

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)						DATE FEBRUARY 2002			
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7		R-1 ITEM NOMENCLATURE PE1160404BB Spec Operations Tactical Systems Development							
COST (Dollars in Millions)	FY01	FY02	FY03	FY04	FY05	FY06	FY07	Cost to Complete	Total Cost
PE1160404BB	158.348	255.604	281.443	205.697	156.531	104.241	97.319	Cont.	Cont.
3284 SOF AIRCRAFT DEFENSIVE SYSTEM	11.742	12.698	76.509	54.700	27.484	21.819	18.088	Cont.	Cont.
3326 AC-130U GUNSHIP	1.658	.469	36.476	16.248	1.330	2.650	2.701	Cont.	Cont.
D476 PSYOPS ADV DEV	1.172		.500	.363	.369	.375	4.718	Cont.	Cont.
D615 SOF AVIATION	10.494	18.924	39.097	36.844	32.704	23.958	9.880	Cont.	Cont.
S0417 UNDERWATER SYSTEMS ADV DEV	37.808	51.083	13.168	3.053	3.443	2.621	2.373	Cont.	Cont.
S1684 SOF SURFACE CRAFT ADVANCE SYSTEMS	4.553	1.000					10.379	Cont.	Cont.
S350 SOFPARS	2.340	5.089	1.789	1.897	2.681	2.641	2.518	Cont.	Cont.
S375 WEAPONS SYSTEMS ADV DEV	3.129	2.902	.252	.501	.498	.252	.858	Cont.	Cont.
S625 SOF TRAINING SYSTEMS	6.841	22.000			3.775			Cont.	Cont.
S700 SO COMMUNICATIONS ADV DEV	5.313	.852						Cont.	Cont.
S800 SO MUNITIONS ADV DEV	9.648	3.000	1.830	1.284	1.956	1.547	2.076	Cont.	Cont.
S900 SO MISCELLANEOUS EQUIPMENT ADV DEV	.780							Cont.	Cont.
SF100 AVIATION SYSTEMS ADV DEV	22.646	35.926	49.015	39.964	46.729	48.378	43.728	Cont.	Cont.
SF200 CV-22	40.224	101.661	62.807	50.843	35.562			Cont.	Cont.
<p>A. Mission Description and Budget Item Justification</p> <p>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.</p>									

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE FEBRUARY 2002
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE PE1160404BB Spec Operations Tactical Systems Development
<p>Change Summary Explanation:</p> <p>Funding:</p> <ul style="list-style-type: none"> -- This program element received \$3.060 million of FY 2002 Defense Emergency Response Funds for the following: Leaflet Delivery System (\$1.701), PSYOP Broadcast System (\$0.150), Special Purpose Receiver-Variant (\$0.780), and Man-Portable Decontamination (\$0.429). -- FY 2001 reflects a \$25.700 million Above Threshold Reprogramming approved by Congress for the Advanced SEAL Delivery System. -- FY 2002 Congressional Actions: <ul style="list-style-type: none"> Project 3284: Section 8123 and undistributed general rescissions (-\$2.885 million) Project D476: The entire amount was rescinded (-\$0.55 million) Project D615: Rotary Wing UAV (\$6.7 million), 160th SOAR Modifications (\$1 million), and Underwater Breathing Apparatus (\$1 million) Project S0417: Advanced Sea, Air, Land Delivery System (\$7 million) and Surface Planing Wet Submersible (\$3.7 million) Project 1684: MK-V Computer Upgrade (\$1 million) Project S375: Miniature Day/Night Mounts (\$1.5 million) and Titanium Tilting Helmet Mounts (\$1 million) Project S900: The entire amount was rescinded (-\$0.301 million) Project SF100: Leading Edge Technology (\$4.3 million) <p>Schedule: Project S0417. Non-Gasoline Burning Outboard Engine (NBOE). In December 2000, Outboard Marine Corporation (OMC), developer of the NBOE, filed for Chapter 11 bankruptcy protection. The engine department of OMC was purchased by Bombardier Motor Corporation of America (BMCA). BMCA has indicated a desire to complete the previous effort begun by OMC; unfortunately, there were no funds available until FY 2002. In FY 2002, the plan is to complete development of the NBOE and begin testing, with follow-on production scheduled to begin in FY 2003.</p> <p>Technical: None.</p>	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE FEBRUARY 2002		
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE PE1160404BB Spec Operations Tactical Systems Development			
B. Program Change Summary	FY 2001	FY 2002	FY 2003	
Previous President's Budget	157.130	232.140	113.761	
Appropriated Value	139.920	255.604		
Adjustments to Appropriated Value / President's Budget	18.428		167.682	
Current Budget Submit	158.348	255.604	281.443	

RDT&E PROJECT JUSTIFICATION SHEET (R-2A Exhibit)					DATE FEBRUARY 2002				
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7			R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project 3284						

COST (Dollars in Millions)	FY01	FY02	FY03	FY04	FY05	FY06	FY07	Cost to Complete	Total Cost
3284, Special Operations Forces Aircraft Defensive System	11.742	12.698	76.509	54.700	27.484	21.819	18.088	Cont.	Cont.

