RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE FEBRUARY 2008
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 3	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160402BB Special Operations (SO) Advanced Technology Development/S200

COST (Dollars in Millions)	FY07	FY08	FY09	FY10	FY11	FY12	FY13	Cost to Complete	Total Cost
PE 1160402BB	145.245	41.251	28.930	27.191	27.420	29.661	34.880	Cont.	Cont.
S200, SO SPECIAL TECHNOLOGY	145.245	41.251	28.930	27.191	27.420	29.661	34.880	Cont.	Cont.

Beginning in FY 2009 resources were moved into new Program Elements (PE) 1160472BB, Special Operations Forces (SOF) Information and Broadcast Systems Advanced Technology and PE 1160473BB, SOF Fixed Wing Advanced Technology Development.

A. Mission Description and Budget Item Justification:

This program element conducts rapid prototyping and Advanced Technology Demonstrations. It provides a means for demonstrating and evaluating 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:

	FY07	FY08	FY09
Previous President's Budget	133.815	29.935	29.544
Current President's Budget	145.245	41.251	28.930
Total Adjustments	11.430	11.316	-0.614
Congressional Program Reductions		-0.269	
Congressional Increases		12.400	4.400
Reprogrammings	11.430		-5.004
Other Program Adjustments			-0.010
SBIR Transfer		-0.815	

Funding:

FY07: Net increase $11.430 million is due to internal reprogramming of Congressional adds into the proper program element for execution.

FY08: Net increase of $11.316 million is due to Small Business Innovative Research account (-$0.815 million), congressional reductions Section 8097 (-$0.053 million), Section 8104 (-$0.156 million), and $12.400 million increase for the following Congressional Adds:

- 11m RIB Replacement Craft Design ($0.0800 million)
- Field Experimentation Program for Special Operations ($1.600 million)
- Information Networking for Operational Reporting and Monitoring ($2.000 million)
- Waterway Threat Detection Sensor System ($2.400 million)
- Improved Information Transfer to Special Forces ($3.200 million)
- Special Operations Portable Power Source ($2.400 million)

FY09: Net decrease (-$0.614 million) is the result of establishing new PEs and other adjustments. Funds were moved to 1160472BB, Special

Operations Forces (SOF) Information and Broadcast Systems Advanced Technology (-$6.000 million) and PE 1160473BB, SOF Fixed Wing Advanced Technology Development ($-5.004 million); increase for Iridium Global Positioning System ($4.400 million); and economic inflation adjustments (-$0.010 million).

Schedule: None.

Technical: None.

Exhibit R-2a, RDT&E Project Justification	Date: FEBRUARY 2008
Appropriation/Budget Activity RDT&E BA # 3	Special Operations Special Technology Project S200

Cost ($ in millions)	FY07	FY08	FY09	FY10	FY11	FY12	FY13
Special Operations Special Technology	145.245	41.251	28.930	27.191	27.420	29.661	34.880
RDT&E Articles Quantity							

A. Mission Description and Budget Item Justification: This project conducts rapid prototyping, Advanced Technology Demonstrations (ATDs) and Advanced Concept Technology Demonstrations now called Joint Capability Technology Demonstrations. It provides a means for demonstrating and evaluating the utility of emerging/advanced technologies in as realistic an operational environment as possible by SOF users. This project integrates efforts with each other and conducts technology demonstrations in conjunction with joint experiments and other assessment events. Evaluation results are included in a transition package, which assists in the initiation of or insertion into an acquisition program. The project also addresses 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. Efforts include:

- Command, Control, Communications, and Computer (C4) Technologies. Exploit emerging technologies to conduct ATDs that provide SOF with a robust C4 and Intelligence capability to ensure uninterrupted information exchange, influence situations to support mission accomplishment, and reduce an adversary's ability to use information. Exploit emerging technologies to conduct ATDs that provide SOF with increased sensory performance. Exploit emerging technologies to produce new and improved capabilities in information operations and psychological operations.

