

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)					DATE FEBRUARY 2005					
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 2			R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160401BB Special Operations Technology Development							

COST (Dollars in Millions)	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	Cost to Complete	Total Cost
PE1160401BB	18.875	14.972	13.595	12.520	11.217	11.466	11.721	11.985	Cont.	Cont.
S100, SO TECHNOLOGY BASE DEV	18.875	14.972	13.595	12.520	11.217	11.466	11.721	11.985	Cont.	Cont.

A. Mission Description and Budget Item Justification

This program element enables USSOCOM to conduct studies and develops 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 the Commander, USSOCOM to influence the direction of technology development or the schedule against which it is being pursued, and to acquire emerging technology 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. Change Summary Explanation:

	<u>FY04</u>	<u>FY05</u>	<u>FY06</u>	<u>FY07</u>
Previous President's Budget	19.274	13.109	13.710	14.440
Current President's Budget	18.875	14.972	13.595	12.520
Total Adjustments	-0.399	1.863	-0.115	-1.920
Congressional Program Reductions		-0.290		
Congressional Increases		2.500		
Reprogrammings	-0.399		-0.115	-1.920
SBIR Transfer		-0.347		

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<p>FY04: Decrease reflects USSOCOM realignment of resources to support higher command priorities. (-\$.399M)</p> <p>FY05: Reflects Congressionally added program as follows: -SPIKE (\$2.500) Decrease reflects Congressional reductions (-\$.290M) -SBIR (-\$.347M)</p> <p>FY06: Decrease reflects USSOCOM realignment of resources to support higher command priorities. (-\$.400M) Increase based on current inflation factors. (+.285M)</p> <p>FY07: Decrease reflects USSOCOM realignment of resources to support higher command priorities. (-\$1.920M) Increase based on current inflation factors. (+.297M)</p> <p>Schedule: None.</p> <p>Technical: None.</p>		

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Cost (\$ in millions)	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11
SOF Technology Base Development	18.875	14.972	13.595	12.520	11.217	11.466	11.721	11.985
RDT&E Articles Quantity								

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 the Commander USSOCOM to influence the direction of technology development or the schedule against which it is being pursued, and to acquire emerging technology 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. Efforts include:

- SOF Command, Control, Communications, Computers, and Intelligence (C4I) Technologies. Exploit 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.
- SOF Mobility Technologies. Exploit 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.
- SOF Weapons Technologies. Exploit technologies to provide SOF with standoff capabilities for targeting and locating personnel and equipment. Exploit technologies to discriminate targets and provide real-time active decision-making 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.

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- SOF Sustainment/Warrior Technologies. Exploit 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.
- Concept Exploration Studies. Explore and validate concepts for projects being continued or initiated in support of the USSOCOM desired operational capabilities.
- Technology Development Exploitation. Exploit technologies to meet critical SOF capability 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.

Additionally, these efforts were added by Congress:

- Shoulder Fired Smart Round (SPIKE) Urban Warfare System. Congressional add for a man-portable fire-and-forget rocket for anti-material use. Possible maritime platform applications.
- Sensors for Autonomous Navigation. Congressional add that will demonstrate a sensor suite for autonomous vehicle navigation.
- Automated Assembly (of Electro-Optic Sensors and Devices). Congressional add to apply reconfigurable robotic assembly techniques to improve design of components and assembly of electro-optic devices.
- Image Fusion Common Aperture Systems Development. Congressional add for development of a common aperture for the dual band systems (intensified and thermal).