A. Mission Description and Budget Item Justification

This project provides definition, development, prototyping and testing of aircraft defensive avionics systems. Project identifies hardware and software enhancements for each Special Operations Forces (SOF) aircraft that will reduce detection, vulnerability, and threat engagement from threat radars and infrared (IR) missiles, thereby increasing the overall survivability of SOF assets. This project identifies and develops enhancements to each platform to meet the projected threat. Recommendations for equipment modification or replacement will be developed by each system program manager based upon the results of ongoing engineering assessments and user operational requirements. This project funds dispenser upgrade and improvement programs, threat and missile warning receiver enhancements, radio frequency jammer improvements, and development of AC-130 engine IR suppression system and IR jamming system. Project also provides systems for SOF-unique portions of the Warner Robins-Air Logistics Center Electronic Warfare Avionics Integrated Systems Facility. Sub-projects include:

- C-130 Engine IR Suppression (AC-130H/U, MC-130E/H, MC-130P/N,). Program to develop an engine IR signature suppression system for Air Force Special Operations Command (AFSOC) C-130 aircraft. The system will reduce the IR signature of these aircraft, thereby reducing their susceptibility to generation I and II IR missile threats.
- Directional Infrared Countermeasures (DIRCM). The baseline program is a joint international cooperative United Kingdom (UK)/United States (US) project to develop and procure an IR jammer for MC-130E/H and AC-130H/U aircraft capable of countering missile threats in the band one, two and four IR frequency spectrum. The DIRCM Pre-Planned Product Improvement (P3I) program include upgrades to a laser jamming source and the development and installation of an advanced missile warning system.

RDT&E PROJECT JUSTIFICATION SHEET (R-2A Exhibit)		DATE FEBRUARY 2002
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project 3284	
<ul style="list-style-type: none"> • Electronic Warfare Avionics Integrated Systems Facility (EWAISF). The EWAISF directly supports software development and testing. The EWAISF effort is a type of systems integration laboratory designed to support the incorporation of SOF aircraft defensive systems modifications into specific SOF platforms. • High Power Fiber Optic Towed Decoys (HPFOTD) for AC-130 H/U Gunships and MC-130 E/H Talon aircraft. Program funds the development and testing of a nondevelopmental item, HPFOTD, that uses the ALQ-172 as a techniques generator. The HPFOTD will be installed on all AFSOC AC-130 H/U and MC-130 E/H aircraft to provide protection against monopulse and other radar guided and surface to air and air to air missile systems. • Low Band Jammer (LBJ). Program funds the development of the ALQ-172 LBJ modification. The LBJ will improve the capability of the ALQ-172 radio frequency jammer by adding low band jamming coverage for 13 AC-130U Gunships and 24 MC-130H Combat Talon II aircraft. <p>FY 2001 ACCOMPLISHMENTS:</p> <ul style="list-style-type: none"> • (2.950) C-130 Engine IR Suppression. Initiated Engineering and Manufacturing Development (EMD) and prepared for flight test program and Milestone III. (1QTR01-4QTR01) • (7.515) DIRCM. Continued to support a cooperative UK/US development/production program for 59 SOF C-130 aircraft. Continued to fund non-recurring engineering costs for development of a laser upgrade insert for the DIRCM for MC-130H Combat Talon II, AC-130U Gunship, and CV-22 aircraft. Began Operational Test and Evaluation (OT&E) for MC-130E/H Combat Talon and AC-130H/U Gunship models. (3QTR01-4QTR01) 		

RDT&E PROJECT JUSTIFICATION SHEET (R-2A Exhibit)	DATE FEBRUARY 2002
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project 3284
<ul style="list-style-type: none"> • (1.277) EWAISF. Awarded two contracts for the design and development of a new threat generation capability in the digital generation subsystem and the MH-53M Integrated Support Stations. (2QTR01) <p>FY2002 PLAN:</p> <ul style="list-style-type: none"> • (1.706) DIRCM. Continue to support a cooperative UK/US development/production program for 59 SOF C-130 aircraft. Continue to fund DIRCM non-recurring engineering costs and contractor engineering support. Complete OT&E for MC-130-E/H Combat Talon and AC-130U Gunship models. (1QTR02-4QTR02) • (1.514) EWAISF. Continue to support laboratory efforts to maintain SOF aircraft defensive systems. (2QTR02) • (9.478) HPFOTD. Begin non-recurring engineering efforts on Towed Decoy and on aircraft integration efforts. (3QTR02) <p>FY 2003 PLAN:</p> <ul style="list-style-type: none"> • (25.510) DIRCM. Continue to support a cooperative UK/US development/production program for 59 SOF C-130 aircraft and contractor engineering support and fund non-recurring engineering costs. Fund development and non-recurring engineering costs of a laser upgrade insert and the Multi-Spectral Missile Warning System as P3I for DIRCM. (1QTR03-3QTR03) • (1.499) EWAISF. Continue to support laboratory efforts to maintain SOF aircraft defensive systems. (2QTR03) • (21.000) LBJ. Develop and test the LBJ modification for AC-130U and MC-130H aircraft. Funds will provide for trial installation on one aircraft from each fleet. (2QTR03) 	

RDT&E PROJECT JUSTIFICATION SHEET (R-2A Exhibit)		DATE	FEBRUARY 2002
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project 3284		

- (28.500) HPFOTD. Continue non-recurring engineering for Towed Decoy, and initiate development and testing of aircraft integration efforts. (1QTR03-4QTR03)

B. Other Program Funding Summary

	<u>FY01</u>	<u>FY02</u>	<u>FY03</u>	<u>FY04</u>	<u>FY05</u>	<u>FY06</u>	<u>FY07</u>	<u>To Complete</u>	<u>Total Cost</u>
PROC, C130 Mods									
DIRCM Laser			34.300	31.603	21.084	2.966	2.960		92.913
LBJ			5.900	33.189	56.421	58.322	28.216		182.048
HPFOTD				8.718	67.606	65.044	1.579		142.947

C. Acquisition Strategy:

- C-130 Engine IR Suppression. Produce request for proposals and competitively select one contractor to enter engineering and manufacturing development. This program is a continuing effort, based upon lessons learned, of a previous suppression program. A market survey was done (to minimize risk) which proved the maturity of the technology that is available in the industry today.
- DIRCM. The memorandum of agreement between the UK/US established the cooperative international baseline DIRCM program. The UK Ministry of Defense is the lead for the program. UK law applies to all baseline acquisition actions. USSOCOM program manager is the US Deputy to the UK DIRCM program manager. There is a separate contract which includes laser and advanced missile warning systems development. (Current DoD policy prevents cooperative laser development with UK.) The laser will be a sole source contract with the existing DIRCM contractor. The advanced missile warning system contract will be competitively awarded.