- Mobility Technologies. Exploit emerging technologies to conduct ATDs that provide SOF with survivable mobility capabilities in high threat areas and with enhanced situational awareness. Exploit emerging technologies to conduct ATDs that provide SOF mobility assets with a reduction in logistic support requirements. Exploit emerging technologies to rapidly deploy and extract SOF personnel and craft. Exploit technologies to allow reconnaissance and conduct direct action in high threat areas using unmanned systems. Exploit technologies to reduce cost or enhance the performance of existing SOF platforms.

- Sensor Technologies. Exploit emerging technologies to conduct ATDs that provide SOF with multi-role/multi-purpose weapons and demolitions with a broader range of potential effects and increased accuracy. Demonstrate capabilities of smart munitions and fire-and-forget capability. Exploit technologies to increase standoff from threat weapons systems. Decrease cost and logistic support requirements for SOF weapons systems.

- SOF Warrior Technologies. Exploit emerging technologies to conduct ATDs that provide SOF with increased survivability and performance. Exploit emerging technologies to counter the threat of electro-optical devices and devices that detect human presence, and to enhance individual operator capabilities.

- Tagging, Tracking, and Locating Technologies (TTL). Exploit emerging technologies to utilize the USSOCOM/Office of the Secretary of Defense Director, Defense Research & Engineering (DDR&E) TTL Science & Technology (S&T) Roadmap and the TTL Quick Look Capabilities Assessment. 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 in Special Operations Advanced Technology Development.

- Advanced Tactical Laser (ATL) Advanced Concept Technology Demonstration (ACTD). The ATL ACTD was started in FY02 through funding provided by Deputy Under Secretary of Defense Advanced Systems Concept and the Joint Non-Lethal Weapons Directorate. The intent of the ATL ACTD is to evaluate the military utility of a tactical directed energy weapon on the battlefield to provide direct support to the warfighter. A directed energy weapon has an inherent performance capability (i.e., extremely precise covert strike, selectable effects and lethality, and multi-axis engagement) that has the potential to enhance the effectiveness of SOF operators. The ATL ACTD will develop and employ a modular, high-energy laser weapon system on a C-130 platform, capable of conducting ultra-precision strike engagements to enhance mission accomplishment of the warfighter and conduct a military utility assessment of this weapon system.

The steps toward assessing the military utility of a high-energy laser weapon are:

a. Demonstrate weaponization of the sealed-exhaust Chemical Oxygen Iodine Laser in a modular system, capable of employment on a C-130.
b. Demonstrate the ability to acquire and engage tactical targets in an air-to-ground system test.
c. Utilize joint/service exercises to the fullest extent possible, focusing on matching the objectives of the ACTD with those of the desired exercises and demonstrations.

At the completion of the ACTD, leave behind one fully-operational laser system consisting of the laser and beam director, surveillance and acquisition sensors to support employment of the laser system, software, an operator workstation, and portable ground support equipment. The system will include documentation required to operate and maintain the ATL system.

- Psychological Operations (PSYOP) “Global Reach” ACTD. Seeks technologies that will transform current PSYOP capabilities through two major objectives: 1) Exploit technologies capable of disseminating PSYOP product to reach target audiences across a variety of media into denied areas to include ranges up to 800 Nautical Miles (NM), and 2) Automate and improve PSYOP planning and analytical capability through technologies that are integrated into SOF planning systems (Cultural Analysis, Targeting, Theme Development, Media & Product Selection, Distribution & Dissemination, Measures of Effectiveness).

- Standoff Precision Guided Munition (SOPGM) Advanced Concept Technology Demonstration (ACTD). The objective of the SOPGM ACTD is to evaluate the military utility of adding a precision guided munitions capability to (SOF) Platforms. The SOPGM is based on a modified Army Viper Strike munition. The assessment will be based on ground and flight demonstrations and extended user evaluations of a SOPGM weapon system employed from an AC-130 against representative or surrogate platforms against representative targets. The ACTD will provide an Initial Proof-of-Concept (IPOC) of the SOPGM weapon system and an interim Military Utility Assessment (MUA).

Additionally, this project executes the following efforts added by Congress:

- Army DRAMA Composer. Automated diagnostics and repair capability for Warfighter Information Network-Tactical (WIN-T).

