RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE FEBRUARY 2005
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations (SO) Tactical Systems Development

COST (Dollars in Millions)	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	Cost to Complete	Total Cost
PE1160404BB	296.173	70.719	63.513	47.660	16.880	17.989	12.029	21.175	Cont.	Cont
3129 MC-130H COMBAT TALON		22.958	4.284						0.0	28.120
3284 SOF AIRCRAFT DEFENSIVE SYSTEM	54.330								See note	See note
3326 AC-130U GUNSHIP	1.355	1.237	18.907	12.863	2.748	1.639	1.691	1.743	Cont.	Cont.
D476 PSYOPS ADV DEV	2.159	.331	5.055	7.492	1.382	2.424	.678	.692	Cont.	Cont
D615 SOF AVIATION	36.795	20.304	7.014	2.994	2.355	2.767		10.273	Cont.	Cont
DE14 JASORS	.033									
S0417 UNDERWATER SYSTEMS ADV DEV	16.576	.749	.601			1.130			Cont.	Cont
S1684 SOF SURFACE CRAFT ADV SYSTEMS	1.409	.960							Cont.	Cont
S350 SO MISSION PLANNING ENVIRONMENT	2.473	6.400	3.909	3.841	3.960	4.065	4.171	4.282	Cont.	Cont
S375 WEAPONS SYSTEMS ADV DEV	8.989	5.322	10.175	5.524	4.330	3.330	2.491	2.526	Cont.	Cont
S625 SOF TRAINING SYSTEMS	19.551	4.573		1.757	1.612	2.634	2.690	1.248	Cont.	Cont.
S700 SO COMMUNICATIONS ADV DEV	6.799	4.415	13.058	13.189			.308	.411	Cont.	Cont
S800 SO MUNITIONS ADV DEV	6.058	3.470			.493				Cont.	Cont
S900 SO MISCELLANEOUS EQUIPMENT ADV DEV			.510						Cont.	Cont

SF100 AVIATION SYSTEMS ADV DEV	68.341								See note	See note
SF200 CV22	71.305								See note	See note

As directed by Congress, a new program element was established beginning in FY 2005 for 3284 Special Operations Aircraft Defensive Systems, SF100 Aviation Systems Adv Dev, SF200 Special Operations CV-22 Dev and the Advanced SEAL Delivery Sys Dev portion of S0417. FY 2005-2011 resources were moved from PE 1160404BB.

A. Mission Description and Budget Item Justification:

This program element provides for development, testing, and integration of specialized equipment to meet the unique requirements of Special Operations Forces (SOF). Specialized equipment will permit small, highly trained forces to conduct required operations across the entire spectrum of conflict. These operations are generally conducted in harsh environments, for unspecified periods and in locations requiring small unit autonomy. SOF must infiltrate by land, sea, and air to conduct unconventional warfare, direct action, or deep reconnaissance operations in denied areas against insurgent units, terrorists, or highly sophisticated threat forces. The requirement to operate in denied areas controlled by a sophisticated threat mandates that SOF systems remain technologically superior to threat forces to ensure mission success.

B. Program Change Summary:

	FY04	FY05	FY06	FY07
Previous President's Budget	298.825	311.966	190.438	85.036
Current President's Budget	296.173	70.719	63.513	47.660
Total Adjustments	-2.652	-241.247	-126.925	-37.376
Congressional Program Reductions		-1.772		
Congressional Rescissions		-11.970		
Congressional Transfers		-238.768	-136.946	-42.427
Congressional Increases		9.000		
Reprogrammings	-2.652	3.810	10.021	5.051
SBIR		-1.547		

Funding:

FY04:
- Reprogrammings to higher command priorities to support the War on Terrorism.

FY05:
Congressional transfers from PE1160404BB to the following new PEs:
- (-$103.982M) to new PE 1160403BB Special Operations Aviation Systems Advanced Development
- (-$75.131M) to new PE 1160421BB Special Operations CV-22 Development
- (-$58.041M) to new PE 1160425BB Special Operations Aircraft Defensive Systems
- (-$1.614M) to new PE 1160426BB Advanced SEAL Delivery System Development

Congressional Plus-ups:
- Project S700: Increase of ($4.600M) for Multi-Band Inter/Intra Team Radio Blue Force Tracking capability ($2.000M) and Tactical Communications System Test bed Initiative ($2.600M).
- Project S800: Increase of $3.400M to continue development and testing of the Multi Target Warhead.
- Project S1684: $1.000M MKV Special Operations Craft
- Congressional decrease to Project D615 of (-$11.970M) transferring to the Army as service common for the Fly-by-Wire program.
- Decrease of (-$1.765M) for Sections 8095, 8122 and 8131.

Reprogramming as follow:
- Project D615: Increase of $3.810M from PE1160402BB, Project S200.PR, ($3.060M) to the A/MH-6 Mission Enhanced Little Bird program to address tail rotor authority issues and ($.750) supports Next Generation FLIR development.

FY06: The following reprogrammings to support higher priorities and the War on Terrorism:
- Project 3129: Increase of $4.284M to modify the development that converts C-130H to the MC-130H Combat Talon II.
- Project 3326: Increase of $16.373M as a result of reflowing the AC-130U Gunship program to comply with incremental budgeting policy. This program starts the development of a new EO/IR sensor for which the Gunship has the most stringent requirements.

- Project S350: Increase of $0.077M supports development of software for theater special operations commands.
- Project S625: Decrease of $11.203M reduces support to the A/MH-6 Simulator and AFSOC and USASOC Simulator Block Updates.
- Project D615: Decrease of $21.635M is a net result from Fly-by-Wire transfer to the Army (-$10.471M), Terrain Following/Terrain Avoidance, (-$17.203M) technology development realignment to SF100 where the programs managed and the A/MH-6 MELB program to develop tail rotor safety of flight modifications ($6.051M).
- Project S375: Increase of $5.774M will begin development of new items being developed for the SPEAR program, test and evaluate on-going Gunfire Detection System performance, improve functionality of the LCMR and enter concept development for modernization of SOF medical kits.
- Project S700: Increase of $13.058M to continue technology insertions for the Joint Enhanced Multi-Band Inter/Intra Team Radio (JEM), Multi-Band Inter/Intra Team Radio (MBITR) ($7.651M) and continues development of a COMSEC chip for the Multi-Band/Multi-Mission Radio (MBMMR) to correct obsolescence issue ($5.101M), and development of a Machine Based Language Translator (MBLT) ($0.306M).
- Project S800: Decrease $0.816M to Demo Kits to support higher command priorities.
- Project S900: Increase $0.510M to support tactical vehicle modification integration.
- Project D476: Increase of $3.599M to initiate development of the Commando Solo narrowband transmitter.

FY07: The following reprogrammings to support the Command's higher priorities and the War on Terrorism:
- Project 3326: Increase of $10.283M supports the continued development of the most stringent requirements for the EO/IR sensor.
- Project S625: Combined net reductions of $2.730M to the A/MH-6 Simulator development.
- Project S700: Increase of $13.189M to continue technology insertions for the JEM. MBITR ($7.668M) and to continue development of a COMSEC chip for the MBMMR to correct obsolescence issue ($5.112M), and development of a MBLT ($0.409M).
- Project D476: Increase of $0.788M to continue primary hardware development and systems engineering for the Psychological Operations Broadcast System Long Range Broadcast System.
- Project S1684: Decrease of $1.335M is due to funds being moved to Science and Technology.
- Project S375: Increase of $5.188M will begin development of new items being developed for the SPEAR program, test and evaluate on-going Gunfire Detection System performance, improve functionality of the LCMR and enter concept development for modernization of SOF medical kits.
- Project S350: Increase of $0.084M supports development of software theater special operations commands.

- Project D615: Decrease of $20.416M is a result of Fly-By-Wire transfer to the Army (-$1.896M), decrease to the A/MH-6 MELB program (-$3.844M), reduction to the Next Generation Night Vision Devices program (-$4.388M), the transfer of TF/TA (-$13.282M), and an increase to the development of the M-134 Machine Gun ($2.994M).

Schedule:

- Project 3284: Low Band Jammer and Towed Decoy: These programs are tied together to make the program executable. The program rebaselined aircraft from AC-130H to MC130E to use the E model first because of ease of installation. The H model already has a low band jammer. The milestone C (production) and IOC decision were both moved forward one year.
- Project SF100: CAAP buys back one year of a two year AMP schedule slip due to AMP restructure and adds RDT&E funds to the AMP/CAAP program to minimize the 24+ month schedule slip.

Technical:

- Project SF100: DIRCM Laser: An inherent design defect was discovered and deemed not cost effective. Cost and schedule impact was considered impractical. Therefore, the effort was cancelled and the lasers will not be put on the large lamp based system of SOF C-130 DIRCM.

- Project 3326: AC-130U+4: In order to complete production costs (spares, trainers, etc) of the new 30mm gun, development of enhanced survivability systems was delayed. Enhanced survivability schedules were incompatible with the Plus 4 production schedule.

	Exhibit R-2a, RDT&E Project Justification	Date: FEBRUARY 2005
Appropriation/Budget Activity RDT&E BA # 7	MC-130 Combat Talon II/Project 3129	

Cost ($ in millions)	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11
		22.958	4.284					
RDT&E Articles Quantity								

A. Mission Description and Budget Item Justification: In an effort to mitigate Low Density/High Demand assets, the Department provided funding, starting in FY05, to increase USSOCOM's MC-130H inventory by ten aircraft. This program modifies seven C-130H2 and three CLR3 modified aircraft (that were funded with FY03 Supplemental) to an MC-130H Combat Talon II configuration. These aircraft provide low level infiltration, exfiltration, and re-supply of special operations forces and equipment in hostile/denied territories. Aircraft will also refuel SOF helicopters.

B. Accomplishments/Planned Program

	FY04	FY05	FY06	FY07
System Development and Engineering		22.958	4.284	
RDT&E Articles Quantity				

FY05 Conduct a preliminary analysis for an Electro-Optical/Infrared Common Sensor and Nonrecurring Engineering (NRE) for the seven C-130H2 and three CLR3 modified aircraft to an MC-130H Combat Talon II configuration.
FY06 Complete NRE efforts.

C. Other Program Funding Summary:

	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	To Complete	Total Cost
Procurement	8.573	81.700	66.288	156.567	179.500	61.408	4.118	3.620	Cont.	Cont.

D. Acquisition Strategy. The Plus 10 Program procures 10 Talon II aircraft by modifying 3 previously procured Combat Loss Replacement (CLR-3) C130 aircraft and 7 C130H2 aircraft. The CLR-3 aircraft were previously modified by installing an in-flight refueling capability, a high speed ramp, improved electrical generators, advanced communication and electronic counter-measures systems, and adding an APN-241 ground mapping/weather radar. In the Plus 10 Program, these 3 aircraft will be further modified to add a terrain following/terrain avoidance capability to the APN-241, the ALQ-196 Low Band Jammer, the ALQ-55 Towed Decoy System, and the C-130 Avionics Modernization Program/Common Avionics Architecture for Penetration modification. These modifications will bring the CLR-3 aircraft up to a complete Combat Talon II configuration. For the conversion of the 7 C130H2s into the Combat Talon II configuration, the Plus 10 Program will conduct all the modifications described previously in one step.

E. The prime contractor, Boeing Ft Walton Beach, FL. will work with subcontractors and they are responsible for the limited RDT&E effort. The proposed contract award for this effort is April 2005.