RDT&E PROJECT JUSTIFICATION SHEET (R-2A Exhibit)		DATE	FEBRUARY 2002
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project 3284		

- EWAISF. Award sole source contracts to the manufacturer of the prime mission equipment required for hardware and software integration into the EWAISF.
- LBJ. Program will complete modification of two remaining aircraft series (AC-130U and MC-130H) with LBJ capability. Program will capitalize on previous SOF aircraft modifications with the LBJ, evaluate two competing systems and will use a best value approach. Program management will be provided through an AF System Program Office and a pre-competed contract will be used for integration and installation.
- HPFOTD. Perform a market survey of the existing Towed Decoy currently available in the US market place. Conduct an assessment to determine which non-developmental item meets operational requirements. If more than one vendor meets all requirements, down-select based on best value. Perform non-recurring engineering efforts in preparation of aircraft integration on all AFSOC AC-130H/U and MC-130E/H platforms.

D. <u>Schedule Profile</u>	<u>FY01</u>				<u>FY02</u>				<u>FY03</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
C-130 Engine IR Suppression												
EMD Contract Award	x											
Developmental Testing/Initial OT&E	x	x	x	x								
DIRCM												
AC-130H/U And MC-130E/H OT&E	x	x	x	x	x	x	x	x				
AC-130H/U And MC-130E/H Non-Recurring Engineering									x	x	x	x
Laser Development	x	x	x	x					x	x	x	x
Missile Warning System Development										x	X	x
EWAISF Facility												
Contract Award for MH-53J/M Integrated Support Station		x										
Laboratory Testing and Evaluation		x	x	x	x	x	x	x	x	x	x	x

UNCLASSIFIED

RDT&E PROJECT JUSTIFICATION SHEET (R-2A Exhibit)		DATE					
RDT&E, DEFENSE-WIDE / 7		FEBRUARY 2002					
APPROPRIATION / BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE / PROJECT NO.					
RDT&E, DEFENSE-WIDE / 7		PE 1160404BB Special Operations Tactical Systems Development / Project 3284					
		<u>FY01</u>	<u>FY02</u>		<u>FY03</u>		
HPFOTD							
Contract Award			x				
Non-Recurring Engineering and Aircraft Integration			x	x	x	x	x

UNCLASSIFIED

Exhibit R-3 COST ANALYSIS						DATE: FEBRUARY 2002					
APPROPRIATION / BUDGET ACTIVITY				Special Operations Tactical Systems Development/PE1160404BB							
RDT&E DEFENSE-WIDE / 7				Special Operations Forces Aircraft Defensive System/3284							
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 FY01	Award Date FY01	Budget Cost FY02	Award Date FY02	Budget Cost FY03	Award Date FY03	To Complete	Total Program
Primary Hardware Dev											
Directional Infrared Countermeasures (DIRCM)	SS/FFP	Northrop (Chicago)	77.507								77.507
Sust Engineering DIRCM	SS/CPFF	Northrop (Chicago)	0.159	0.975	Sep-01	0.600	Mar-02	0.560	Mar-03	Cont.	Cont.
	MIPR	Various	0.466								0.466
LASER	SS/CPFF	Northrop (Chicago)	4.698	5.812	Jun-01					Cont.	Cont.
	MIPR	AFEWS	0.500					14.500	Dec-02	Cont.	Cont.
Missile Warning System	CPFF/CPAF	TBD						9.500	Feb-03	56.100	65.600
Infrared Suppression System	CPFF/FFP	Boeing, Ft. Walton Beach, FL	4.033	1.857	Dec-00						5.890
Electronics Warfare Avionics											
Integrated Systems Facility	SS/CPFF	GTRI, GA	8.588	1.277	Feb-01	1.514	Feb-02	1.499	Feb-03	Cont.	Cont.
HPFOTD	TBD	TBD				9.478	Jun-02	28.500	Various	20.000	57.978
Low Band Jammer	TBD	TBD						21.000	Mar-03	13.500	34.500
Subtotal Product Dev			95.951	9.921		11.592		75.559		Cont.	Cont.
Remarks:											
Development Spt											
Subtotal Spt											
Remarks:											