- 11m RIB Replacement Craft Design. To conduct design, modeling, and early prototyping for the 11m Rigid Inflatable Boat replacement craft.

- Field Experimentation Program for Special Operations (FEPSO). Prototype and evaluate manned-unmanned platform and sensor networks to articulate new concepts of operation and employment for SOF.

- Information Networking for Operational Reporting and Monitoring. Develop and test a capability that guarantees critical intelligence information is immediately disseminated.

- Improved Information Transfer for Special Forces. Apply real-time knowledge management tools using information technologies and cognitive science to meet urgent Special Operations intelligence requirements.

- Autonomous Navigation Sensor Suite. Reduce the size, weight, power and cost of sensors associated with unmanned systems through novel materiels and manufacturing techniques.

- Airborne Psychological Operations (PSYOP) Modernization. Pursue paper like electronic PSYOP leaflet with embedded electronics.

- Counter-Sniper & Surveillance Detection System. Research and develop tactical, mobile, and unmanned sniper detection systems that

utilize optical detection and location techniques.

- Improved Materials for Fireproof Clothing. Develop new and revolutionary flameproof textile materials for SOF applications.

- Improved SOF Fast Rope Kit. Improve the safety of CV-22 fast rope operations using high performance materials and structures.

- Mobile Electric Power Utilizing Energy Harvesting. Rapidly prototype and field small, lightweight generators and other power concepts to power multiple voltages required by Special Operations electronics with little logistical support.

- Rotary Wing Unmanned Aerial Vehicles (UAVs). Continued the ongoing ACTD and operationalized current systems.

- Special Operations Portable Power Source. Research and develop Solid Oxide Fuel Cell (SOFC) technology for SOF power needs.

- Satellite Synthetic Aperture Radar. Design, develop, assemble, and test components for a synthetic aperture radar satellite in space applications for SOF.

- Smart Sight Remote Video Weapon. Develop an advanced video-based sighting system that interfaces with standard small arms to provide remote sighting capabilities for low-visibility/obstructed view targeting environments. Integrate video images and weapons sighting systems in head mounted display.

- Waterway Threat Detection Sensor System. Research and develop a lightweight sonar system for the detection of swimmers, unmanned underwater vehicles, mines and ships.

- Snapshot Synthetic Aperature Radar. Evaluate processor array for real-time processing of radar data.

- Nanotech Integration Team. Use nanotechnologies to prototype low-power micro/nano-sensors.

- Target Location, ID and Engagement. Targeting and timely intelligence collection for UAVs and other unmanned systems.

- Fuel Cell Power Systems. Develop lightweight nickel-metal hydride fuel cell.

- Language Teletraining System. Develop internet-based training technologies.

- Partnership of Def Innovations Wireless Fidelity (WIFI). Establish a wireless battlefield network research and testing facility.

- Field Deployable Digital Holograph. Develop full color high speed technology to include Red, Green, Blue (RGB) laser evolution.

- Shortwave Infrared Technologies. Improve electro-optic shortwave infrared sensor sensitivity and integrate multi-spectral data.

- Life Cycle Support for Unmanned Systems. Explore concepts and technologies for the automated life-cycle support of unmanned ground systems.

- Multimode Radar Low Probability of Intercept/Low Probability of Detection (LPI/LPD). Develop millimeter wave LPI/LPD radar.

- Aircraft Electronic Warfare (EW) Mounting System. Demonstrate advanced countermeasure technologies to provide contingency aircraft self-protection capability.

- Shock Mitigating Seat for Naval Special Warfare Rigid Inflatable Boat (NSW RIB). Develop a shock mitigating seat for the RIB.

- Tagging, Tracking, and Locating for High Value Targets. Investigate the microencapsulation, dispersal, and remote detection of quantum dot technology for SOF specific high-value target applications.

- Closed Circuit Rebreather. Congressional add to evaluate emerging rebreather technology for SOF applications.

- 3-D Facial Recognition Imaging Technology. Congressional add that integrates stereo vision in hand held stabilized night vision systems.

- Advanced Mark V (MK V) prototype. Congressional add to develop a prototype for possible replacement of MK V craft.