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B. Accomplishments/Planned Program				
	FY04	FY05	FY06	FY07
SOF Command, Control, Communications, Computers, and Intelligence (C4I) Technologies.	2.350	2.896	2.172	2.171
RDT&E Articles Quantity				
<p>FY04 Continued development of FY03 efforts. Continued Color Night Vision-Polarimetry, Undersea Master Communications Node, and Enhanced Situational Awareness. Initiated Antenna Enhancements and Small Hand-held Night Vision Devices.</p> <p>FY05 Continue development of FY04 efforts. Initiate illumination/reflective technologies for tagging, tracking and locating.</p> <p>FY06 Continue development of FY05 efforts. Continue to exploit, develop and demonstrate technologies that provide SOF with improved situational awareness and communications in all environments, the capability to accurately detect and track threats or targets, provide enhanced sensors and command and control, and continue investigations of technology thrust areas. Initiate Increased Standoff Tagging, Tracking and Locating, Rapid Maritime Identification and Tracking System, and High Bandwidth Communications via Ka-band.</p> <p>FY07 Continue development of FY06 efforts. Continue to exploit, develop and demonstrate technologies that provide SOF with improved situational awareness and communications in all environments, the capability to accurately detect and track threats or targets, provide enhanced sensors and command and control, and continue investigations of technology thrust areas.</p>				
	FY04	FY05	FY06	FY07
SOF Mobility Technologies	2.161	3.200	2.160	2.300
RDT&E Articles Quantity				
<p>FY04 Continued development of FY03 efforts. Continued Night Vision Windshield and Small Versatile Maritime Mobility Craft. Initiated implementation of Hypersteriopsis for Improved Target Identification on AC-130 Gunships and Maritime Shock Mitigation. Completed Tactile Situational Awareness System.</p> <p>FY05 Continue development of FY04 efforts. Initiate Enhanced Hostile Detection Capability for SOF Combatant Craft (river application) and Ground Vehicle Day/Night Sensor.</p> <p>FY06 Continue development of FY05 efforts. Continue to exploit technologies to improve the performance and survivability, and reduce the detection of SOF mobility assets. Continue to exploit and develop technologies to provide SOF the capability to conduct ground, air, and sea mobility operations in denied areas and continue investigations of technology thrust areas. Continue to exploit and develop technologies to enhance logistics support, reduce cost and improve the performance of SOF mobility platforms. Initiate alternative power systems, and Combatant Craft Full Mission Simulator.</p> <p>FY07 Continue development of FY06 efforts. Continue to exploit technologies to improve the performance and survivability, and reduce the</p>				

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detection of SOF mobility assets. Continue to exploit and develop technologies to provide SOF the capability to conduct ground, air, and sea mobility operations in denied areas and continue investigations of technology thrust areas. Continue to exploit and develop technologies to enhance logistics support, reduce cost, and improve the performance of SOF mobility platforms.

	FY04	FY05	FY06	FY07
SOF Weapons Technologies	.874	1.855	1.500	1.400
RDT&E Articles Quantity				

FY04 Continued development of FY03 efforts. Continued Universal Initiator. Completed SOF Demolitions Kit Enhancements.
 FY05 Continue development of FY04 efforts. Initiate Hostile Fire Detection and Defeating Systems.
 FY06 Continue development of FY05 efforts. Continue to exploit technologies to provide SOF with standoff capabilities for targeting and locating personnel and equipment. Exploit technologies to discriminate targets and provide real-time active decision-making 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 platforms and missions. Continue investigations of technology thrust areas. Initiate Small Craft Defensive Capability.
 FY07 Continue development of FY06 efforts. Continue to exploit technologies to provide SOF with standoff capabilities for targeting and locating personnel and equipment. Exploit technologies to discriminate targets and provide real-time active decision-making 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 platforms and missions. Continue investigations of technology thrust areas.