Exhibit R-3 COST ANALYSIS			DATE: FEBRUARY 2005								
APPROPRIATION / BUDGET ACTIVITY RDT&E DEFENSE-WIDE / 7			Special Operations Tactical Systems Development/PE1160404BB MC-130H Combat Talon II /3129								
Actual or Budget Value ($ in millions)											
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PYs Cost	Budget Cost FY05	Award Date FY05	Budget Cost FY06	Award Date FY06	Budget Cost FY07	Award Date FY07	To Complete	Total Program
System Design Development	CPAF/FFP	Boeing, Ft Walton Beach, FL		22.150	Apr-05	4.284	Feb-06				26.434
Other (EO/IR Study)	TBD	Lincoln Labs, Lexington, MA		0.808	Jan-05						0.808
Subtotal Product Dev				22.958		4.284					27.242
Remarks:											
Development Spt											
Subtotal Spt											
Remarks:											
Developmental Test & Eval											
Subtotal T&E											
Remarks:											
Contractor Engineering Spt											
Subtotal Management											
Remarks:											
Total Cost				22.958		4.284					27.242
Remarks:											

Exhibit R-4, Schedule Profile																																
																	Date: FEBRUARY 2005																
Appropriation/Budget Activity									Program Element Number and Name														Project Number and Name									
RDT&E/7									PE1160404BB/Special Operations Tactical System Development														Project 3129/MC-130H Combat Talon II									
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
System Design Development Contract Award						△																										
System Design Development NRE						△	—	—	—	△																						

Exhibit R-4a, Schedule Profile				Date: FEBRUARY 2005					
Appropriation/Budget Activity RDT&E/7	Program Element Number and Name PE1160404BB/Special Operations Tactical Systems Development			Project Number and Name Project 3129/MC-130H Combat Talon II					
Schedule Profile		FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
System Design Development Contract Award			2Q						
System Design Development Non-Recurring Engineering			2-4Q	1-2Q					

	Exhibit R-2a, RDT&E Project Justification	Date: FEBRUARY 2005
Appropriation/Budget Activity RDT&E BA # 7	AC-130U Gunship/Project 3326	

Cost ($ in millions)	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11
AC-130U Gunship	1.355	1.237	18.907	12.863	2.748	1.639	1.691	1.743
RDT&E Articles Quantity								

A. Mission Description and Budget Item Justification: This project provides development of aircraft subsystems including precision navigation, target acquisition and strike radar, fire control computers integrated on redundant MIL-STD-1553B data buses, electronic countermeasures, infrared countermeasures, aerial refueling, covert lighting, trainable weapons, all light level television, infrared sensor, and secure communications systems. These subsystems enable the gunship to loiter safely in the target area, accurately strike targets, and to perform these tasks at night and in adverse weather conditions. Every effort has been made to adapt off-the-shelf equipment. To the maximum extent possible, the subsystems in the AC-130U are common with systems on other Air Force Special Operations Command aircraft.

B. Accomplishments/Planned Program

	FY 2004	FY 2005	FY 2006	FY 2007
AC-130U Plus Four	0.824			
RDT&E Articles Quantity				

FY04 Completed engineering analysis of obsolescence issues.

	FY 2004	FY 2005	FY 2006	FY 2007
AC-130U Sensor Upgrades			16.322	10.225
RDT&E Articles Quantity				

FY06 Program starts development of a new Electro-Optical/Infra Red (EO/IR) sensor to satisfy the remaining Operational Requirement Document deficiency on the AC-130U Gunship. Development will consider achieving an AFSOC-common sensor, for which the Gunship has the most stringent requirements.
FY07 Continues development and testing of EO/IR sensor for the AC-130U Gunship.

	FY 2004	FY 2005	FY 2006	FY 2007
AC-130U Post Production Support	.531	1.237	2.585	2.638
RDT&E Articles Quantity				

FY04 Continued weight and drag reduction design, obsolescence engineering drawings, survivability studies, and ground/flight test support.
FY05 Continues weight and drag reduction design, obsolescence engineering drawings, survivability studies, and ground/flight test support.

FY06 Continues weight and drag reduction design, obsolescence engineering drawings, survivability studies, and ground/flight test support.
FY07 Continues weight and drag reduction design, obsolescence engineering drawings, survivability studies, and ground/flight test support.

C. Other Program Funding Summary:

	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	To Complete	Total Cost
AC-130U Gunship (Procurement)	362.289	10.195		3.131						375.615

D. Acquisition Strategy. 1) AC-130U Plus Four: Primarily uses competitively selected prime contractor under the Integrated Weapons System Support Program. Individual acquisition strategies are developed for each project. The AC-130U is logistically supported at organizational, intermediate and depot levels. Initial operational capability occurred in March 1996, and full operational capability was declared March 2002. 2) Common EO/IR Sensor: TBD

Exhibit R-3 COST ANALYSIS						DATE: FEBRUARY 2005					
APPROPRIATION / BUDGET ACTIVITY RDT&E DEFENSE-WIDE / 7			Special Operations Tactical Systems Development/PE1160404BB AC-130U Gunship /3326								
Actual or Budget Value ($ in millions)											
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PYs Cost	Budget Cost FY05	Award Date FY05	Budget Cost FY06	Award Date FY06	Budget Cost FY07	Award Date FY07	To Complete	Total Program
Post Production Support	Various	Various	2.359	1.237	Various	2.585	Various	2.638	Various	Cont.	Cont.
AC-130U Plus Four	SS/CPFF & FFP	Boeing, Ft. Walton Beach, FL	35.943								35.943
AC-130U Sensor Upgrades	TBD	TBD				16.322	Feb-06	10.225	Feb 07		26.547
Subtotal Product Dev			38.302	1.237		18.907		12.863		Cont.	Cont.
Dev Spt											
Subtotal Spt											
Subtotal T&E											
Management											
Subtotal Management											
Remarks:											
Total Cost			38.302	1.237		18.907		12.863		Cont.	Cont.
Remarks:											

Exhibit R-4, Schedule Profile																	Date: FEBRUARY 2005															
Appropriation/Budget Activity RDT&E/7					Program Element Number and Name PE1160404BB/Special Operations Tactical System Development												Project Number and Name Project 3326/AC-130U Gunship															
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Full Rate Production Decision	▲																															
Production Delivery Plus Four Aircraft								△	—	—	—	△																				
Post Production Support		△	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sensor Upgrades										△	—	—	—	—	—	—	△															

Exhibit R-4a, Schedule Profile				Date: FEBRUARY 2005				
Appropriation/Budget Activity RDT&E/7	Program Element Number and Name PE1160404BB/Special Operations Tactical Systems Development			Project Number and Name Project 3326/AC-130U Gunship				
Schedule Profile	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
Full Rate Production Decision	1Q							
Production Delivery Plus Four Aircraft	4Q	2-3Q						
Post Production Support	2-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Sensor Upgrades			2-4Q	1-4Q	1Q			

Exhibit R-2a, RDT&E Project Justification	Date: FEBRUARY 2005
Appropriation/Budget Activity RDT&E BA # 7	PSYOP Advanced Development/Project D476

Cost ($ in millions)	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11
	2.159	0.331	5.055	7.492	1.382	2.424	.678	.692
RDT&E Articles Quantity								

A. Mission Description and Budget Item Justification:

This project provides for the development and acquisition of Psychological Operations (PSYOP) equipment. PSYOP is planned operations to convey selected information and indicators to foreign audiences to influence their emotions, motives, objective reasoning, and ultimately, the behavior of foreign governments, organizations, groups, and individuals. This project funds transformational systems and equipment to conduct PSYOP operations in support of combatant commanders. The PSYOP sub-projects funded in this project are grouped by the level of organization they support. Sub-projects include:

- PSYOP Broadcast System (POBS), formerly Special Operations Media System A (SOMS A). POBS provides an operational/strategic mobile television/radio wide area broadcast system capability. It will receive and transmit real-time PSYOP products to and from commercial and military sources by satellite and microwave. POBS will be interoperable with the fixed site media production center at Fort Bragg, NC, Theater Media Production Center, Air National Guard Commando Solo aircraft, and the tactical Special Operations Media System B.

- Commando Solo supports combat operations by flying psychological operations broadcast missions for the purpose of broadcasting radio and/or television signals deep into denied territory. These broadcasts are made from EC-130J aircraft that are equipped with high powered transmitters and large antenna arrays which operate in the 30-1,000 MHz frequency range.

Exhibit R-2a, RDT&E Project Justification	Date: FEBRUARY 2005
Appropriation/Budget Activity RDT&E BA # 7	PSYOP Advanced Development/Project D476

B. Accomplishments/Planned Program

	FY 2004	FY 2005	FY 2006	FY 2007
POBS	2.159	0.331	1.485	7.492
RDT&E Articles Quantity				

FY04 Conducted concept exploration study to determine future long range PSYOP broadcast assets and commences Fly-Away Broadcast Systems (FABS) testing.
FY05 Completes test and evaluation on the AM and Short Wave (SW) frequency FABS and the Special Operations Media System B (SOMS-B) (V)1 procured in FY03.
FY06 Commences primary hardware development, systems engineering, and Development of Test and Evaluation (DT&E) on the Long Range Broadcast System (LRBS) and POBS modernization.
FY07 Continues primary hardware development, system engineering, and DT&E on the LRBS, POBS modernization efforts, and PSYOP planning and analysis system.

	FY 2004	FY 2005	FY 2006	FY 2007
Commando Solo			3.570	
RDT&E Articles Quantity				

FY06 Integrates narrowband transceiver to Commando Solo broadcast platform for in-transit receipt of PSYOP broadcast products to be disseminated during airborne missions.

C. Other Program Funding Summary:

	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	To Complete	Total Cost
Proc, PSYOP Equipment	33.020	15.905	46.649	76.576	71.475	22.532	44.571	42.761	Cont.	Cont.

D. Acquisition Strategy.

- POBS consists of wide-area systems providing radio, television programming and multi-media production, distribution and dissemination support to the theater commander. POBS is comprised of several interfacing systems that can stand alone or interoperate with other PSYOP systems as determined by mission requirements. The program acquires and modifies as necessary commercial and governmental-off-the-shelf (GOTS) systems and equipment to replace or enhance current system capabilities. The program also acquires performance enhancements to meet emergent requirements.

- Commando Solo funds modifications of the Commando Solo Special Mission Equipment which broadcasts PSYOP television and radio messages to target audiences in denied areas. Enhancements are periodically required to meet theater commander operational requirements and maintain compatibility with U.S. Army Special Operations Command PSYOP forces equipment upgrades to allow in-flight receipt of PSYOP products for dissemination. The program acquires and integrates into the EC-130J commercial and GOTS systems to replace or enhance current system capabilities and address equipment shortfalls due to obsolesce.

Exhibit R-2a, RDT&E Project Justification	Date: FEBRUARY 2005
Appropriation/Budget Activity RDT&E BA # 7	Special Operations Forces (SOF) Aviation /Project D615

Cost ($ in millions)	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11
SOF Aviation	36.795	20.311	7.014	2.994	2.355	2.767		10.273
RDT&E Articles Quantity								

A. Mission Description and Budget Item Justification: This project provides aviation support to Special Operations Forces (SOF) in worldwide contingency operations and low-intensity conflicts. The specialized aircraft for these missions must be capable of rapid deployment and undetected penetration of hostile areas. These aircraft must be capable of operating at extended ranges under adverse weather conditions to infiltrate, provide logistics for, reinforce, and extract SOF. The threat is characterized by an extensive and sophisticated ground based air defense system and an upgraded air-to-air capability targeted against helicopters. This project will develop/upgrade SOF rotary wing aircraft systems that will be capable of successful operations in increasingly hostile environments. Rotary wing systems supported by this project include: MH-60L/K/M, MH-47D/E/G, and MH-6 Mission Enhanced Little Bird. Efforts include:

- MH-47/MH-60/A/MH-6M Aircraft. (1) Develops a follow-on weapon system to the currently fielded M-134 Mini Gun. Replacement will be lighter and more reliable/maintainable with improved suppressive fire capability. (2) Completes nonrecurring engineering, integration and testing for MH-47 Service Life Extension Program (SLEP). (3) Begins development of a fly-by-wire flight control system for the MH-60. (4) Develop a digital Auto Flight Control System (AFCS) for the MH-47 aircraft. (5) Continues development of the A/MH-6M aircraft by improving the tail rotor drive train, adding YAW stability augmentation system and redesigning the vertical fin to improve tail rotor control and pilot workload.