- Integrated Warfare Info System (IWIS). Develops a single Intelligence, Surveillance and Reconnaissance (ISR) tool to provide SOF with an integrated sighting system.

- SOF Long Endurance Demonstrator (SLED) continues research and development of the SLED in support of special reconnaissance and other potential intelligence uses.

B. Accomplishments/Planned Program

	FY07	FY08	FY09
Command, Control, Communications, and Computers (C4) Technologies	3.313	1.506	1.534
RDT&E Article Quantity			

FY07 Continued development and evaluation of FY06 efforts. Continue to exploit emerging technologies to conduct Advanced Technology Demonstrations (ATD) that provide SOF with a robust C4 and Intelligence capability to ensure uninterrupted information exchange, influence situations to support mission accomplishment, and reduce an adversary's ability to use information. Continue to exploit emerging technologies to conduct ATDs that provide SOF with increased sensory performance. Continue to exploit emerging technologies to locate and track targets or items of interest. Transitioned Network Security Technologies demonstration project into the Classification Stateless Trusted Environment. Initiate C4 technology projects to address identified C4 capability gaps.
FY08 Continue development and evaluation of FY07 efforts. Continues to exploit emerging technologies to conduct ATDs that provide SOF with a robust C4I capability to ensure uninterrupted information exchange, influence situations to support mission accomplishment, and reduce an adversary's ability to use information. Continues to exploit emerging technologies to conduct ATDs that provide SOF with increased sensory performance. Continues C4 technology projects to address identified C4 capability gaps.
FY09 Continues development and evaluation of FY08 efforts. Continues to exploit emerging technologies to conduct ATDs that provide SOF with a robust C4I capability to ensure uninterrupted information exchange, influence situations to support mission accomplishment, and reduce an adversary's ability to use information. Continues to exploit emerging technologies to conduct ATDs that provide SOF with increased sensory performance. Continues to exploit emerging technologies to locate and track targets or items of interest. Continues C4 technology projects to address identified C4 capability gaps.

	FY07	FY08	FY09
Mobility Technologies	2.528	2.688	7.431
RDT&E Article Quantity			

FY07 Continued development and evaluation of FY06 efforts. Exploit emerging technologies to conduct ATDs that provide SOF mobility assets with a reduction in logistic support requirements. Exploit emerging technologies to rapidly deploy and extract SOF personnel and equipment. Exploit technologies to allow reconnaissance and conduct direct action in high threat areas using unmanned systems. Exploit technologies to reduce cost or enhance the performance of existing SOF platforms. Completed SEALION ATD. Transition Stiletto ATD to acquisition program management. Initiate mobility technology projects to address identified mobility capability gaps.

FY08 Continue development and evaluation of FY07 efforts. Exploits emerging technologies to conduct ATDs that provide SOF mobility assets with a reduction in logistic support requirements. Exploits emerging technologies to rapidly deploy and extract SOF personnel and equipment. Exploits technologies to allow reconnaissance and conduct direct action in high threat areas using unmanned systems. Exploits technologies to reduce cost or enhance the performance of existing SOF platforms. Continues mobility technology projects to address identified mobility capability gaps. Initiate Joint Sea Hunter and Harbor Intrusion ATDs. Initiate Combat Autonomous Mobility System Joint Concept Technology Demonstration (CAMS) (JCTD) that will demonstrate the utility of modular, purpose-equipped, unmanned vehicles in a wide range of SOF mission tasks. Additionally, this JCTD will develop tactics, techniques, and procedures to effectively employ unmanned system technology within the SOF Direct Action and Surveillance Reconnaissance missions.
FY09 Continues development and evaluation of FY08 efforts. Exploits emerging technologies to conduct ATDs that provide SOF mobility assets with a reduction in logistic support requirements. Exploits emerging technologies to rapidly deploy and extract SOF personnel and equipment. Exploits technologies to allow reconnaissance and conduct direct action in high threat areas using unmanned systems. Exploits technologies to reduce cost or enhance the performance of existing SOF platforms. Continues mobility technology projects to address identified mobility capability gaps.

