Planned Programs (\$ in Millions)		
Title: Rapid Exploitation of Innovative Technology (REITS) for SOF Sub-Project		
FY 2012 Plans: Starting in FY 2012, REITS will be executed only in PE 1160402BB. Continue additional demonstrations and evaluations of C4I technologies; warrior survivability improvements; and mobility, power and energy and mobile technology repair center projects. Further develop and insert into existing programs, advanced processing techniques and persistent surveillance. Continue advanced development of signature reduction technologies. Insert lightweight armor and materials into existing acquisition efforts.		
	FY 2011	FY 2012
	-	5.310
		FY 2013
		5.598

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B. Accomplishments/Planned Programs (\$ in Millions)			FY 2011	FY 2012	FY 2013
Continue to exploit technologies that reduce the load of the operator. Insert into existing programs advanced protection and visualization, and training systems. FY 2013 Plans: Continues to identify and develop technologies which can rapidly transition to support the warfighter with transition paths into programs of record or direct fielding. Capabilities such as, but not limited to: SOF mobility platform improvements, mobile communications applications, improved target engagement, improved materials, improved biometrics and forensics tools, non-traditional power and energy solutions, and improved electronic warfare solutions will be evaluated for development, prototyping, and limited field assessment.					
Title: REITS C4, ISR, and Sensors Capability Area FY 2011 Accomplishments: Developed advance processing techniques, persistent surveillance, completed effort that provides capability to detect, identify, locate and defeat threat signals of interest. Executed multiple Joint Capabilities Technology Demonstrations (JCTDs) to include Rapid Site Exploitation and Operations 3 Dimension (OP3D).			5.309	-	-
Title: REITS Mobility, Power and Energy Capability Area FY 2011 Accomplishments: Investigated multi-domain mobility platforms. Completed prototype integration and assessment of advanced suspension for SOF vehicles. Initiated development of long duration, self sustaining power sources. Executed multiple JCTDs to include the Maritime Predator, Seatracker and Joint Unmanned Arial System (UAS) Precision Targeting JCTD.			5.010	-	-
Title: REITS SOF Warrior Systems Capability Area FY 2011 Accomplishments: Pursued technologies to reduce the load of the operator and improve target engagement. Completed integration and assessment of threat detection and location system. Assessed advanced lightweight armor and improved materials.			4.422	-	-
Title: REITS Weapons and Munitions Capability Area FY 2011 Accomplishments: Assessed ongoing development efforts across this capability area, to include suppression systems, material coatings, and other munition developments.			0.250	-	-
Title: Special Operations Special Technology Sub-Project FY 2012 Plans:			-	6.835	12.566

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2011	FY 2012	FY 2013
Developed and inserted technology into existing programs. Projects technologies include, but are not limited to, reduced signature profiles; improved weapons, lightweight armor and materials; alternative power systems; "green" sustainable energy devices; long duration, reduced size, high output power supplies; and technologies that reduce the load of the operator. FY 2013 Plans: Continues to develop and insert technology into existing programs. Project technologies include, but are not limited to, reduced signature profiles; improved weapons; lightweight armor and materials; alternative power systems; eco-friendly sustainable energy devices; long duration, reduced size, high output power supplies; and technologies that reduce the load of the operator. Initiates development of technologies supporting undersea mobility; develop ground mobility solutions for improved endurance and survivability. Evaluates and develops sensors across the electromagnetic spectrum to meet operational requirements. Based upon agreed technology maturity metrics, transfer successful projects into programs of record.				
Title: Joint Task Force SWORD Sub-Project FY 2012 Plans: Continue to explore the use of experimental technology to provide emergent technology to quick response task force deployments.		-	0.199	-
Title: Tagging, Tracking, and Locating Technologies (TTL) Sub-Project FY 2011 Accomplishments: Specific objectives, priorities, technical approaches, and potential operational applications are classified. Exploited and integrated recently-proven and emerging technologies for TTL and TTL-enabling systems. Continued projects toward maturity that are linked to the USSOCOM/DoD TTL Roadmap, which is updated via the JCS/J8-approved annual TTL Quick-Look Capabilities-Based Assessment (QL-CBA). FY 2012 Plans: Specific objectives, priorities, technical approaches, and potential operational applications are classified. Exploit and integrate recently-proven and emerging technologies for TTL and TTL-enabling systems. Continue projects toward maturity that are linked to the USSOCOM/DoD TTL Roadmap, which is updated via the JCS/J8-approved annual TTL Quick-Look Capabilities-Based Assessment (QL-CBA). FY 2013 Plans: Specific objectives, priorities, technical approaches, and potential operational applications are classified. Exploits and integrates recently-proven and emerging technologies for TTL and TTL-enabling systems. Continues projects toward maturity that are linked to the USSOCOM/DoD TTL Roadmap, which is updated via the JCS/J8-approved annual TTL Quick-Look Capabilities-Based Assessment (QL-CBA).		11.920	13.919	18.010
Title: National to Theater Transition		1.864	1.966	1.993

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2011	FY 2012
FY 2011 Accomplishments: Conducted testing and evaluation required on various equipment items being transitioned to the SOF Theater Forces.			
FY 2012 Plans: Conduct additional testing and evaluation required on various equipment items being transitioned to the SOF Theater Forces.			
FY 2013 Plans: Conductes additional testing and evaluation required on various equipment items being transitioned to the SOF Theater Forces.			
Title: Foliage Penetration Reconnaissance, Surveillance, Targeting and Engagement Radar (YMQ-18A Unmanned Aerial Vehicle) FY 2011 Accomplishments: Conducted planning, payload integration, air vehicle improvements, and training in support of multiple operational demonstrations to evaluate the military utility of the YMQ-18A unmanned aerial vehicle.		2.577	-
Title: Classified Sub-Project FY 2011 Accomplishments: Details provided under separate cover. FY 2012 Plans: Details provided under separate cover. FY 2013 Plans: Details provided under separate cover.		1.902	2.013
Title: Special Communications Field Segment - Enterprise (SPCOM) FY 2013 Plans: FY 2013 new start. Initial focus will be on the development of transport and field segment devices for a special communications enterprise, as well as the development of means and methods (tracecraft) to provide near term impact to operators.		-	5.100
Accomplishments/Planned Programs Subtotals		33.254	30.242
		7.958	-
Congressional Add: SOF Advance Concept Technology Demonstration (ACTD) Programs FY 2011 Accomplishments: Expanded and enhanced current Unclassified Test Bed (UTB) capabilities such as evaluating, developing, prototyping and fabricating quick reaction prototypes. Included in this effort is a			

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	FY 2011	FY 2012
classified area that will provide SOF the ability to quickly transition candidate technologies from an unclassified T&E environment to a classified T&E environment.		
Congressional Adds Subtotals	7.958	-

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A