- MH-47/MH-60 Avionics/Sensors. (1) Develops and qualifies a “next generation” Forward Looking Infrared Radar (FLIR). New FLIRs will provide significantly increased performance, weight savings, and improved reliability/maintainability. (2) Begins development of a Low Probability of Intercept/Low Probability of Detection (LPI/LPD) Obstacle Avoidance/Cable Warning system. (3) Begins development of a rotary wing Terrain Following/Terrain Avoidance (TF/TA) navigation system. The system is characterized by a forward-looking LPI/LPD active sensor, digital elevation terrain data (passive) and a blended TF/TA solution of the processed active and passive navigation information. (4) Develops and qualifies an infrared exhaust suppressor for MH-47 aircraft. (5) Develops and qualifies a Common Avionics Architecture for Penetration radar altimeter. (6) Integrates the Intelligence Broadcast Receiver (IBR) into the Common Avionics Architecture System for the MH-47 and MH-60 aircraft.

B. Accomplishments/Planned Program

	FY04	FY05	FY06	FY07
MH-47/MH-60/A/MH-6M – Aircraft	13.058	3.060	7.014	2.994
RDT&E Articles Quantity				

FY04 Continued nonrecurring engineering and integration for the MH-47 SLEP. Began engineering development for the MH-60 fly-by-wire flight control system. The Army has adopted fly-by-wire technology. Funding for future fly-by-wire development has been transferred to the Army beginning in FY05. Began development of the digital AFCS for the MH-47 aircraft. Continue tail rotor drive train improvements for the A/MH-6M.
FY05 Continues development of tail rotor drive train for the A/MH-6M aircraft.
FY06 Begins development of replacement for the M-134 Mini Gun. Completes development of A/MH-6M tail rotor drive train improvement.
FY07 Continues development of replacement for the M-134 Mini Gun.

	FY04	FY05	FY06	FY07
MH-47/MH-60 – Avionics/Sensors	23.737	17.251		
RDT&E Articles Quantity				

FY04 Continued development of assault and attack FLIR systems to replace aging Q-16B and D systems for the fleet of ARSOA aircraft. Continued development and testing of a rotary wing TF/TA navigation system. Completed OA/CW development and testing. Completes the qualification of the radar altimeter and the infrared exhaust suppressor. Completes the integration of the IBR on ARSOA aircraft.
FY05 Continue development and testing of assault and attack FLIR systems. TF/TA navigation system has become a joint Army SOF and Air Force SOF program with the Air Force assuming the role as the lead developer.

C. Other Program Funding Summary:

	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	To Complete	Total Cost
Rotary Wing Upgrades & Sustainment	575.263	205.066	129.748	83.525	59.086	45.403	99.831	56.804	Cont.	Cont.
MH-47 SLEP		152.128	83.737	60.210	60.363	54.259	38.657	7.615	Cont.	Cont.
MH-60 SOF Modernization Program		82.037	29.629	96.596	164.744	126.752	128.288	153.230	Cont.	Cont.

D. Acquisition Strategy. A/MH-6 - This effort provides necessary drive train analyses, component development and testing, and test support/data analysis efforts required to improve operational safety margins of the A/MH-6M aircraft.

MH-47/MH-60 Aircraft - This effort provides for vibration testing and analysis of the MH-47 airframe, the development of the fly-by-wire flight control system and the 2500 Shaft Horsepower alternate engine for the MH-60 aircraft and develops and qualifies the replacements for the M-134 weapons system. The program leverages engineering and production assets from the CH-47F remanufacture and UH-60 M production programs (both funded by the Army) that will minimize costs required to install special operations forces-peculiar modernization initiatives. A competitive source selection process will be held for the MH-60 alternate engine and the M-134 replacement program.

MH-47/MH-60 Avionics/Sensors - Determination and development of next-generation improvements, enhancements, and upgrades to sensors and avionics systems will be conducted using competitive processes to the maximum extent practicable. Proprietary considerations may direct some efforts to the original equipment manufacturer.

Exhibit R-3 COST ANALYSIS						DATE: FEBRUARY 2005					
APPROPRIATION / BUDGET ACTIVITY RDT&E DEFENSE-WIDE / 7			Special Operations Tactical Systems Development/PE1160404BB PSYOP Advanced Development /D476								
Actual or Budget Value ($ in millions)											
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PYs Cost	Budget Cost FY05	Award Date FY05	Budget Cost FY06	Award Date FY06	Budget Cost FY07	Award Date FY07	To Complete	Total Program
Primary Hardware Dev	MIPR	Natick Lab, Natick, MA	1.582								1.582
	MIPR	NAVAIR, St Inigoes, MD	0.132								0.132
	MIPR	NAVAIR, St Inigoes, MD	0.168								0.168
	ALLOT	Army-CECOM, Ft Monmouth, NJ	3.655								3.655
	MIPR	DOE, Nat'l Engr Lab, Idaho Falls, ID	3.240								3.240
	TBD	TBD				0.500	Dec-05			Cont.	Cont.
	TBD	Various						6.092	Various	Cont.	Cont.
Systems Engineering	ALLOT	Army-CECOM, Ft Monmouth, NJ	1.336								1.336
	REQN	Various	2.141								2.141
	MIPR	SPAWAR, Charleston, SC	0.060								0.060
	MIPR	NAVAIR, St. Inigoes, MD				0.200	Dec-05	0.200	Dec-06		
	REQN	Lockheed Martin, Owego, NY				3.500	Mar-06			Cont.	Cont.
Subtotal Product Dev			12.314			4.200		6.292		Cont.	Cont.
Remarks:											
Development Spt											
Subtotal Spt											
Remarks:											
Developmental Test & Eval	Various	Various	0.113			0.855	Jan-06	1.200	Jan-07	Cont.	Cont.
	MIPR	Army ATC, Aberdeen Prov Gd, MD	0.723	0.035	Jan-05					Cont.	Cont.
	MIPR	Soldier Biological Cmd, Natick, MA	0.546								0.546
	MIPR	JITC, Ft Huachuca, AZ	1.844							Cont.	Cont.
	MIPR	USASOC, Ft Bragg, NC		0.296	Jan-05						0.296
Subtotal T&E			3.226	0.331		0.855		1.200		Cont.	Cont.
Remarks:											
Contractor Engineering Spt											
Subtotal Management											
Remarks:											
Total Cost			15.540	0.331		5.055		7.492		Cont	Cont
Remarks:											

Exhibit R-4, Schedule Profile																																
																		Date: FEBRUARY 2005														
Appropriation/Budget Activity RDT&E/7									Program Element Number and Name PE1160404BB/Special Operations Tactical System Development												Project Number and Name Project D476/PSYOP Advanced Development											
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
POBS FABS Testing																																
POBS AOA Study																																
POBS SOMS B (V)2 Testing																																
POBS MPC Testing																																
POBS LRBS UAV-P Testing																																
POBS LRBS Scatterable Media Testing																																
Psychological Planning Operations Analysis System (POPAS) Testing																																
POBS Modernization																																
Commando Solo Narrowband Transciever Integration																																

Exhibit R-4a, Schedule Profile					Date: FEBRUARY 2005				
Appropriation/Budget Activity RDT&E/7	Program Element Number and Name PE1160404BB/Special Operations Tactical Systems Development				Project Number and Name Project D476/PSYOP Advanced Development				
Schedule Profile	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	
POBS FABS Testing	4Q	1-2Q							
POBS AOA Study		4Q	1-4Q						
POBS SOMS B (V)2 Testing		2Q							
POBS MPC Testing		1-2Q							
POBS LRBS UAV-P Testing			4Q	1-2Q	3-4Q				
POBS LRBS Scatterable Media Testing			2Q	2Q	2Q				
POPAS Testing				2Q	2Q				
POBS Modernization			2Q	1-4Q		1-4Q	1-4Q	1-4Q	
Commando Solo Narrowband Transciever Integration			2-4Q						

	Exhibit R-2a, RDT&E Project Justification	Date: FEBRUARY 2005
Appropriation/Budget Activity RDT&E BA # 7	Special Operations Mission Planning Environment/Project S350	

Cost ($ in millions)	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11
SOMPE	2.473	6.400	3.909	3.841	3.960	4.065	4.171	4.282
RDT&E Articles Quantity								

A. Mission Description and Budget Item Justification: The project title was changed to Special Operations Mission Planning Environment (SOMPE) from Special Operations Forces (SOF) Planning and Rehearsal System (SOFPARS) to better capture the description and purpose of this project. SOMPE provides automated integrated mission planning and execution tools required for time critical command and control of globally deployed SOF and, if required, coalition forces. SOMPE automates time-intensive planning activities and provides enhanced situational awareness, as well as interoperable automated adaptive war planning and collaborative environments for horizontal, vertical and parallel development of component parts of mission plans. SOMPE spans all echelons of SOF command to include Theater Special Operations Commands (TSOCs), Joint Special Operations Task Forces (JSOTFs), Joint Special Operations Aviation Components (JSOAC), with automated interfaces to warfighters and warfighting platforms. SOMPE develops and integrates software applications.

B. Accomplishments/Planned Program:

	FY04	FY05	FY06	FY07
SOF Core Mission Planning Software	1.180	1.748	1.416	1.525
RDT&E Articles Quantity				

FY04 Continued development of Portable Flight Planning Software (PFPS), current joint-service route planning software. First-look migration evaluation of Joint Mission Planning System (JMPS), future joint-service route planning software. Began development and integration of software automation tools to meet SOF-wide mission planning requirements.
FY05 Continue SOF-wide software development and integration. Continue migration evaluation and transition planning to JMPS.
FY06 Continues SOF-wide software development and integration. Begins development of SOF-specific functionality in JMPS modules.
FY07 Continues SOF-wide software development and integration. Continues development of SOF-specific functionality in JMPS modules.

	FY04	FY05	FY06	FY07
Deferred/Future Requirements for Air	0.564	0.549	1.228	1.004
RDT&E Articles Quantity				

FY04 Continued to develop and integrate aircraft/weapons/electronics (AWE) enhancements and interfaces with joint systems.
FY05 Continue to develop AWE enhancements and interfaces with joint systems. Evaluate AWE migration to JMPS.
FY06 Begins AWE migration to JMPS for aircraft platforms.
FY07 Continues AWE migration to JMPS for aircraft platforms.

	FY04	FY05	FY06	FY07
Development and Modification of TSOC Automation Tools (formerly included in PFPS)	0.518	3.771	0.915	0.912
RDT&E Articles Quantity				

FY04 Began TSOC-level software development and integration.
FY05 Continue the development and integration of TSOC automation tools to meet planning requirements. Begin the development of TSOC Command and Control (C2) nodes to meet situational awareness requirements.
FY06 Continues the development and integration of TSOC automation tools and C2 nodes.
FY07 Continues the development and integration of TSOC automation tools and C2 nodes.

	FY04	FY05	FY06	FY07
Test and Evaluation of Core Software	0.211	0.332	0.350	0.400
RDT&E Articles Quantity				

FY04 Continued test and evaluation on core software, installable software modules, AWE and aircraft flight performance models.
FY05 Continue test and evaluation on core software, installable software modules, AWE and flight performance models. Commence test and evaluation on SOF-wide mission planning automation tools and TSOC C2 nodes.
FY06 Continues the test and evaluation of SOF-wide automation tools and C2 nodes.
FY07 Continues the test and evaluation of SOF-wide automation tools and C2 nodes.