	FY07	FY08	FY09
Sensor Technologies	4.591	3.704	3.377
RDT&E Article Quantity			

FY07 Continued development and evaluation of FY06 efforts. Continue to exploit emerging technologies to conduct ATDs that provide SOF with multi-role/multi-purpose weapons and demolitions with a broader range of potential effects and increased accuracy. Initiate Enhanced Signature Suppression for Light Weight Machine Guns. Initiate weapons/munitions technology projects to address identified weapons/munitions capability gaps.
FY08 Continue development and evaluation of FY07 efforts. Continues to exploit emerging technologies to conduct ATDs that provide SOF with multi-role/multi-purpose weapons and demolitions with a broader range of potential effects and increased accuracy. Continues weapons/munitions technology projects to address identified weapons/munitions capability gaps. Completes Enhanced Performance Long Range Ammunition.
FY09 Continues development and evaluation of FY08 efforts. Continues to exploit emerging technologies to conduct ATDs that provide SOF with multi-role/multi-purpose weapons and demolitions with a broader range of potential effects and increased accuracy. Continues weapons/munitions technology projects to address identified weapons/munitions capability gaps. Completes Enhanced Signature Suppression for Light Weight Machine Guns.

	FY07	FY08	FY09
SOF Warrior Technologies	2.285	1.047	1.241
RDT&E Article Quantity			

FY07 Continued development and evaluation of FY06 efforts. Continue to exploit emerging technologies to conduct Advanced Technology Demonstration (ATD)s that address identified capability gaps associated with increased survivability, performance and countermeasures technologies. Continue evaluation of alternative power sources. Complete evaluation of Night Vision Electro-Optics Enhancement Project and Wide Field of View Goggles. Complete Advanced Technology Underwater Breathing Apparatus (AT-UBA) ATD. Continued Military Free Fall Navigation ATD.
FY08 Continue development and evaluation of FY07 efforts. Continues to exploit emerging technologies to conduct ATDs that address identified capability gaps associated with increased survivability, performance and countermeasures technologies. Continues evaluation of alternative power sources. Initiate Frangible Ammunition project. Complete Military Free Fall Navigation ATD.
FY09 Continues development and evaluation of FY08 efforts. Continues to exploit emerging technologies to conduct ATDs that address identified capability gaps associated with increased survivability, performance and countermeasures technologies. Continues evaluation of alternative power sources. Continue Frangible Ammunition project.

	FY07	FY08	FY09
Tagging, Tracking, and Locating Technologies)		8.821	12.871
RDT&E Article Quantity			

FY08 Initiate projects from the USSOCOM Office of the Secretary of Defense Director, Defense Research and Engineering/DDR&E Tagging, Tracking, and Locating (TTL) project database that exploit and integrate TTL proven relevant technologies (nanotechnology, biotechnology, and chemistry) to provide and demonstrate military utility for capability enhancements such as significant reduction in form factor and packaging of TTL devices and systems; detection and identification of objects of interest at long distances, including development of new TTL modalities; novel techniques for data transmissions, sharing and processing, and supporting capabilities required for TTL system integration, reliability, usability, and employment. Exploit emerging technologies to locate and track targets or items of interest. Projects will include leveraging and cooperative efforts with DOD, other government agencies, and industry.

	FY07	FY08	FY09
Advanced Tactical Laser (ATL)/ACTD	39.211		
RDT&E Article Quantity			

FY07 Completed high-power flight test laser module build-up, integration and ground test and integrate the entire ATL ACTD system on the C-130 host aircraft. Completed integrated ATL system ground verification tests. Conducted high-power flight tests and demonstrate system

performance in the Design Reference Missions. Completed the Military Utility Assessment and delivered the system residuals required for operational forces to operate and maintain the ATL system in a potential extended user evaluation.