UNCLASSIFIED

Exhibit R-3 COST ANALYSIS						DATE: FEBRUARY 2002					
APPROPRIATION / BUDGET ACTIVITY				Special Operations Tactical Systems Development/PE1160404BB							
RDT&E DEFENSE-WIDE / 7				Special Operations Forces Aircraft Defensive System/3284							
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 FY01	Award Date FY01	Budget Cost FY02	Award Date FY02	Budget Cost FY03	Award Date FY03	To Complete	Total Program
Developmental Test & Eval Infrared Suppression System	MIPR	WSMR/46TW/Other (DIRCM)	14.047	0.704	Sep-01	0.400	Dec-02			Cont.	Cont.
	MIPR	Various		1.093	Various						1.093
Subtotal T&E			14.047	1.797		0.400				Cont.	Cont.
Remarks:											
Contractor Engineering Spt	FP	BAH (DIRCM)	17.424								
	FP	TBD				0.706	Aug-02	0.950	May-03	Cont.	Cont.
	SS/FFP	MTI; Warner Robins, Ga	4.820							Cont.	Cont.
	SS/CPFF	SSAI; Warner Robins, Ga	3.172							Cont.	Cont.
Government Engineering Spt	MIPR	Crane DIV/other	0.184							Cont.	Cont.
Travel	N/A		1.329	0.024	Various					Cont.	Cont.
Subtotal Management			26.929	0.024		0.706		0.950		Cont.	Cont.
Remarks:											
Total Cost			136.927	11.742		12.698		76.509		Cont.	Cont.
Remarks:											

UNCLASSIFIED

Exhibit R-3 COST ANALYSIS						DATE: FEBRUARY 2002					
APPROPRIATION / BUDGET ACTIVITY				Special Operations Tactical Systems Development/PE1160404BB							
RDT&E DEFENSE-WIDE / 7				Special Operations Forces Aircraft Defensive System/3284							
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 FY01	Award Date FY01	Budget Cost FY02	Award Date FY02	Budget Cost FY03	Award Date FY03	To Complete	Total Program
Primary Hardware Dev											
Directional Infrared Countermeasures (DIRCM)	SS/FFP	Northrop (Chicago)	77.507								77.507
Sust Engineering DIRCM	SS/CPFF	Northrop (Chicago)	0.159	0.975	Sep-01	0.600	Mar-02	0.560	Mar-03	Cont.	Cont.
	MIPR	Various	0.466								0.466
LASER	SS/CPFF	Northrop (Chicago)	4.698	5.812	Jun-01					Cont.	Cont.
	MIPR	AFEWS	0.500					14.500	Dec-02	Cont.	Cont.
Missile Warning System	CPFF/CPAF	TBD						9.500	Feb-03	56.100	65.600
Infrared Suppression System	CPFF/FFP	Boeing, Ft. Walton Beach, FL	4.033	1.857	Dec-00						5.890
Electronics Warfare Avionics											
Integrated Systems Facility	SS/CPFF	GTRI, GA	8.588	1.277	Feb-01	1.514	Feb-02	1.499	Feb-03	Cont.	Cont.
HPFOTD	TBD	TBD				9.478	Jun-02	28.500	Various	20.000	57.978
Low Band Jammer	TBD	TBD						21.000	Mar-03	13.500	34.500
Subtotal Product Dev			95.951	9.921		11.592		75.559		Cont.	Cont.
Remarks:											
Development Spt											
Subtotal Spt											
Remarks:											

UNCLASSIFIED

RDT&E PROJECT JUSTIFICATION SHEET (R-2A Exhibit)					DATE FEBRUARY 2002				
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7			R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project 3326						

COST (Dollars in Millions)	FY01	FY02	FY03	FY04	FY05	FY06	FY07	Cost to Complete	Total Cost
3326, AC-130U Gunship	1.658	.469	36.476	16.248	1.330	2.650	2.701	Cont.	Cont.

A. Mission Description and Budget Item Justification

This project provides 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. The AC-130U aircraft will be more capable and survivable than the existing AC-130H aircraft. These subsystems enable the gunship to strike targets with surgical accuracy, to loiter safely in the target area for extended periods, 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. AC-130U software is developed and sustained using a systems integration laboratory.

FY 2001 ACCOMPLISHMENTS:

- (0.477) Continued cooperative effort with Air Force (AF) laboratory to analyze and demonstrate gunship-related emerging electro-optical sensor technologies. (1QTR01)
- (0.200) Continued technical order verification/validation and printing for various ongoing AC-130U modifications and for Organizational Maintenance Manual Sets (OMMS). (1QTR01)
- (0.981) Continued annual ground/flight test operations and support for ongoing AC-130U modifications. (2QTR01-4QTR01)

UNCLASSIFIED

RDT&E PROJECT JUSTIFICATION SHEET (R-2A Exhibit)	DATE FEBRUARY 2002
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project 3326
<p>FY 2002 PLAN:</p> <ul style="list-style-type: none"> • (0.010) Continue cooperative effort with AF laboratory to analyze and demonstrate gunship-related emerging electro-optical sensor technologies. (1QTR02) • (0.459) Continue annual ground/flight test operations and support for ongoing AC-130 modifications. (1QTR02) <p>FY 2003 PLAN:</p> <ul style="list-style-type: none"> • (0.065) Continue effort with AF laboratory to analyze and demonstrate gunship-related emerging electro-optical sensor technologies. (1QTR03) • (0.195) Continue technical order verification/validation and printing for various ongoing AC-130U modifications and for OMMS. (1QTR03) • (0.750) Continue ground and flight test operations and support for ongoing AC-130 modifications. (1QTR03) • (0.273) Continue technical studies and reliability/maintainability studies. (1QTR03) • (0.193) Continue reliability and maintainability improvements and investigation of existing or new deficiency reports. (1QTR03) • (35.000) Begin development of modifications to two C-130H's being added to the gunship inventory, including weight and drag reduction designs, revised survivability studies, and a common electro-optical sensor system. (2QTR03) 	