C. Other Program Funding Summary:

	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	To Complete	Total Cost
PROC, SOMPE	0.360	0.191							Cont.	Cont

D. Acquisition Strategy. Develop mission planning software to support SOF operations by leveraging ongoing personal computer-based efforts including service C2 efforts for situational awareness and mission planning efforts such as PFPS under the Air Force Mission Support System program and migration to the JMPS. Integration of SOF-specific requirements into PFPS, along with maximum use of commercial off-the-shelf software technology and components, reduces overall costs and schedule. Contract strategy combines various contracts and types to include competitively awarded cost plus time & materials and sole source cost-no-fee (educational institution) contracts. Maximizes use of state-of-the-art commercial hardware technology procured via firm fixed price contract to take advantage of software portability and open system architecture. Focuses on platform specific software interface modules required to initialize and upload platform mission computers avionics systems through the use of electronic data transfer devices.

Exhibit R-3 COST ANALYSIS						DATE: FEBRUARY 2005					
APPROPRIATION / BUDGET ACTIVITY RDT&E DEFENSE-WIDE / 7			Special Operations Tactical Systems Development/PE1160404BB Special Operations Mission Planning Environment (SOMPE) /S350								
Actual or Budget Value ($ in millions)											
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PYs Cost	Budget Cost FY05	Award Date FY05	Budget Cost FY06	Award Date FY06	Budget Cost FY07	Award Date FY07	To Complete	Total Program
Subtotal Product Dev											
Remarks:											
Development Support	C/CPFF	CAS, Huntsville, AL	3.194	0.549	Dec-04	1.228	Dec-05	1.004	Dec-06	Cont.	Cont.
	C/CPFF	LMFS, Owego, NY	7.629								7.629
	Various	Various	0.847								0.847
Software Dev/Integ	SS/CPFF	GTRI, Atlanta, GA	5.219							Cont.	Cont.
	T&M	Tybrin, Ft Walton Beach, FL	5.346								5.346
	Various	Various	2.099	1.748	Varioius	1.416	Varioius	1.525	Varioius	Cont.	Cont.
	Various	Various		3.771	Various	0.915	Varioius	0.912	Varioius	Cont.	Cont.
Subtotal Spt			24.334	6.068		3.559		3.441		Cont.	Cont.
Remarks:											

Exhibit R-3 COST ANALYSIS						DATE: FEBRUARY 2005					
APPROPRIATION / BUDGET ACTIVITY RDT&E DEFENSE-WIDE / 7			Special Operations Tactical Systems Development/PE1160404BB Special Operations Mission Planning Environment (SOMPE) /S350								
Actual or Budget Value ($ in millions)											
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PYs Cost	Budget Cost FY05	Award Date FY05	Budget Cost FY06	Award Date FY06	Budget Cost FY07	Award Date FY07	To Complete	Total Program
Developmental Test & Eval	MIPR	46th FTS, Hurlburt Field, FL	1.450							Cont.	Cont.
	SS/CPFF	ARINC, Annapolis, MD	1.009								1.009
	SS/CPFF	Salinas Tech, FL	0.017								0.017
	C/CPFF	CAS, Huntsville AL		0.332	Dec-04	0.350	Dec-05	0.400	Dec-06	Cont.	Cont.
Operational Test & Eval	MIPR	18th FTS, Hurlburt Field, FL	0.663								0.663
GFE	MIPR	Integrated Aviation Systems 21 Working Group Ft Campbell, KY	0.279								0.279
Subtotal T&E			3.418	0.332		0.350		0.400		Cont.	Cont.
Remarks:											
Contractor Engineering Spt	PO	CAS Inc, Huntsville, AL	4.206								4.206
Government Engineering Spt	ALLOT	AATD, Ft Eustis, VA	7.881								7.881
Travel	ALLOT	SOF PMO Ft Eustis, VA	0.070								0.070
Overhead	ALLOT	SOF PMO Ft Eustis, VA	0.092								0.092
Subtotal Management			12.249	0.000		0.000		0.000			12.249
Remarks:											
Total Cost			40.001	6.400		3.909		3.841		Cont.	Cont.
Remarks:											

Exhibit R-4, Schedule Profile																																
																															Date: FEBRUARY 2005	
Appropriation/Budget Activity									Program Element Number and Name																Project Number and Name							
RDT&E/7									PE1160404BB/Special Operations Tactical System Development																Project S350/SOMPE							
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Portable Flight Planning System (PFPS)																																
JMPS Migration																																
Mission Planning Module																																
AWE Enhancements																																
AWE to UPC (JMPS Conversion)																																
FPM Enhancements																																
SOF-Wide Automation Tools																																
System Interfaces																																
TSOC C2 Planning Tools																																
TSOC C2 Nodes																																
Software Development Testing																																

Exhibit R-4a, Schedule Profile				Date: FEBRUARY 2005				
Appropriation/Budget Activity RDT&E/7	Program Element Number and Name PE1160404BB/Special Operations Tactical Systems Development			Project Number and Name Project S350/SOMPE				
Schedule Profile	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
Mission Planning Environment Software Suite								
Portable Flight Planning System (PFPS) Releases	1-4Q	1-4Q	1-2Q					
Joint Mission Planning System (JMPS)			2-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Mission Planning Modules	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Aircraft/Weapons & Electronics Software Modules								
Enhancements required by PFPS Upgrades	1-4Q	1-4Q	1-4Q					
AWE to UPC (JMPS Conversion)			2-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Flight Performance Model Enhancements	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Development of Automated Tools								
SOF-Wide Automation Tools	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Software Interfaces for Interoperability	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
TSOC C2 Planning Tools	3-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
TSOC C2 Nodes		1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Software Development Testing	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q

Exhibit R-2a, RDT&E Project Justification	Date: FEBRUARY 2005
Appropriation/Budget Activity RDT&E.A BA # 7	Weapons and Support Systems Advanced Development /Project S375

Cost ($ in millions)	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11
Weapons and Support Sys Adv Dev	8.989	5.322	10.175	5.524	4.330	3.330	2.491	2.526
RDT&E Articles Quantity								

A. Mission Description and Budget Item Justification: This project provides for development and testing of specialized, lightweight individual weapons, fire control/surveillance devices, and combat equipment to meet the unique requirements of Special Operations Forces (SOF). SOF often deploy as small, independent, quick reaction, foot-mobile teams independent of primary logistics support. Existing weapons and combat equipment are frequently unsuited to these conditions. Sub-projects include:

- Body Armor/Load Carrying System (BALCS). Provides a tactical, deployable body armor and load carriage system capable of improving survivability while optimizing the load carrying capabilities of the SOF operator. BALCS consists of modular body armor, load carriage and backpacks. This program was made a sub-project under the SOF Personal Equipment Advanced Requirements (SPEAR) program in and all resources were transferred under that program beginning in FY 2006.

- Family of Sniper Detection Systems (FSDS). Provides the capability for SOF units to rapidly locate the position of a sniper's origin of fire in near real time. Detects and locates small arms gunfire from 5.56mm, 7.62mm and .50 caliber weapons for the conduct of counter-sniper operations.

- Integrated Night/Day Observation/Fire Control (INOD). The INOD provides the SOF sniper with a lightweight, low signature/fire control and observation device which allows the sniper to detect, acquire, and engage targets out to the weapon's maximum effective range under day/night conditions. The INOD allows the sniper to go from day to night operations without re-zeroing. This system will include sensor fusion of both image intensification and thermal infrared sensors.

- Lightweight Counter Mortar Radar (LCMR). The LCMR provides a man-portable, lightweight, 360˚ counter-mortar radar system designed to acquire hostile mortar and other indirect fire out to a range of 5,000 meters. The LCMR is compatible with current Command and Control communications and provides an all weather capability to the SOF operator on the ground, providing the operator with a precise target location used for counter-fire. This program increase by a FY 2004 congressional add and supplemental funds.

- M4A1 SOF Carbine Accessory Kit (M4MOD). The M4MOD Kit enhances the standard Army M4 Carbine by using the latest technological advances in optional accessories (up to 30 different functions/capabilities) such as day scopes, night scopes, active aiming laser module, visible lights, grenade launchers, suppressors, hand grips, and close quarters battle sights. These accessories greatly enhance the lethality of the weapon system and the survivability of the SOF operator. The SOF Combat Assault Rifle (SCAR) was a subproject of the M4MOD program to further enhance the performance of SOF equipment. The SCAR was broken out as a separate program and will be listed separately on this exhibit. The SCAR will provide an enhanced family of weapons. This program was increase by a FY 2004 and FY 2005 congressional add.

- Night Vision Devices (NVD). The SOF NVD system includes advanced field of view goggles, improved sensors, multi-spectral imaging, sensor fusion, Precision Targeting Location Designator (PTLD), and micro-laser integration and improved displays. The PTLD will be a combined laser range finder, geological locator, and laser designator for directing precision guided munitions.

- Precision Laser Targeting Device (PLTD). The PLTD will be a hand-held binocular device with an embedded global positioning system (GPS) to provide the SOF operator with the ability to direct close air support missions by determining the geo-location of a target to support the delivery of GPS-guided munitions.

- SOF Combat Assault Rifle (SCAR). SCAR is an evolutionary acquisition – incremental approach that will provide the SOF operator with a 5.56 mm (SCAR-L) and a 7.62mm (SCAR-H) family of rifles that are modular in barrel length. SCAR variants will replace a suite of weapons currently in the SOF inventory of weapons.

- SOF Tactical Airborne Parachute System (SOFTAPS). The SOFTAPS/MC-6 is a static line deployed, steerable, parachute system comprised of a Commercial-Off-The-Shelf (COTS) main canopy, new personnel harness sub-assembly, and new reserve parachute subassembly. Capabilities include; a 19 feet per second (fps) rate of descent, improved turn-and-glide capability over the current system, reduced opening shock, and improved system reliability. The MC-6 will be capable of operations on drop zones at high elevation with greater reliability and will sustain less damage than the current system, MC1-1D/E.

- SOF Personal Equipment Advanced Requirements (SPEAR). SPEAR develops and acquires items that provide increased or enhanced capabilities in individual protection survivability, load bearing and dismounted mobility for the SOF operator.

- Combat Casualty Care Equipment – Kit (CCCEKIT). The CCCEKIT is a technology transfer initiative to identify a variety of medical items and equipment approved by the Food and Drug Administration (FDA) to include intraosseous infusion devices, patient monitoring and assessment devices, emergency airway Kits, and devices that support patient management and enroute care capabilities for the far-forward treatment of SOF casualties in remote and austere environments.

B. Accomplishments/Planned Program

	FY04	FY05	FY06	FY07
BALCS	.205			
RDT&E Articles Quantity	150			

FY04 Conducted ballistics testing on SOF multi hit APM2 plates and other non-SOF plates for the purpose of establishing a body armor ballistics protection database. All resources for this program transferred to SPEAR as a sub-project beginning in FY05.

	FY04	FY05	FY06	FY07
FSDS			.510	.527
RDT&E Articles Quantity				

FY06 Conduct test and evaluation of on-going Gunfire Detection System (GDS) performance improvements to enhance ShotGuard software accuracy and configuration improvements to provide wireless connectivity with integrated GPS and compass.
FY07 Test and evaluation of enhanced data interface acquisition module (DIAM) for three array configuration.

	FY04	FY05	FY06	FY07
INOD			.510	
RDT&E Articles Quantity			10	

FY06 Develop a dual band INOD system that will allow the sensor fusion of both image intensification and thermal infra-red.