	FY07	FY08	FY09
PSYOP "Global Reach" ACTD	5.827	5.838	
RDT&E Article Quantity			

FY07 Continued management of the incremental design, engineering and technical integration of multiple technologies as the variants become more robust. Planned events include demonstrating advanced broadcast/rebroadcast payloads on Predator type Unmanned Aerial System (UAS) platforms, demonstrating TV payload; conducting an Extended User Evaluation (EUE) on Wind Supported Air Delivery System (WSADS) UAS FM and loudspeaker broadcast payloads; transitioning WSADS FM broadcast payload; demonstrating electronic leaflets and media display systems; performing an EUE for Short Message Service for formal transition; and incremental fielding and software certification of advanced software for Psychological Operations (PSYOP) Target Audience Analysis and PSYOP Worksheets, under the PYSOP Planning and Analysis System (POPAS) umbrella. These efforts will culminate in further military utility assessments for UAS payloads, scatterable media, and the POPAS.
FY08 Continue the development and demonstration of advanced broadcast/rebroadcast payloads on Predator and other UAS's, to include AM broadcast systems. Perform EUE on Predator B, UAV for FM, TV and loudspeaker broadcast payloads. Transition Predator B FM payload and WSADS UAS loudspeaker broadcast payloads. Continues POPAS development and incremental fielding and transition software/hardware.

	FY07	FY08	FY09
Classified	4.960	5.564	2.476
RDT&E Article Quantity			

FY07 Details provided under separate cover.
FY08 Details provided under separate cover.
FY09 Details provided under separate cover.

	FY07	FY08	FY09
Standoff Precision Guided Munition (SOPGM)	8.244		
RDT&E Article Quantity			

Phase 1 of the ACTD:
FY07 Conducted the SOPGM Initial Proof-of-Concept (IPOC) flight demonstrations to validate end-to-end system performance and support an Initial MUA. Flight demonstrations included joint operations with ground and 3rd party airborne platforms providing target designation.

Following successful validation of the IPOC system in various test scenarios, the system was turned over to the Air Force Special Operations Command (AFSOC) for an EUE. AFSOC employed the SOPGM IPOC system in conjunction with training and other flight operations to refine tactics and collect data and operational experience to support an Interim MUA. The SOPGM ACTD Prime Contractor provided system support throughout the EUE. AFSOC will use the results of the flight demonstrations and EUE operations to complete an Interim MUA to support decisions on proceeding into Phase 2 and strategies for transitioning to a combat-capable SOPGM system.

	FY07	FY08	FY09
11m RIB Replacement Craft Design		.780	
RDT&E Article Quantity			

FY08 This initiative was a Congressional add. Conduct design, modeling, and early prototyping for the 11m Rigid Inflatable Boat replacement craft.

	FY07	FY08	FY09
Remote Video Weapon Site	1.753		
RDT&E Article Quantity			

FY07 This initiative was a Congressional add and a follow on to FY06. Transitioned video-based weapon sighting system developed under USSOCOM Small Business Innovative Research (SBIR).

	FY07	FY08	FY09
Advanced Multi-Purpose Micro-Display System	.974		
RDT&E Article Quantity			

FY07 This initiative was a Congressional add and a follow on to FY06. Integrated micro-display and miniature electronics into heads-up displays.
FY08 This initiative is a Congressional add to the Special Operations Technology Development program (PE1160401BB) in FY08 and will be included in the R2A for that PE.

	FY07	FY08	FY09
Nanotech Integration Team	1.871		
RDT&E Article Quantity			

This initiative was a Congressional add. Used nanotechnologies to prototype low-power micro/nano-sensors.

	FY07	FY08	FY09
Autonomous Navigation Sensor Suite	1.461		
RDT&E Article Quantity			

FY07 This initiative was a Congressional add and a follow on to FY06. Integrated stereo multi-spectral sensors for autonomous navigation and obstacle avoidance.

	FY07	FY08	FY09
Army DRAMA/COMPOSER Integration & Development	1.461		
RDT&E Article Quantity			

FY07 This initiative was a Congressional add and follow on to FY06. Automated diagnostics and repair capability for Warfighter Information Network – Tactical (WIN-T) troubleshooting and performance management.

	FY07	FY08	FY09
Counter-Sniper & Surveillance Detection System	1.948		
RDT&E Article Quantity			

FY07 This initiative was a Congressional add and a follow on to FY06. Developed modular, retro-reflective-based sniper detection device for handheld or mounted automated search/detection.