	FY04	FY05	FY06	FY07
SOF Sustainment/Warrior Technologies	1.362	1.655	1.527	1.522
RDT&E Articles Quantity				

FY04 Continued development of FY03 efforts. Continued GEO Survey Kit and Fast Rope for CV-22. Initiated the Special Reconnaissance Simulator.
 FY05 Continue development of FY04 efforts. Initiate Advanced Composite Ballistic Protection for Combatant Craft.
 FY06 Continue development of FY05 efforts. Continue to exploit technologies to increase SOF's survivability and performance. Continue to exploit technologies to improve the human endurance and sensory performance. Continue investigations of technology thrust areas. Initiate Smart Rechargeables for SOF Power Management.
 FY07 Continue development of FY06 efforts. Continue to exploit technologies to increase SOF's survivability and performance. Continue to exploit technologies to improve the human endurance and sensory performance. Continue investigations of technology thrust areas.

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	FY04	FY05	FY06	FY07
Concept Exploration Studies	.667	.814	.787	.839
RDT&E Articles Quantity				
<p>FY04 Continued to conduct concept studies to explore/validate projects which support USSOCOM desired operational capabilities. Initiated SOF Hostile Detection Technology Study.</p> <p>FY05 Continue to conduct concept studies to explore/validate projects which support USSOCOM desired operational capabilities.</p> <p>FY06 Continue to conduct concept studies to explore/validate projects which support USSOCOM desired operational capabilities.</p> <p>FY07 Continue to conduct concept studies to explore/validate projects which support USSOCOM desired operational capabilities.</p>				
	FY04	FY05	FY06	FY07
Technology Development Exploitation	.418	.625	.600	.638
RDT&E Articles Quantity				
<p>FY04 Continued to exploit technologies to meet critical SOF capability objectives. Continued Technology Roadmaps for technology thrust areas. Initiated a study to evaluate a new and revolutionary flameproof textile material.</p> <p>FY05 Continue to exploit technologies to meet critical SOF capability objectives. Continue Technology Roadmaps for technology thrust areas.</p> <p>FY06 Continue to exploit technologies to meet critical SOF capability objectives. Continue Technology Roadmaps for technology thrust areas.</p>				
	FY04	FY05	FY06	FY07
Classified	1.206	1.531	2.049	2.150
RDT&E Articles Quantity				
<p>FY04 Details provided under separate cover.</p> <p>FY05 Details provided under separate cover.</p> <p>FY06 Details provided under separate cover.</p> <p>FY07 Details provided under separate cover.</p>				
	FY04	FY05	FY06	FY07
SPIKE Urban Warfare System	2.886	2.396		
RDT&E Articles Quantity				
<p>FY04. This initiative was a congressional plus-up. Completed development of technologies for SPIKE and refine the guidance system for more accurate prosecution of hardened targets. Completed the refine target tracking sub-system and warhead development.</p>				

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FY05 Initiate precision guided missile tests. Full integration of flight-worthy tracker algorithms.				
	FY04	FY05	FY06	FY07
Sensors for Autonomous Navigation	2.454			
RDT&E Articles Quantity				
FY04 This initiative was a congressional plus-up. Demonstrated a sensor suite for autonomous vehicle navigation across difficult terrain, both day and night, and in a wide range of environmental conditions.				
	FY04	FY05	FY06	FY07
Automated Assembly of Electro-Optic Sensors and Devices	2.454			
RDT&E Articles Quantity				
FY04 This initiative was a congressional plus-up. Improved design of components and assembly of electro-optic devices for robotic assemblies to reduce cost and enhance performance.				
	FY04	FY05	FY06	FY07
Image Fusion Common Aperture Systems Development	2.043			
RDT&E Articles Quantity				
FY04 This initiative was a congressional plus-up. This development effort is the first common aperture which allows a natural bore sight for the dual band systems (intensified and thermal).				
	FY04	FY05	FY06	FY07
SOF Mobility Technologies			2.800	1.500
RDT&E Articles Quantity				
FY06 Program funding provides for initial studies, analysis, market research and investigation of new and existing technologies needed to replace the MK V SOC. FY07 Program funding provides for follow-on studies, analysis, market research and investigation of new and new and existing technologies needed to replace the MK V SOC.				

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C. Other Program Funding Summary: None.

D. Acquisition Strategy: N/A.