UNCLASSIFIED

RDT&E PROJECT JUSTIFICATION SHEET (R-2A Exhibit)					DATE																																																																																																												
					FEBRUARY 2002																																																																																																												
APPROPRIATION / BUDGET ACTIVITY			R-1 ITEM NOMENCLATURE / PROJECT NO.																																																																																																														
RDT&E, DEFENSE-WIDE / 7			PE 1160404BB Special Operations Tactical Systems Development / Project 3326																																																																																																														
<p>B. <u>Other Program Funding Summary</u></p> <table border="1"> <thead> <tr> <th></th> <th><u>FY01</u></th> <th><u>FY02</u></th> <th><u>FY03</u></th> <th><u>FY04</u></th> <th><u>FY05</u></th> <th><u>FY06</u></th> <th><u>FY07</u></th> <th>To <u>Complete</u></th> <th>Total <u>Cost</u></th> </tr> </thead> <tbody> <tr> <td>PROC, AC-130U</td> <td>9.360</td> <td>8.705</td> <td>65.502</td> <td>177.414</td> <td>22.007</td> <td>212.555</td> <td>212.315</td> <td>Cont.</td> <td>Cont.</td> </tr> </tbody> </table>											<u>FY01</u>	<u>FY02</u>	<u>FY03</u>	<u>FY04</u>	<u>FY05</u>	<u>FY06</u>	<u>FY07</u>	To <u>Complete</u>	Total <u>Cost</u>	PROC, AC-130U	9.360	8.705	65.502	177.414	22.007	212.555	212.315	Cont.	Cont.																																																																																				
	<u>FY01</u>	<u>FY02</u>	<u>FY03</u>	<u>FY04</u>	<u>FY05</u>	<u>FY06</u>	<u>FY07</u>	To <u>Complete</u>	Total <u>Cost</u>																																																																																																								
PROC, AC-130U	9.360	8.705	65.502	177.414	22.007	212.555	212.315	Cont.	Cont.																																																																																																								
<p>C. <u>Acquisition Strategy:</u></p> <ul style="list-style-type: none"> Modify C-130H airframe into a side-firing gunship configuration on a sole-source fixed price incentive fee development contract. Conduct a combined Qualification Test and Evaluation/Qualification Operational Test and Evaluation (QOT&E), and a dedicated QOT&E. The AC-130U is logistically supported at organizational, intermediate and depot levels. Initial operational capability occurred in March 1996, and full operational capability is scheduled for FY 2002. Funding increase in FY 2003 supports development of 2 additional gunships. 																																																																																																																	
<p>D. <u>Schedule Profile</u></p> <table border="1"> <thead> <tr> <th></th> <th colspan="4"><u>FY01</u></th> <th colspan="4"><u>FY02</u></th> <th colspan="4"><u>FY03</u></th> </tr> <tr> <th></th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> </tr> </thead> <tbody> <tr> <td>Initial Operational Capability: Mar 1996</td> <td></td> </tr> <tr> <td>Final Aircraft Delivery: Mar 1997</td> <td></td> </tr> <tr> <td>System Integration</td> <td></td> <td>x</td> </tr> <tr> <td>Software Test and Evaluation</td> <td></td> <td></td> <td>x</td> </tr> <tr> <td>Full Operational Capability (AC-130U Gunship)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>x</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Contract Award for 2 additional AC-130U Gunships</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>x</td> <td></td> <td></td> </tr> </tbody> </table>											<u>FY01</u>				<u>FY02</u>				<u>FY03</u>					1	2	3	4	1	2	3	4	1	2	3	4	Initial Operational Capability: Mar 1996													Final Aircraft Delivery: Mar 1997													System Integration		x	x	x	x	x	x	x	x	x	x	x	Software Test and Evaluation			x	x	x	x	x	x	x	x	x	x	Full Operational Capability (AC-130U Gunship)						x							Contract Award for 2 additional AC-130U Gunships										x		
	<u>FY01</u>				<u>FY02</u>				<u>FY03</u>																																																																																																								
	1	2	3	4	1	2	3	4	1	2	3	4																																																																																																					
Initial Operational Capability: Mar 1996																																																																																																																	
Final Aircraft Delivery: Mar 1997																																																																																																																	
System Integration		x	x	x	x	x	x	x	x	x	x	x																																																																																																					
Software Test and Evaluation			x	x	x	x	x	x	x	x	x	x																																																																																																					
Full Operational Capability (AC-130U Gunship)						x																																																																																																											
Contract Award for 2 additional AC-130U Gunships										x																																																																																																							

UNCLASSIFIED

Exhibit R-3 COST ANALYSIS						DATE: FEBRUARY 2002					
APPROPRIATION / BUDGET ACTIVITY				Special Operations Tactical Systems Development/PE1160404BB							
RDT&E DEFENSE-WIDE / 7				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 FY01	Award Date FY01	Budget Cost FY02	Award Date FY02	Budget Cost FY03	Award Date FY03	To Complete	Total Program
Product Dev Organizations											
Tech Studies & Analysis	AF616	Air Force Research Lab, Wright Patterson AFB, OH	0.230					0.273	Nov 01	Cont.	Cont.
Tech Order Verification and Validation	Various	Various	0.342	0.200	Various			0.195	Various	Cont.	Cont.
Reliability and Maintainability	C/CPAF	Boeing, Ft. Walton Beach, FL	0.572					0.193	Dec 02	Cont.	Cont.
Subtotal Product Dev			1.144	0.200		0.000		0.661		Cont.	Cont.
Dev Spt	AF616	Air Force Research Lab, Wright Patterson AFB, OH	0.789	0.477	Various	0.010	Dec-01	0.065	Dec 02	Cont.	Cont.
Subtotal Spt			0.789	0.477		0.010		0.065		Cont.	Cont.
Devel Test & Eval	PO	46OG Det 1, Hurburt Field, FL	35.425	0.981	Various	0.459	Dec-01	0.750	Dec 02	Cont.	Cont.
Test & Eval - (2 new Gunships)	Various	Various						35.000	Mar 03	15.000	50.000
Subtotal T&E			35.425	0.981		0.459		35.750		Cont.	Cont.
Management											
Subtotal Management											
Remarks:											
Total Cost			37.358	1.658		0.469		36.476		Cont.	Cont.
Remarks:											