	FY07	FY08	FY09
Field Experimentation Program For SOF (FEPSO)	.974	1.558	
RDT&E Article Quantity			

FY07 This initiative was a Congressional add and a follow on to FY06. Demonstrated the Zephyr High Altitude Long Endurance Airship for SOF persistent Intelligence Surveillance Reconnaissance (ISR) applications.
FY08 This initiative is a Congressional add and a follow on to FY07. Prototype and evaluate manned/unmanned platform and sensor networks to articulate new concepts of operation and employment for SOF.

	FY07	FY08	FY09
Improved Materials for Fireproof Clothing	1.461		
RDT&E Article Quantity			

FY07 This initiative was a Congressional add and a follow on to FY06. Developed improved textile materials for thermal protection and fire retardency.

	FY07	FY08	FY09
Improved Special Operations Fast Rope Kit	1.462		
RDT&E Article Quantity			

FY07 This initiative was a Congressional add and a follow on to FY06. Improved the safety of fast-rope operations using advanced design and materials.

	FY07	FY08	
Mobile Electric Power Utilizing Energy Harvesting.	.974		
RDT&E Article Quantity			

FY07 This initiative was a Congressional add and a follow on to FY06, rapidly fielded miniature electrical generation devices to power the mobile devices and voltages required by SOF.

	FY07	FY08	FY09
SOF Portable Power Source	3.167	2.339	
RDT&E Article Quantity			

FY07 This initiative was a Congressional add and a follow on to FY06, developed a 50 Watt solid-oxide fuel cell.
FY08 This initiative is a Congressional add and a follow on to FY07. Conduct research on systems to produce mobile electric power from a variety of fuels.

	FY07	FY08	FY09
Satellite Synthetic Aperture Radar	3.507		
RDT&E Article Quantity			

FY07 This initiative was a Congressional add and a follow on FY06, demonstrated a radar array processor fabricated from commercial-off-the-shelf micro processors for space applications.

	FY07	FY08	FY09
Snapshot Synthetic Aperature Radar	2.825		
RDT&E Article Quantity			

FY07 This initiative was a Congressional add. Evaluate processor array for real-time processing of radar data.

	FY07	FY08	FY09
Rotary Wing UAV	6.325		
RDT&E Article Quantity			
FY07 This initiative was a Congressional add. Continued the ongoing Advanced Concept Technology Demonstration and operationalized current systems.			
	FY07	FY08	FY09
Waterway Threat Detection Sensor System.	1.461	2.339	
RDT&E Article Quantity			
FY07 This initiative was a Congressional add and a follow on to FY06. Developed a lightweight sonar system for swimmer, unmanned underwater vehicle, and ship detection. FY08 This initiative is a Congressional add and a follow on to FY07. Refine development and test a lightweight sonar system for swimmer, unmanned underwater vehicle, and ship detection.			
	FY07	FY08	FY09
Airborne PSYOP Modernization	1.461		
RDT&E Article Quantity			
FY07 This initiative was a Congressional add. These funds were to be used to develop and test (1) paper like programmable electronic Psychological Operations leaflet with embedded electronics, and (2) electronic leaflet target area analysis prediction tools.			
	FY07	FY08	FY09
Aircraft EW Mounting System	4.678		
RDT&E Article Quantity			
FY07 This initiative was a Congressional add. Demonstrated advanced countermeasure technologies to provide contingency aircraft self-protection capability.			
	FY07	FY08	FY09
Field Deployable Digital Holograph	1.948		
RDT&E Article Quantity			
FY07 This initiative was a Congressional add. Developed full color high speed technology to include Red, Green, Blue laser evolution, film construction development, automated film handling and processing hardware design and development of 1 full color high speed holographic topography system.			