	FY04	FY05	FY06	FY07
LCMR	.963		3.570	
RDT&E Articles Quantity				

FY04 Congress added funds to further develop the pre-production prototype LCMRs and investigate alternative sources that may possibly meet the LCMR Operational Requirements Document.
FY06 Improve the functionality and capability of the pre-production LCMRs through spiral development. Conduct low-rate initial production decision.

	FY04	FY05	FY06	FY07
M4MOD	4.110	0.250		.243
RDT&E Articles Quantity				

FY04 Researched, developed and tested the next generation day/night and various next generation lasers and continued efforts on the enhanced grenade launcher module. SCAR funding was broken out of M4MOD and placed into a separate SCAR program in POM 06.
FY05 Continued research, development and testing of advances to weapon accessories.
FY07 Test and evaluation of Mini Day/Night Sight (MDNS) project improvements.

	FY04	FY05	FY06	FY07
NVD	1.069	.928		
RDT&E Articles Quantity		2		

FY04 Began the design of the new Precision Target Locator Designator (PTLD). The PTLD will replace the SOF Laser Marker designator and the Mk VII and Viper laser range finders with one device.
FY05 Complete the design and begin the user testing of the PTLD.

	FY04	FY05	FY06	FY07
PLTD		2.737		
RDT&E Articles Quantity		30		

FY05 Develop a laser targeting device capable of providing the geo-location of a target to support the delivery of global positioning system guided munitions.

	FY04	FY05	FY06	FY07
SCAR	0.842	1.407		
RDT&E Articles Quantity				

FY04 Conducted pre-program activities, MS B decision, source selection and early user assessments and developmental testing on candidate SCAR weapon systems.
FY05 Award contract(s) to enhance SCAR engineering test units and to conduct development and operational testing.

	FY04	FY05	FY06	FY07
SOFTAPS	1.800			
RDT&E Articles Quantity				

FY04 Conducted developmental and operational testing and pre-production program activities.

	FY04	FY05	FY06	FY07
SPEAR			5.279	4.243
RDT&E Articles Quantity				

FY06 Conduct market surveys for commercial off the shelf (COTS) products to conduct combat evaluations and/or conduct competitive source selections to initiate development of the next generation body armor, environmental protection, ballistic eyewear, identify friend or foe, maritime equipment, modular integrated communications helmet and survival equipment.
FY07 Continue development of the next generation body armor, environmental protection, ballistic eyewear, identify friend or foe, maritime equipment, modular integrated communications helmet and survival equipment, and initial market surveys for assault equipment.

	FY04	FY05	FY06	FY07
CCCEKIT			.306	.511
RDT&E Articles Quantity				

FY06 Enter concept development for modernization of SOF medical capabilities for operating in austere environments. Initiate prototype demonstrations of lighter, more efficient medical Sets, Kits and Outfits (SKOs) and far-forward surgical capabilities.
FY07 Conduct operational assessment of SKOs in preparation for procurement and fielding.

C. Other Program Funding Summary:

	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	To Complete	Total Cost
Small Arms and Weapons	103.367	43.817	119.372	124.527	93.712	37.499	71.043	79.398	Cont.	Cont.

D. Acquisition Strategy.

- BALCS. Maximizes the use of COTS and Non-Developmental Item (NDI) technology, combined milestone decisions, early user involvement, Integrated Product Teams and streamlined source selection procedures to rapidly build, test and field operational capability.

- FSDS. The GDS uses proven/existing technology validated under a Foreign Comparative Test program. Sole source contract to the vendor, Metravib, was awarded using streamlined procedures. Operational and environmental tests were conducted to support limited Fielding

and Deployment Release.

- INOD. The INOD system is an evolutionary acquisition program that integrates emerging technology into the latest SOF sniper sights. This strategy supports the development of a new, dual band sensor system that will combine both image intensification and thermal infra-red on one display. This will improve the SOF operator's ability to identify targets in periods of smoke, fog, and other battlefield obscurants.

- LCMR. Transitioned this program from a Science and Technology effort, with two working prototypes. Conduct additional research and engineering development to enhance performance and reliability of pre-production prototypes.

- M4MOD. The intent of the M4MOD program is to provide SOF with the ability to adapt the M4A1 Carbine to increase its operational effectiveness through improved target recognition, acquisition, and hit capability during day and night from close quarters to 600 meters. The program spiral develops new capabilities in block upgrades that are first developed and tested, and then fielded to the full spectrum of SOF operators. Future carbine programs (SCAR) will leverage and then drive the advancement of accessories within this program. All SOF weapons programs leverage M4MOD to increase operational effectiveness. Blocks include a program to develop a pocket scope mount, an enhanced M203 capability, family of muzzle brake suppressors, shot counter and numerous other components designed to enhance the capabilities of the weapon while at the same time combining an increasing capability.

- NVD. Development of next generation NVD. Program will use evolutionary acquisition approach.

- PLTD. The PLTD program will leverage an Army warfighter rapid acquisition program to develop a SOF version of a laser targeting device capable of providing geo-location of a target for the delivery of global positioning system guided munitions. This version is required to improve the accuracy of coordinate geo-location to eliminate the possibility of fratricide incidents.

- SCAR. The SCAR effort will use an evolutionary acquisition approach.

- SOFTAPS. The SOFTAPS/MC-6 program leverages COTS parachute technology currently used by SOF and the developmental efforts of the U.S. Army Advanced Tactical Parachute System (ATPS) program for its harness, reserve parachute subassembly, and pack tray. Capitalizes on the SF-10A proven capabilities and develops a unique riser assembly. The system will be Type Classified Army Standard for sustainment.

- SPEAR. The SPEAR program is an evolutionary acquisition program that utilizes a variety of acquisition methods, including COTS, Modified COTS (MCOTS), NDI and developmental acquisition strategies to accomplish program objectives. Many items will undergo spiral development to achieve continuous improvement and objective level requirements. Maximum use of Javits-Wagner-O'Day set asides (i.e., National Institute of the Severely Handicapped) will be used.

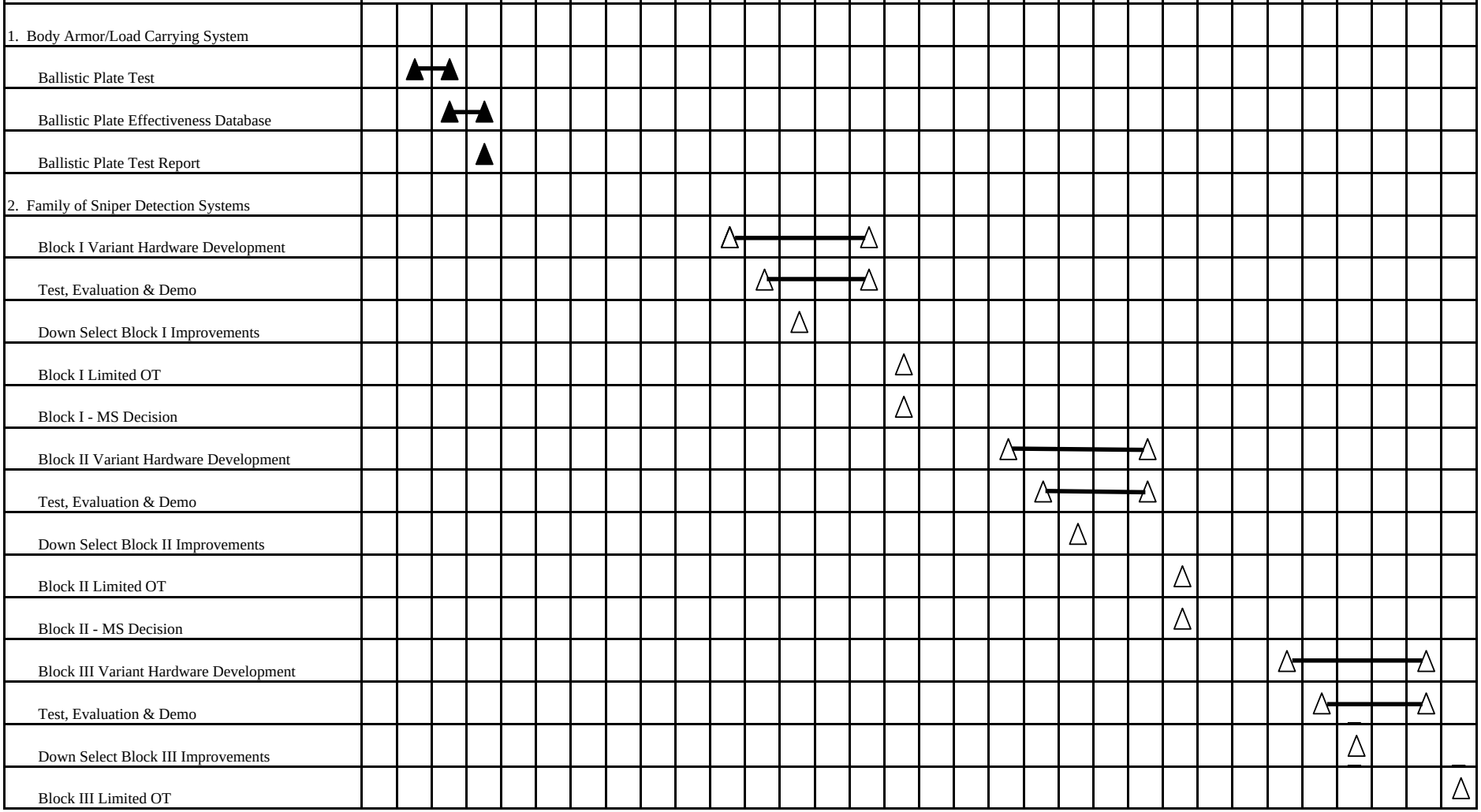
- CCCEKIT. The CCCEKIT will leverage FDA approved COTS equipment and devices to provide modernized, standardized SOF medical life saving capabilities for use in austere environments during extended delays in casualty evacuation.

Exhibit R-3 COST ANALYSIS						DATE: FEBRUARY 2005					
APPROPRIATION / BUDGET ACTIVITY RDT&E DEFENSE-WIDE / 7			Special Operations Tactical Systems Development/PE1160404BB Weapons Systems Advance Development/S375								
Actual or Budget Value ($ in millions)											
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PYs Cost	Budget Cost FY05	Award Date FY05	Budget Cost FY06	Award Date FY06	Budget Cost FY07	Award Date FY07	To Complete	Total Program
Hardware Dev											
BALCS (Test Articles)	Various	PM Spear, Natick, MA	0.050								0.050
FSDS	FFP/T&M	PM-CCS, Picatinny, NJ				0.310	TBD	0.312	TBD	Cont.	Cont.
INOD	CPFF	USSOCOM, MACDILL				0.405	TBD			Cont.	Cont.
LCMR	TBD	PM LCMR, Ft. Monmouth, NJ	0.150			0.867	TBD			Cont.	Cont.
M4MOD	Various	NSWC-Crane, Crane, IN	4.963	0.250	Various					Cont.	Cont.
NVD	TBD	Various	2.504	0.287	Various					Cont.	Cont.
PLTD	TBD	PM Sensors & Lasers, Ft. Belvoir, VA		2.000	Various					Cont.	Cont.
SPEAR	Various	PM Spear, Natick, MA	0.100			0.369	TBD	0.297	TBD	Cont.	Cont.
TECH TRANSFER: CCCEKIT	Various	Various				0.306	Various	0.511	Various	Cont.	Cont.
Subtotal Product Dev			7.767	2.537		2.257		1.120		Cont.	Cont.
Remarks:											
Development Spt											
LCMR	TBD	PM LCMR, Ft. Monmouth, NJ	0.085			0.357	TBD			Cont.	Cont.
M4MOD	ALLOT	NSWC-Crane, Crane, IN	0.413							Cont.	Cont.
NVD	TBD	Various	0.974	0.231	Various					Cont.	Cont.
PLTD	TBD	PM Sensors & Lasers, Ft. Belvoir, VA		0.250	Various					Cont.	Cont.
SCAR	ALLOT	NSWC-Crane, Crane, IN	0.443							Cont.	Cont.
SPEAR	Various	PM Spear, Natick, MA	0.025			0.211	TBD	0.170	TBD	Cont.	Cont.
SOFTAPS	Various	Soldier Systems Center, Natick, MA	0.408							Cont.	Cont.
Integrated Logistics Spt											
LCMR	TBD	PM LCMR, Ft. Monmouth, NJ	0.550			0.255	TBD			Cont.	Cont.
M4MOD	ALLOT	NSWC-Crane, Crane, IN	0.214							Cont.	Cont.
SPEAR	ALLOT	PM Spear, Natick, MA	0.050			0.528	TBD	0.424	TBD	Cont.	Cont.
SOFTAPS	Various	TACOM, ILSC-SBC	0.011							Cont.	Cont.