RDT&E PROJECT JUSTIFICATION SHEET (R-2A Exhibit)						DATE FEBRUARY 2002				
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7			R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project D476							
COST (Dollars in Millions)		FY01	FY02	FY03	FY04	FY05	FY06	FY07	Cost to Complete	Total Cost
D476, PSYOP Advanced Development		1.172		.500	.363	.369	.375	4.718	Cont.	Cont.
<p>A. <u>Mission Description and Budget Item Justification</u></p> <p>This program provides for the development and acquisition of Psychological Operations (PSYOP) equipment. The purpose of PSYOP is to reinforce foreign or hostile attitudes and behavior favorable to U.S. national objectives. New and emerging national, regional, and ethnic power groupings and religious fanaticism have increased threats of terrorism, insurgency, instability, and subversion. Successful PSYOP can lower the morale and reduce efficiency of enemy forces and create dissidence and dissatisfaction within their ranks. This project funds replacement of existing 1950's and 1960's technology equipment currently employed, and provides enhanced capability to conduct tactical and theater-level PSYOP dissemination in support of regional unified commanders and their deployed task forces. The PSYOP programs funded in this project are grouped by the level of organization they support: Operational Element (Team) and Above Operational Element (Deployed). Sub-projects include:</p> <p>OPERATIONAL ELEMENT (TEAM)</p> <ul style="list-style-type: none"> • Leaflet Delivery System (LDS). LDS are a family of systems, which provides PSYOP forces the ability to safely and accurately disseminate small to large quantities of PSYOP products (leaflets) over small to large area targets in all threat environments. LDS include remote-controlled systems, which can be employed from perimeter areas; payloads that can be delivered from unmanned aerial vehicles; high altitude low opening delivery systems delivered by manned aircraft. In order to accurately deliver leaflets in denied, hostile, or remote areas, some LDS will require homing and guidance systems, timers, and barometric devices for activating at pre-designated altitudes and locations. The LDS family will be varied to allow PSYOP and supporting forces to choose the appropriate system for product dissemination based on policy, operational requirements, delivery platform availability, and environmental restrictions such as wind velocities and hostile fire. 										

UNCLASSIFIED

RDT&E PROJECT JUSTIFICATION SHEET (R-2A Exhibit)	DATE FEBRUARY 2002
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project D476
<p>ABOVE OPERATIONAL ELEMENT (DEPLOYED)</p> <ul style="list-style-type: none"> • 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 (TMPC), Air National Guard Commando Solo aircraft, and the tactical SOMS B. <p>FY 2001 ACCOMPLISHMENTS:</p> <ul style="list-style-type: none"> • (0.422) POBS. Initiated environmental and operational testing of the TMPC and initiated user evaluation of the PSYOP Product Distribution System (PDS) and variants. (1QTR01-2QTR02) • (0.750) Leaflet Delivery System (LDS). Funded technical and engineering management support required to develop, integrate, test, and evaluate for fielding the LDS Wind Supported Air Delivery System (WSADS) variant. (2QTR01) <p>DEFENSE EMERGENCY RESPONSE FUND PLAN:</p> <ul style="list-style-type: none"> • (1.701) LDS. Conduct airworthiness compatibility and certification of the Rokeye Interim Solution (RIS) Leaflet Bomb. (1QTR02) • (0.150) POBS. Conduct user evaluation of the PSYOP PDS variants. (2QTR02) 	

UNCLASSIFIED

RDT&E PROJECT JUSTIFICATION SHEET (R-2A Exhibit)	DATE FEBRUARY 2002																				
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project D476																				
<p>FY 2002 PLAN:</p> <ul style="list-style-type: none"> • The FY 2002 funds for this project were rescinded in the FY 2002 Appropriations Conference Report (-\$0.55 million). <p>FY 2003 PLAN:</p> <ul style="list-style-type: none"> • (0.500) POBS. Begin environmental and operational testing of PSYOP PDS Fly-Away Broadcast System (FABS) variants. Complete Developmental Testing and Operational Test & Evaluation of TMPC. (1QTR03) <p>B. <u>Other Program Funding Summary</u></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;"></th> <th style="width: 5%;">FY01</th> <th style="width: 5%;">FY02</th> <th style="width: 5%;">FY03</th> <th style="width: 5%;">FY04</th> <th style="width: 5%;">FY05</th> <th style="width: 5%;">FY06</th> <th style="width: 5%;">FY07</th> <th style="width: 5%;">To Complete</th> <th style="width: 5%;">Total Cost</th> </tr> </thead> <tbody> <tr> <td>PROC, PSYOP Equipment</td> <td style="text-align: center;">8.303</td> <td style="text-align: center;">2.780</td> <td style="text-align: center;">5.642</td> <td style="text-align: center;">14.555</td> <td style="text-align: center;">8.681</td> <td style="text-align: center;">6.909</td> <td style="text-align: center;">6.406</td> <td style="text-align: center;">Cont.</td> <td style="text-align: center;">Cont.</td> </tr> </tbody> </table> <p>C. ACQUISITION STRATEGY:</p> <ul style="list-style-type: none"> • 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 also acquires performance enhancements to meet emergent requirements. 			FY01	FY02	FY03	FY04	FY05	FY06	FY07	To Complete	Total Cost	PROC, PSYOP Equipment	8.303	2.780	5.642	14.555	8.681	6.909	6.406	Cont.	Cont.
	FY01	FY02	FY03	FY04	FY05	FY06	FY07	To Complete	Total Cost												
PROC, PSYOP Equipment	8.303	2.780	5.642	14.555	8.681	6.909	6.406	Cont.	Cont.												