	FY07	FY08	FY09
Fuel Cell Power Systems	1.948		
RDT&E Article Quantity			
FY07 This initiative was a Congressional add. Developed a lightweight nickel-metal hydride fuel cell.			
	FY07	FY08	FY09
Improved Information Transfer For Special Forces	2.338		
RDT&E Article Quantity			
FY07 This initiative was a Congressional add. Applied real time knowledge management tools using information technologies and cognitive science to meet urgent Special Operations intelligence requirements. FY08 This initiative was a Congressional Add and a follow on to FY07. Continue application of real-time knowledge management tools using information technologies and cognitive science to meet urgent Special Operations intelligence requirements.			
	FY07	FY08	FY09
Language Teletraining System	6.820	3.118	
RDT&E Article Quantity			
FY07 This initiative was a Congressional add. Completed development of internet-based training technologies.			
	FY07	FY08	FY09
Life Cycle Support for Unmanned Systems	2.144		
RDT&E Article Quantity			
FY07 This initiative was a Congressional add. Explored concepts and technologies for the automated life-cycle support of unmanned ground systems.			
	FY07	FY08	FY09
Multimode Radar Low Probability of Intercept/Low Probability of Detection (LPI/LPD)	2.338		
RDT&E Article Quantity			
FY07 This initiative was a Congressional add. Developed millimeter wave LPI/LPD radar.			

	FY07	FY08	FY09
Partnership for Def Innovations WIFI	1.053		
RDT&E Article Quantity			

FY07 This initiative was a Congressional add. Established a wireless battlefield network research and testing facility.

	FY07	FY08	FY09
Shock Mitigating Seat for NSW Rigid Inflatable Boat (RIB)	1.266		
RDT&E Article Quantity			

FY07 This initiative was a Congressional add. Transitioned a Phase II USSOCOM SBIR to develop a shock mitigating seat for the RIB.

	FY07	FY08	FY09
Shortwave Infrared Technologies	1.072		
RDT&E Article Quantity			

FY07 This initiative was a Congressional add. Improved electro-optic shortwave infrared sensor sensitivity and integrate multi-spectral data.

	FY07	FY08	FY09
Target, Location, ID and Engagement	1.559		
RDT&E Article Quantity			

FY07 This initiative was a Congressional add. Developed persistent targeting and timely intelligence collection for UAVs and other unmanned systems.

	FY07	FY08	FY09
TTL System for High Value Targets	.974		
RDT&E Article Quantity			

FY07 This initiative was a Congressional add. Investigated the microencapsulation, dispersal, and remote detection of quantum dot technology for SOF specific high-value target applications.

	FY07	FY08	FY09
Unmanned Aerial Vehicle (UAV) Situational Awareness System	.974		
RDT&E Article Quantity			
FY07 This initiative was a Congressional add. Integrated UAV autonomous flight control system to fly in controlled airspace.			
	FY07	FY08	FY09
Closed Circuit Rebreather	.974		
RDT&E Article Quantity			
FY07 This initiative was a Congressional add. Evaluated emerging rebreather technology for SOF applications.			
	FY07	FY08	FY09
3-D Facial Recognition Imaging Technology	1.266		
RDT&E Article Quantity			
FY07 This initiative was a Congressional add. Integrated stereo vision in hand held stabilized night vision systems.			
	FY07	FY08	FY09
MK V: Advanced MK V Prototype	3.897		
RDT&E Article Quantity			
FY07 This initiative was a Congressional add. Evaluated emerging rebreather technology for SOF applications.			
	FY07	FY08	FY09
Integrated Warfare Information System (IWIS)	2.046		
RDT&E Article Quantity			
FY07 This initiative was a Congressional add. Developed a single Intelligence, Surveillance, and Reconnaissance tool to provide SOF with an integrated sighting system.			
	FY07	FY08	FY09
SOF Long Endurance Demonstrator (SLED)	4.872		
RDT&E Article Quantity			
FY07 This initiative was a Congressional add. Continued research and development that had begun as an Advance Concept Technology Demonstration effort for the SOF Long Endurance Demonstrator (SLED) platform.			

Exhibit R-2a, RDT&E Project Justification	Date: FEBRUARY 2008
Appropriation/Budget Activity RDT&E BA # 3	Special Operations Special Technology Project S200

	FY07	FY08	FY09
Information Networking for Operational and Monitoring		1.949	
RDT&E Article Quantity			

FY08 Develop and test a capability that guarantees critical intelligence information is immediately disseminated to deployed warfighters and other users.

C. Other Program Funding Summary: None.

D. Acquisition Strategy. N/A.