Exhibit R-3 COST ANALYSIS						DATE: FEBRUARY 2005					
APPROPRIATION / BUDGET ACTIVITY RDT&E DEFENSE-WIDE / 7			Special Operations Tactical Systems Development/PE1160404BB Weapons Systems Advance Development/S375								
Actual or Budget Value ($ in millions)											
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PYs Cost	Budget Cost FY05	Award Date FY05	Budget Cost FY06	Award Date FY06	Budget Cost FY07	Award Date FY07	To Complete	Total Program
Configuration Mgmt											
LCMR	ALLOT	PM LCMR, Ft. Monmouth, NJ	0.200			0.510	TBD			Cont.	Cont.
M4MOD	ALLOT	NSWC-Crane, Crane, IN	0.197					0.043	TBD	Cont.	Cont.
NVD	TBD	Various	0.382	0.061	Various					Cont.	Cont.
SPEAR	ALLOT	PM Spear, Natick, MA	0.025			0.211	TBD	0.170	TBD	Cont.	Cont.
Subtotal Spt			3.977	0.542		2.072		0.807		Cont.	Cont.
Remarks:											
Developmental Test											
LCMR	ALLOT	PM LCMR, Ft. Monmouth, NJ	0.500			0.255	Various			Cont.	Cont.
M4MOD	ALLOT	NSWC-Crane, Crane, IN	0.402					0.200	Various	Cont.	Cont.
PLTD	TBD	PM Sensors & Lasers, Ft. Belvoir, VA		0.487	Various					Cont.	Cont.
SCAR	ALLOT	NSWC-Crane, Crane, IN	0.179	0.475	Various					Cont.	Cont.
SPEAR	TBD	PM Spear, Natick, MA				0.792	Various	0.637	TBD	Cont.	Cont.
SOFTAPS	ALLOT	Yuma Proving Grounds, Yuma, AZ	1.110							Cont.	Cont.
Operational Test											
BALCS	SS/FFP	HP White Lab, Street, MD	0.070							Cont.	Cont.
FSDS	ALLOT	PM-CCS, Picatinny, NJ				0.075	TBD	0.115	TBD	Cont.	Cont.
INOD	CPFF	USSOCOM, MacDill				0.105	Various			Cont.	Cont.
LCMR	ALLOT	PM LCMR, Ft. Monmouth, NJ	0.500			0.408	Various			Cont.	Cont.
M4MOD	ALLOT	NSWC-Crane, Crane, IN	0.594							Cont.	Cont.
NVD	TBD	Various	0.650	0.249	Various					Cont.	Cont.
SPEAR	ALLOT	PM Spear, Natick, MA	0.346			1.320	Various	1.061	TBD	Cont.	Cont.
SCAR	ALLOT	NSWC-Crane, Crane, IN		0.457	Various					Cont.	Cont.
SOFTAPS	ALLOT	USA OTC, ABNSOTD, Ft. Bragg, NC	0.382							Cont.	Cont.
Subtotal T & E			4.733	1.668		2.955		2.013		Cont.	Cont.
Remarks:											

Exhibit R-3 COST ANALYSIS						DATE: FEBRUARY 2005					
APPROPRIATION / BUDGET ACTIVITY RDT&E DEFENSE-WIDE / 7			Special Operations Tactical Systems Development/PE1160404BB Weapons Systems Advance Development/S375								
Actual or Budget Value ($ in millions)											
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PYs Cost	Budget Cost FY05	Award Date FY05	Budget Cost FY06	Award Date FY06	Budget Cost FY07	Award Date FY07	To Complete	Total Program
Government Eng Spt											
BALCS	ALLOT	PM SPEAR, Natick, MA	0.050							Cont.	Cont.
LCMR	ALLOT	PM LCMR, Ft. Monmouth, NJ	0.230			0.459	Various			Cont.	Cont.
M4MOD	ALLOT	NSWC-Crane, Crane, IN	0.125							Cont.	Cont.
SCAR	ALLOT	NSWC-Crane, Crane, IN		0.325	Various					Cont.	Cont.
SPEAR	ALLOT	PM Spear, Natick, MA				1.056	Various	0.849	TBD	Cont.	Cont.
Program Mgmt Spt											
BALCS	ALLOT	PM SPEAR, Natick, MA	0.025							Cont.	Cont.
LCMR	ALLOT	PM LCMR, Ft. Monmouth, NJ	0.412			0.357	Various			Cont.	Cont.
M4MOD	ALLOT	NSWC-Crane, Crane, IN	0.980							Cont.	Cont.
SCAR	ALLOT	NSWC-Crane, Crane, IN	0.200	0.100	Various					Cont.	Cont.
SPEAR	ALLOT	PM Spear, Natick, MA	0.035			0.476	Various	0.382	TBD	Cont.	Cont.
Travel											
BALCS	ALLOT	PM SPEAR, Natick, MA	0.010							Cont.	Cont.
FSDS	ALLOT	PM-CCS, Picatinny, NJ				0.125	TBD	0.100	TBD	Cont.	Cont.
LCMR 2.85714E-05	ALLOT	PM LCMR, Ft. Monmouth, NJ	0.136			0.102	TBD			Cont.	Cont.
M4MOD	ALLOT	NSWC-Crane, Crane, IN	0.384							Cont.	Cont.
NVD	TBD	Various	0.182	0.100	Various					Cont.	Cont.
SCAR	ALLOT	NSWC-Crane, Crane, IN	0.020	0.050	Various					Cont.	Cont.
SPEAR	ALLOT	PM Spear, Natick, MA	0.020			0.316	TBD	0.253	TBD	Cont.	Cont.
SOFTAPS	MIPR	Army T&E / USFS	0.017							Cont.	Cont.
Subtotal Management			2.826	0.575		2.891		1.584		Cont.	Cont.
Remarks: Other Prior Year			0.221								
Total Cost			19.524	5.322		10.175		5.524		Cont.	Cont.

		Date: FEBRUARY 2005	
Appropriation/Budget Activity RDT&E/7	Program Element Number and Name PE1160404BB/Special Operations Tactical System Development	Project Number and Name Project S375/Weapons and Support Systems Advanced Development	



Date: FEBRUARY 2005

Appropriation/Budget Activity
RDT&E/7

Program Element Number and Name
PE1160404BB/Special Operations Tactical System Development

Project Number and Name
Project S375/Weapons and Support Systems Advanced Development

Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
2. Family of Sniper Detection Systems (Cont'd)																																
Block III - MS Decision																																△
3. Integrated Night/Day Observation/Fire Control Device																																
Dual Band Hardware Development									△—	△																						
DT/OT										△																						
4. Lightweight Counter Mortar Radar																																
Developmental Test (DT) #1	—▲																															
Operational Test (OT) #1	▲—	▲																														
MS B						△																										
LRIP											△																					
MS C														△																		
FOC																		△														
5. M4MOD																																
FMBS MS C	▲																															
MDNS DT/OT								▲																								
MDNS MS C (Multiple)								▲																								
Shot Counter DT/OT							▲																									
Shot Counter MS C								▲																								

		Date: FEBRUARY 2005
Appropriation/Budget Activity RDT&E/7	Program Element Number and Name PE1160404BB/Special Operations Tactical System Development	Project Number and Name Project S375/Weapons and Support Systems Advanced Development

Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
6. NVD (PTLD)																																
MS A/B						△																										
Developmental Test								△																								
MS C										△																						
7. PLTD																																
MS A/B					△																											
Developmental Test								△																								
8. SCAR																																
MS B		▲																														
EUA				▲																												
SCAR DT/OT/LUA								▲	▲																							
9. SOFTAPS																																
MS B				▲																												
LIVE DT				▲	△																											
OT						△																										
MS C							△																									
FUE										△																						
10. SPEAR																																
Protective Combat Uniform																																

		Date: FEBRUARY 2005
Appropriation/Budget Activity RDT&E/7	Program Element Number and Name PE1160404BB/Special Operations Tactical System Development	Project Number and Name Project S375/Weapons and Support Systems Advanced Development

Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
10. SPEAR (Cont'd)																																
MS C							△																									
IOC										△																						
FOC													TBD																			
Modular Glove System																																
IOC										△																						
FOC													TBD																			
Footwear																																
MS A/B										△																						
DT											△																					
OT											△																					
MS C												△																				
IOC													△																			
FOC																	TBD															
Tilting Titanium NOD Mount																																
IOC										△																						
FOC													TBD																			
Next Generation Body Armor																																
MS A/B									△																							

		Date: FEBRUARY 2005
Appropriation/Budget Activity RDT&E/7	Program Element Number and Name PE1160404BB/Special Operations Tactical System Development	Project Number and Name Project S375/Weapons and Support Systems Advanced Development

Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
10. SPEAR (Cont'd)																																
DT										△	△																					
OT											△	△																				
MS C													△																			
IOC															△																	
Backpacks																																
MS A/B									△																							
DT										△																						
OT										△																						
MS C											△																					
IOC												△																				
Eye Protection																																
MS A/B									△																							
DT										△																						
OT										△																						
MS C											△																					
IOC												△																				
Target ID and Acquisition																																
MS A/B									△																							

		Date: FEBRUARY 2005
Appropriation/Budget Activity RDT&E/7	Program Element Number and Name PE1160404BB/Special Operations Tactical System Development	Project Number and Name Project S375/Weapons and Support Systems Advanced Development

Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
10. SPEAR (Cont'd)																																
DT									△																							
OT									△	△																						
MS C											△																					
IOC													△																			
Survival Equipment																																
MS A/B									△																							
DT/OT										△																						
MS C											△																					
IOC												△																				
11. TECH TRANSFER: CCCCEKIT																																
Concept Development									△	△	△																					
Prototype Demonstrations										△	△	△																				
Operational Assessment													△	△																		
Initial Fielding															△																	

Exhibit R-4a, Schedule Profile				Date: FEBRUARY 2005				
Appropriation/Budget Activity RDT&E/7	Program Element Number and Name PE1160404BB/Special Operations Tactical Systems Development			Project Number and Name Project 375/Weapons and Support Systems Advanced Development				
Schedule Profile	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
1. BALCS								
Ballistic Plate Test	2-3Q							
Ballistic Plate Effectiveness Database	3-4Q							
Ballistic Plate Test Report	4Q							
2. FSDS								
Block I Variant - Hardware Development & Fabrication			3 - 4Q	1 - 3Q				
Test, Evaluation & Demo			4Q	1 - 3Q				
Down Select Block I Improvements				1Q				
Block I - Limited OT				4Q				
Block I - MS C Decision				4Q				
Block II Variant - Hardware Development & Fabrication					3 - 4Q	1 - 3Q		
Test, Evaluation & Demo					4Q	1 - 3Q		
Down Select Block II Improvements						1Q		
Block II - Limited OT						4Q		
Block II - MS C Decision						4Q		
Block III Variant - Hardware Development & Fabrication							3 - 4Q	1 - 3Q
Test, Evaluation & Demo							4Q	1 - 3Q
Down Select Block III Improvements								1Q
Block III - Limited OT								4Q
Block III - MS C Decision								4Q
3. INOD								
Dual Band Hardware Development			1 - 2Q					
DT/OT			2Q					
4. LCMR								
Developmental Test #1	1Q							
Operational Test #1	1-2Q							
Milestone B		2Q						
LRIP			3Q					
Milestone C				2Q				