UNCLASSIFIED

RDT&E PROJECT JUSTIFICATION SHEET (R-2A Exhibit)					DATE									
					FEBRUARY 2002									
APPROPRIATION / BUDGET ACTIVITY			R-1 ITEM NOMENCLATURE / PROJECT NO.											
RDT&E, DEFENSE-WIDE / 7			PE 1160404BB Special Operations Tactical Systems Development / Project D476											
			FY01		FY02				FY03					
<u>D. Schedule Profile</u>			1	2	3	4	1	2	3	4	1	2	3	4
Leaflet Delivery System														
Develop,integrate, DT/OT WSADS variant				x	x	x								
POBS														
MS I – May 2000														
MS II					x									
DT/OT PSYOPS PDS				x	x	x	x				x	x		
MS C													x	
DT/OT TMPC				x	x	x	x	x			x	x		
MS C													x	
DT/OT FABS													x	x

UNCLASSIFIED

Exhibit R-3 COST ANALYSIS						DATE: FEBRUARY 2002					
APPROPRIATION / BUDGET ACTIVITY				Special Operations Tactical Systems Development/PE1160404BB							
RDT&E DEFENSE-WIDE / 7				PSYOPS Advance 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 FY01	Award Date FY01	Budget Cost FY02	Award Date FY02	Budget Cost FY03	Award Date FY03	To Complete	Total Program
Primary Hardware Dev	MIPR	Natick Lab, Natick, MA	0.892	0.690	Jan-01						1.582
	MIPR	NAWC AD, St Indigoes, MD	0.132								0.132
	MIPR	NAWC AD, St Indigoes, 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
Systems Engineering	ALLOT	Army-CECOM, Ft Monmouth, NJ	1.336								1.336
	REQN	Various	0.142					0.130	Oct-02	Cont	Cont
	MIPR	SPAWAR, Charleston, SC		0.060	Feb-01						0.060
Subtotal Product Dev			9.565	0.750				0.130		Cont	Cont
Remarks:											
Subtotal Spt											
Remarks:											

UNCLASSIFIED

Exhibit R-3 COST ANALYSIS						DATE: FEBRUARY 2002					
APPROPRIATION / BUDGET ACTIVITY				Special Operations Tactical Systems Development/PE1160404BB							
RDT&E DEFENSE-WIDE / 7				PSYOPS Advance 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 FY01	Award Date FY01	Budget Cost FY02	Award Date FY02	Budget Cost FY03	Award Date FY03	To Complete	Total Program
Developmental Test & Eval	Various	Various	0.113								0.113
	MIPR	Army ATC, Aberdenn Prov Gd, MD	0.391	0.057	Feb-02			0.035	Oct-02	Cont	Cont
	MIPR	TBD	0.546								0.546
Operational Test & Eval	MIPR	JITC, Ft Huachuca, AZ	0.380	0.317	Feb-02			0.335	Oct-02	Cont	Cont
	MIPR	JITC, Ft Huachuca, AZ	0.625	0.048	Dec-00						0.673
Subtotal T&E			2.055	0.422				0.370		Cont	Cont
Remarks:											
DERF Funds:											
Operational Test & Eval	MIPR	NAWC AD, St. Indigoes, MD				0.150	Jan-02				0.150
Operational Test & Eval	MIPR	NAWC AD, St. Indigoes, MD				1.701	Dec-01				1.701
Contractor Engineering Spt	OPFF	Booz-Allen Hamilton, McLean, VA	0.410								0.410
Government Engineering Spt	MIPR	MITRE, McLean, VA	0.075								0.075
Program Management Spt	MIPR	SOFSA, Lexington, KY	0.053								0.053
	MIPR	LOGSA, Redstone Arsenal, AL	0.291								0.291
	Various	Various	0.072								0.072
Subtotal Management			0.901								0.901
Remarks:											
Total Cost			12.521	1.172		0.000		0.500		Cont	Cont
Remarks:											

UNCLASSIFIED

RDT&E PROJECT JUSTIFICATION SHEET (R-2A Exhibit)					DATE FEBRUARY 2002							
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7			R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project D615									
COST (Dollars in Millions)				FY01	FY02	FY03	FY04	FY05	FY06	FY07	Cost to Complete	Total Cost
D615, Special Operations Forces Aviation				10.494	18.924	39.097	36.844	32.704	23.958	9.880	Cont.	Cont.

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. Third World operations are apt to involve greater distances and more challenging geographical environmental conditions than the European theater. This project will develop/upgrade the Special Operations rotary wing aircraft systems that will be capable of successful operations in these increasingly hostile environments. Rotary wing systems supported by this project include: A/MH-6, MH-60L/K, MH-47D/E/G and MH-53. Efforts include:

- A/MH-6. (1) Develops lightweight, rapidly reconfigurable mission support equipment. (2) Prototypes, tests, and fields structural fuselage modifications to increase the maximum gross weight by 25%.
- MH-47/MH-60K. (1) Develops and tests aircraft survivability equipment hardware and software. (2) Develops and tests the MH-60 fuel control system, develops and tests ballistically tolerant composite small arms protection system for vulnerable helicopter systems. (3) Develops and tests cockpit, hardware, and software improvements to communication and navigation systems. (4) Develops, procures and installs a system that inerts (exchanging oxygen with nitrogen) in the main and auxiliary fuel tanks to improve survivability from small arms fire. (5) Provides for non-recurring engineering and vibration testing for MH-47 Service Life Extension Program (SLEP).