Exhibit R-4a, Schedule Profile				Date: FEBRUARY 2005				
Appropriation/Budget Activity RDT&E/7	Program Element Number and Name PE1160404BB/Special Operations Tactical Systems Development			Project Number and Name Project 375/Weapons and Support Systems Advanced Development				
Schedule Profile	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
4. LCMR (Cont'd)								
IOC				3Q				
FOC					2Q			
5. M4MOD								
FMBS MS C	1Q							
MDNS DT/OT		4Q						
MDNS MS C (Multiple)		4Q						
Shot Counter DT/OT		3Q						
Shot Counter MS C		4Q						
6. NVD (PTLD)								
MS A/B		2Q						
Developmental Test		4Q						
MS C			2Q					
7. PLTD								
MS A/B		1Q						
Developmental Test		4Q						
8. SCAR								
MS B	2Q							
EUA	4Q							
SCAR DT/OT/LUA		4Q	1Q					
9. SOFTAPS								
MS B	4Q							
LIVE DT	4Q	1Q						
OT		2Q						
MS C		3Q						
FUE			2Q					

Exhibit R-4a, Schedule Profile				Date: FEBRUARY 2005				
Appropriation/Budget Activity RDT&E/7	Program Element Number and Name PE1160404BB/Special Operations Tactical Systems Development			Project Number and Name Project 375/Weapons and Support Systems Advanced Development				
Schedule Profile	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
10. SPEAR								
Protective Combat Uniform								
MS C		3Q						
IOC			2Q					
FOC				TBD				
Modular Glove System								
IOC			2Q					
FOC				TBD				
Footwear								
MS A/B			2Q					
DT			3Q					
OT			3Q					
MS C			4Q					
IOC				1Q				
FOC					TBD			
Tilting Titanium NOD Mount								
IOC			2Q					
FOC				TBD				
Next Generation Body Armor								
MS A/B			1Q					
DT			2-3Q					
OT			3-4Q					
MS C				1Q				
IOC				3Q				
Backpacks								
MS A/B			1Q					
DT			2Q					
OT			2Q					
MS C								
IOC			3Q					
Eye Protection			4Q					
MS A/B			1Q					

Exhibit R-4a, Schedule Profile				Date: FEBRUARY 2005				
Appropriation/Budget Activity RDT&E/7	Program Element Number and Name PE1160404BB/Special Operations Tactical Systems Development			Project Number and Name Project 375/Weapons and Support Systems Advanced Development				
Schedule Profile	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
10. SPEAR (Cont'd)								
DT			2Q					
OT			2Q					
MS C			3Q					
IOC			4Q					
Target ID and Acquisition								
MS A/B			1Q					
DT			1Q					
OT			1Q-2Q					
MS C			3Q					
IOC				1Q				
Survival Equipment								
MS A/B			1Q					
DT/OT			2Q					
MS C			3Q					
IOC			4Q					
11. TECH TRANSFER: CCCCEKIT								
Concept Development			1 - 3Q					
Prototype Demonstrations			2 - 4Q					
Operational Assessment				1 - 2Q				
Initial Fielding				3Q				

	Exhibit R-2a, RDT&E Project Justification	Date: FEBRUARY 2005
Appropriation/Budget Activity RDT&E BA # 7	Special Operations Forces (SOF) Training Systems /Project S625	

Cost ($ in millions)	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11
SOF Training Systems	19.551	4.573	0	1.757	1.612	2.634	2.690	1.248
RDT&E Articles Quantity								

A. Mission Description and Budget Item Justification: This project funds the development, integration, and test of Special Operations Forces (SOF) simulator systems to support training and mission rehearsal. This project also funds subsequent upgrades necessary to avoid obsolescence and keep the simulators current with the aircraft configurations. Sub-projects include:

- MH-47G/MH-60-BLK-1 Combat Mission Simulator (CMS): Develops a common database format used to provide digital terrain data to the simulator sub-systems such as out-the-window view, sensor, threat, weather, and computer generated forces. The common environment developmental effort will enhance database correlation enabling increased levels of joint simulator interoperability necessary to support mission training and rehearsal. The common database will be initially tested and fielded on the first MH-47G CMS for the 160th Special Operations Aviation Regiment (SOAR) and serve as the standard for new simulators procured in the future. This database format will also be installed on existing simulators as part of future upgrades to achieve interoperability among SOF training and mission rehearsal assets.

- SOF Air to Ground Interface Simulator (SAGIS): Develops one transportable and one fixed-base prototype simulator to train Air Force Special Operations Command (AFSOC) and United States Army Special Operations Command (USASOC) Combat Controllers. This system will provide a training capability for ground unit personnel to interface with SOF aircrews to practice and rehearse Joint Close Air Support and Terminal Attack Control.

- AFSOC Simulator Block Upgrade: Funds the development of an electronic warfare simulation environment for the SOF C-130 Electronic Warfare Officer (EWO) training station.

- USASOC Simulator Block Upgrade: Funds the necessary upgrades to USASOC simulators to overcome obsolescence and concurrency issues and enhance mission rehearsal capabilities.

- A/MH-6 CMS. Develops an integrated combat mission flight simulator into the existing high level architecture environment to conduct real-world mission rehearsal. This simulator enables initial, mission special qualification, continuation and upgrade flight training, including weapons training. Currently, no training device exists with this capability.

B. Accomplishments/Planned Program

	FY04	FY05	FY06	FY07
MH-47/60 CMS	8.332			
RDT&E Articles Quantity				

FY04: Procured the development of a Common Database Environment for the new Common Avionics Architecture System configured MH-47G and MH-60 Block-1 CMSs to support Joint Distributed Mission Training/Distributed Mission Rehearsal. The joint common database architecture yields significantly higher levels of correlation between out-the-window view, sensors, threat, weather, and weapons effects both within the simulator and among simulators when conducting joint mission rehearsal in a networked environment.

	FY04	FY05	FY06	FY07
SAGIS	10.241	.452		
RDT&E Articles Quantity	2			

FY04: Procured the development of one transportable and one fixed-base prototype simulator to train AFSOC and USASOC Special Forces Combat Controllers. These systems will provide the training capability for ground unit personnel to interface with SOF Aircrews to practice and rehearse Joint Close Air Support, Terminal Attack Control, and ordnance delivery.

FY05: Continues the development of one transportable and one fixed-base prototype simulator to train AFSOC and USASOC Special Forces Combat Controllers. These systems will provide the training capability for ground unit personnel to interface with SOF Aircrews to practice and rehearse Joint Close Air Support, Terminal Attack Control, and ordnance delivery.

USASOC Simulator Block Upgrade	FY04	FY05	FY06	FY07
CMS	.978			1.757
RDT&E Articles Only				

FY04: Upgraded various USASOC simulator devices to enhance mission rehearsal and training capability.

FY07: Funds the necessary upgrades to USASOC simulators to overcome obsolescence and concurrency issues and enhance mission rehearsal capabilities.

	FY04	FY05	FY06	FY07
AFSOC Simulator Block Upgrade		.958		
RDT&E Articles Quantity				

FY05: Funds the concept article development of an infrared and radar detection simulation environment for the Electronic Warfare Officer (EWO) training station.

	FY04	FY05	FY06	FY07
A/MH-6 Simulator Program		3.163		
RDT&E Articles Quantity				

FY05: Integrate a Mission Rehearsal visual system into the MH-6 simulator capable of utilizing existing TopScene databases to support an improved level of mission training and rehearsal capability for pilots participating in GWOT.

C. Other Program Funding Summary:

	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	To Complete	Total Cost
Proc, SOF Training Systems	62.383	51.030	13.897	12.659	62.485	15.668	35.969	14.202	Cont.	Cont.

D. Acquisition Strategy.

- FY05: Procure an MH 47G/60 BLK-1 suite of trainers (Desk Top Trainers, Part Task Trainers, and 2 CMSs incorporating a common architecture using a spiral development approach. Continue to upgrade existing devices as necessary to maintain aircraft concurrency and correct supportability deficiencies associated with obsolescence.

- FY06 & 07: Continue to upgrade existing devices as necessary to maintain aircraft concurrency and correct supportability deficiencies associated with obsolescence.

Exhibit R-3 COST ANALYSIS						DATE: FEBRUARY 2005					
APPROPRIATION / BUDGET ACTIVITY RDT&E DEFENSE-WIDE / 7			Special Operations Tactical Systems Development/PE1160404BB Special Operations Forces (SOF) Training System /S625								
Actual or Budget Value ($ in millions)											
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PYs Cost	Budget Cost FY05	Award Date FY05	Budget Cost FY06	Award Date FY06	Budget Cost FY07	Award Date FY07	To Complete	Total Program
MH-47G/60M CMS	CPAF/FFP	PEO STRI, Orlando, FL	8.332								8.332
SAGIS - Increment 0	CPAF	PEO STRI, Orlando, FL	10.241	0.452	Jan-05						10.693
AFSOC Simulator Block Upgrade	FFP	Hill AFB, UT		0.958	Jan-05						0.958
USASOC Simulator Block Upgrade	Various	PEO STRI, Orlando, FL	0.978					1.757	Nov-06		2.735
A/MH-6 CMS	CPAF	PEO STRI, Orlando, FL	21.583	3.163	Jan-05						24.746
Subtotal Product Dev			41.134	4.573				1.757			47.464
Remarks:											
Total Cost			41.134	4.573				1.757			Cont.
Remarks:											

Exhibit R-4, Schedule Profile																																
																	Date: FEBRUARY 2005																
Appropriation/Budget Activity RDT&E/7									Program Element Number and Name PE1160404BB/Special Operations Tactical System Development												Project Number and Name Project S625/SOF Training System										
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
MH60/47 CMS Common Database Development																																
SAGIS Development																																
USASOC Simulator Block Upgrade																																
AFSOC SBUD																																

Exhibit R-4a, Schedule Profile				Date: FEBRUARY 2005				
Appropriation/Budget Activity RDT&E/7	Program Element Number and Name PE1160404BB/Special Operations Tactical Systems Development			Project Number and Name Project S625/SOF Training Systems				
Schedule Profile	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
MH-47G/60M CMS Common Database Development	2-4Q	1-2Q						
SAGIS Development	2-4Q	1-4Q						
USASOC Simulator Block Update (SBUD)	4Q	1-4Q		1-4Q				
AFSOC SBUD		1-4Q						

	Exhibit R-2a, RDT&E Project Justification	Date: FEBRUARY 2005
Appropriation/Budget Activity RDT&E BA # 7	SOF Communications Advanced Development S700	

Cost ($ in million)	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11
SOF Communications Advance Development	6.799	4.415	13.058	13.189			0.308	0.411
RDT&E Articles Quantity								

A. MISSION AND DESCRIPTION: This project provides for communication systems to meet emergent requirements to support Special Operations Forces (SOF). The SOF mission mandates that SOF systems remain technologically superior to any threat to provide a maximum degree of survivability. SOF units require communications equipment that improves their warfighting capability without degrading their mobility. Therefore, SOF Communications Equipment and Electronics Advanced Development is a continuing effort to develop lightweight and efficient SOF Command, Control, Communications, and Computer (C4) capabilities.

United States Special Operations Command (USSOCOM) has developed an overall strategy to ensure that Command, Control, Communications, Computer and Intelligence (C4I) systems continue to provide SOF with the required capabilities throughout the 21st century. USSOCOM's C4I systems comprise an integrated network of systems providing positive command and control and the timely exchange of intelligence and threat warning to all organizational echelons. The C4I systems that support this new architecture employ the latest standards and technology by transitioning from separate systems to full integration within the infosphere. The infosphere is a multitude of existing and projected national assets that allows SOF elements to operate with any force combination in multiple environments. The sub-projects funded in this project meet annual emergent requirements and are grouped by the level of organizational element they support: Operational Element (Team), Above Operational Element (Deployed) and Above Operational Element (Garrison).

OPERATIONAL ELEMENT (TEAM)

- Multi-Band Inter/Intra Team Radio (MBITR) provides lightweight, handheld, inter/intra team communications for Special Operations Forces (SOF). SOF teams conduct air, ground, and maritime missions across the entire operational spectrum. In the past, these missions required SOF teams to carry multiple handheld radios operating in several different frequency bands (VHF FM, VHF AM, UHF AM and UHF FM) to ensure positive communications. The MBITR provides each of these frequency bands in a single handheld radio with embedded Type 1 Communications Security (COMSEC). It provides SOF teams with the ability to communicate on a user selected frequency (30-512 MHz) using a single tactical handheld radio. It is interoperable with various agencies of the U.S. Government, Air Traffic Control and allied foreign forces. The MBITR is the platform for the development of Cluster 2 Joint Tactical Radio System (JTRS), Enhanced MBITR (JEM). The JTRS Cluster 2 JEM is the interim JTRS handheld radio solution and will provide capabilities such as enhanced Information Security (INFOSEC), Blue Force Tracking (BFT), Global Positioning System (GPS), beacon functions and waveform portability. The JEM will be

Software Communications Architecture compliant, which is one of the primary tenets of the JTRS program.

- MBITR Blue Force Tracking (BFT) was an initiative added in FY05 by Congress. This initiative provided research, engineering, and development support to implement BFT capability in the JTRS Enhanced MBITR (JEM).

- Multi-Band/Multi-Mission Radio (MBMMR). A joint SOF requirement, MBMMR provides a lightweight, secure, manpackable, multi-band transceiver capability operating in the following frequency bands: Very High Frequency (VHF)-FM, VHF-AM, and Ultra-High Frequency (UHF)-FM satellite communications in a single radio, reducing the number of radios required to be carried by each team. The program also acquires performance enhancements to meet emergent requirements and ensures compliance with evolving JTRS standards and Demand Assured Multiple Access satellite simulator systems.

- The SOF Tactical Assured Connectivity System (SOFTACS) program provides a deployable super high frequency quad-band (X, C, Ku, Ka) satellite communications and modular switching capability that supports high-capacity, voice, data and video at all classification levels. The Deployable Multi-Channel Satellite Communications (DMCS) transmission system and SOF Deployable Node (SDN) switching system has been designated the SOFTACS Transit Case Variant (TCV) and replaces the Downsized Deployable Satellite Terminal (DDST) and Deployable SCAMPI switching system and provides an interim solution for the wheeled variant. The TCV (DMCS/SDN) will support all SOF missions, and wide area connectivity (including video teleconferencing, psychological operations and tactical area networks), and interfaces with DISA Standard Tactical Entry Point (STEP) sites and SOF SCAMPI tactical gateways. The SOFTACS program includes both technological refreshments that are interoperable with legacy systems such as Ground Mobile Forces terminals and capital replacements to meet emerging requirements.

- SOFTACS Material Improvement and Corrosion Control was an initiative added in FY04 by Congress. This initiative provided research, analysis, engineering and development support to improve materials, packaging, coatings, maintenance technology and test evaluation processes used for communications equipment.

- Machine Based Language Translator (MBLT) provides a revolutionary capability for tactical, real-time, voice to voice multi-language capability. It supports SOF operations worldwide by maintaining highly perishable language translation proficiency, and provides immediate translation capability for SOF without general language training or training in rare dialects.
- Tactical Communications Systems Testbed initiative was added in FY05 by Congress. This initiative serves as a testbed to evaluate new technologies for SOF communications under a rapid prototyping concept. The focus is on four discrete efforts that have been recommended by

SOF users as having a significant potential impact to enhancing current capabilities: Tactical Wireless Communications Across the Battlespace; High Bandwidth WiMax; Real-Time/Near Real-Time Video Compression; and Information Assurance & Commercial-Off-The-Shelf compatibility.

B. Accomplishments/Planned Program

Cost ($ in million)	FY04	FY05	FY06	FY07
MBITR	0.255	1.921	7.651	7.668
RDT&E Articles Quantity				

FY04 Initiated development of a replacement COMSEC chip for the JEM.
FY05 This initiative was partially funded by a Congressional plus-up. Continues development of replacement COMSEC chip for the JEM, implements the JTRS Software Communications Architecture, and initiates development of BFT for MBITR.
FY06 Continues technology insertion for the JEM which will provide BFT, combat search and rescue functionality, improved data throughout networking, low probability of intercept/low probability of detection, simultaneous noise and data operations, GPS and enhanced SATCOM capabilities.
FY07 Continues technology insertion for the JEM.

Cost ($ in million)	FY04	FY05	FY06	FY07
MBMMR	4.090		5.101	5.112
RDT&E Articles Quantity				

FY04 An FY04 Congressional plus-up commenced development of a COMSEC chip to replace the MBMMR's obsolete one.
FY06 Continues development of a COMSEC chip to replace the MBMMR's obsolete one.
FY07 Continues development of a COMSEC chip to replace the MBMMR's obsolete one.

Cost ($ in million)	FY04	FY05	FY06	FY07
Tactical Communications System Testbed Initiative		2.494		
RDT&E Articles Quantity				

FY05 This initiates is an FY05 Congressional plus-up to initiate a tactical communications system testbed to evaluate new technologies for SOF communications under a rapid prototyping concept. Enhancements to existing SOF deployable communications systems will be evaluated under both laboratory and operational conditions, while focusing on four discrete efforts that will enhance current capabilities.

Cost ($ in million)	FY04	FY05	FY06	FY07
SOFTACS – Material Improvement & Corrosion Control of Comm Equipment	2.454			
RDT&E Articles Quantity				

FY04 This initiative was an FY04 Congressional plus-up. Evaluated environmental control unit composite packing materials for strength, durability and shock absorption techniques; evaluated materials and design concepts for rugged, reparable communications systems in extreme environments and unmanned situations; researched the possibility of developing multiple feed antenna assemblies; and researched and documented the current state of solid state high power amplifiers to include a comparison of size, weight, power consumption, heat dissipation, reliability, cost and other factors of solid state technology against traveling wave tube technology.

Cost ($ in million)	FY04	FY05	FY06	FY07
MBLT			0.306	0.409
RDT&E Articles Quantity				

FY06 Begins development and assessment of one-way automated language translation capability for SOF tactical applications.
FY07 Completes development and assessment of one-way automated language translation capability for SOF tactical applications.

C. Other Program Funding Summary:

	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	To Complete	Total Cost
PROC, Comm/Electronics	73.961	42.903	69.898	42.843	82.595	52.583	51.567	24.007	Cont.	Cont.

D. Acquisition Strategy:

- MBITR is a post-Milestone III fielded SOF communications system which is being upgraded to become software communications architecture (SCA) compliant as directed by OSD.

- MBMMR is a post-Milestone III fielded SOF communications system which is being upgraded to alleviate the mission impact from an obsolete COMSEC chip.

- SOFTACS is a post MS III evolutionary technology program that provides a deployable super high frequency quad-band (X, C, Ku, Ka) satellite communications and modular switching capability that supports high-capacity, voice, data and video at all classification levels.

Exhibit R-3 COST ANALYSIS						DATE: FEBRUARY 2005					
APPROPRIATION / BUDGET ACTIVITY RDT&E DEFENSE-WIDE / 7			Special Operations Tactical Systems Development/PE1160404BB SOF Communications Advanced Development/S700								
Actual or Budget Value ($ in millions)											
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PYs Cost	Budget Cost FY05	Award Date FY05	Budget Cost FY06	Award Date FY06	Budget Cost FY07	Award Date FY07	To Complete	Total Program
Primary Hardware Dev											
Develop MBITR COMSEC Chip	MIPR	NSA, Ft Meade, MD	0.255	1.922	Jan-05					Cont.	Cont.
Develop MBMMR COMSEC Chip	CPFF	Raytheon's Network Centric Systems, Fort Wayne, IN	4.090			5.258	Dec-05	5.289	Dec-06	Cont.	Cont.
Material Improv & Corrosion Cntrl	SS - FFP	Concurrent Technologies Corp Largo, FL	2.454								2.454
Subtotal Product Dev			6.799	1.922		5.258		5.289		Cont.	Cont.
Remarks:											
Development Spt											
Initiate MBITR Tech Insertion	MIPR	Thales Comm Inc.; Clarksville, MD				7.500	Dec-05	7.500	Dec-06	Cont.	Cont.
RMWS	MIPR	SPAWAR-C	0.238								0.238
Machine Based Language Translator	MIPR	DARPA				0.150	Dec 05	0.200	Dec 06	Cont.	Cont.
Subtotal Spt			0.238			7.650		7.700		Cont.	Cont.
Remarks:											

Exhibit R-3 COST ANALYSIS						DATE: FEBRUARY 2005					
APPROPRIATION / BUDGET ACTIVITY RDT&E DEFENSE-WIDE / 7			Special Operations Tactical Systems Development/PE1160404BB SOF Communications Advanced Development/S700								
Actual or Budget Value ($ in millions)											
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PYs Cost	Budget Cost FY05	Award Date FY05	Budget Cost FY06	Award Date FY06	Budget Cost FY07	Award Date FY07	To Complete	Total Program
Developmental Test & Eval											
Machine Based Language Translator	MIPR	NAVAIR				0.150	Dec 05	0.200	Dec 06	Cont.	Cont.
Tactical Communication System Testbed Initiative	MIPR	SPAWAR-C		2.493	Feb-05						
Subtotal T&E				2.493		0.150		0.200		Cont.	Cont.
Remarks:											
Contractor Engineering Spt											
Subtotal Management											
Remarks:											
Total Cost			7.037	4.415		13.058		13.189		Cont.	Cont.
Remarks:											

Exhibit R-4, Schedule Profile																	Date: FEBRUARY 2005															
Appropriation/Budget Activity RDT&E/7									Program Element Number and Name PE1160404BB/Special Operations Tactical System Development																Project Number and Name Project S700 SOF Communications Adv Dev							
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1. Develop MBITR COMSEC Chip																																
2. MBITR Tech Insertion																																
3. MBITR BFT																																
4. Develop MBMMR COMSEC Chip																																
5. Develop Tactical Communications System Testbed																																
6. Material Improvement & Corrosion Control of Comm (SOFTACS):																																
7. Machine Based Language Translator																																

Exhibit R-4a, Schedule Profile				Date: FEBRUARY 2005				
Appropriation/Budget Activity RDT&E/7	Program Element Number and Name PE1160404BB/Special Operations Tactical Systems Development			Project Number and Name Project S700/SOF Communications Advance Development				
Schedule Profile	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
Develop MBITR COMSEC Chip	4Q	1-3Q						
Develop MBITR BFT		1-4Q						
MBITR Technology Insertion			1-4Q	1-4Q				
Develop MBMMR COMSEC Chip	4Q	1-3Q	1-4Q	1-2Q				
Develop Tactical Communications System Testbed		2-4Q	1-2Q					
Material Improvement & Corrosion Control of Comm	3-4Q	1-2Q						
Machine Based Language Translator			1-4Q	1-4Q			1-4Q	1-4Q