RDT&E PROJECT JUSTIFICATION SHEET (R-2A Exhibit)	DATE FEBRUARY 2002
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project D615
<ul style="list-style-type: none"> • MH-53. Provides non-recurring engineering associated with incorporation of the Directional Infrared Countermeasures (DIRCM) system. DIRCM provides an Infrared (IR) jamming capability that counters missile threats in the band one, two, and four IR frequency spectrum. • SOCOM Unmanned Aerial Vehicle (UAV) includes the Maverick and Hummingbird systems. This program demonstrates the relevance of an unmanned flight system in SOF applications. • Diving enhancements include the Underwater Breathing Apparatus (UBA) project enhancement. This upgrade will result in an increase to the lock in/lock out depth capability of the Advanced SEAL Delivery System and SEAL Delivery System platforms. This Congressional add will either be reprogrammed to Project S200 or realigned to Project S0417. <p>FY 2001 ACCOMPLISHMENTS:</p> <ul style="list-style-type: none"> • (1.972) MH-47/MH-60. Continued combined Infrared Countermeasures (IRCM) and Suite of IR Countermeasures integration to treat MH-47 and MH-60 fleet IRCM as a single integrated program. Initiated development, integration and testing of Nuclear, Biological, and Chemical (NBC) crew protection system and NBC point detection system. (1QTR01-4QTR01) • (4.547) A/MH-6. Continued prototype testing of the Mission Enhanced Little Bird (MELB) aircraft to include integration of the Allison 250-C30/R3 engine, and Full Authority Digital Electronic Control software refinement. Continued to provide for extensive Electromagnetic Interference/Electromagnetic Countermeasure integration and testing of MELB aircraft. This included shipboard compatibility, full certification at the Dahlgren facility and additional shielding/protection for the aircraft systems. Completed the replacement of large single functional analog components with fleet common miniaturized, lightweight multifunctional reconfigurable displays for flight, navigation, communication and weapons systems management. (1QTR01-4QTR01) 	

UNCLASSIFIED

RDT&E PROJECT JUSTIFICATION SHEET (R-2A Exhibit)	DATE FEBRUARY 2002
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project D615
<ul style="list-style-type: none"> • (3.975) MH-47/MH-60. Continued to rehost Integrated Avionics System software onto new mission processor. Provided for accelerated integration and testing of Modular Avionics. Program incorporates modularized avionics and open systems computer architecture. (1QTR01-4QTR01) <p>FY 2002 PLAN:</p> <ul style="list-style-type: none"> • (4.582) MH-47/MH-60. Complete the development, integration and testing of the NBC crew protection system and NBC point detection system. Provide for airframe vibration analysis and non-recurring engineering drawings for the MH-47 SLEP. Provide for SOF unique modification to Air Transportability Kits for the MH-47E (originally justified under the fourth bullet – restructured the bullets). (1QTR02-4QTR02) • (0.433) A/MH-6. Continue prototype testing of the MELB aircraft. Complete the integration of Allison 250-C30/R3 engine and Full Authority Digital Electronic Control software refinement. Provide for the G Cal 50 machine gun, which replaces the current M2AC machine gun for the MELB aircraft. Complete Electromagnetic Interference/Electromagnetic Countermeasure integration and testing of MELB aircraft. This includes shipboard compatibility, full certification at the Dahlgren facility and additional shielding/protection for the aircraft systems. (1QTR02-4QTR02) • (5.767) MH-47/MH-60. Fund development of new multi-function displays. Continue integration and testing of Modular Avionics, which incorporates modularized avionics and open system computer architecture. Continue to rehost Integrated Avionics System software into a new mission processor. The rehosting is essential prior to procurement of a new mission processor to alleviate significant technical risk. (1QTR02-4QTR02) • (0.442) MH-60L. Develop, integrate, and test MH-60L Integrated Defensive Armed Penetrator improvements to include the life cycle upgrade/replacement of the current Monocular Head Up Display (MONO-HUD), weapons management system and weapons. (1QTR02-4QTR02) • (6.700) SOCOM UAV. Demonstrate the relevance of an unmanned flight system in SOF applications. (2QTR02-4QTR02) 	

RDT&E PROJECT JUSTIFICATION SHEET (R-2A Exhibit)						DATE FEBRUARY 2002																							
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7			R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project D615																										
<ul style="list-style-type: none"> (1.000) UBA Project Enhancement. Procure and test a commercially available UBA, to include product documentation such as an operation and maintenance manual, certification drawings, and software verification. Also includes labor costs and the cost of spare parts associated with field trials. (2QTR02-4QTR02) <p>FY 2003 PLAN:</p> <ul style="list-style-type: none"> (0.431) A/MH-6. Complete prototype testing of the G Cal 50 machine gun, which replaces the current M2AC machine gun for the MELB aircraft. (1QTR03) (29.666) MH-47/MH-60/A/MH-6. Begin development of assault and attack Forward Looking Infrared (FLIR) systems to replace aging Q-16B and D systems for the fleet of ARSOA aircraft. Continue non-recurring engineering for the MH-47 SLEP. Begin effort to develop a replacement radar altimeter that is less detectable. Begin development and testing of panoramic night vision goggles, a rotary wing Terrain Following/Terrain Avoidance (TF/TA) navigation system and an Obstacle Avoidance/Cable Warning (OA/CW) system for use for all platforms. (1QTR03-4QTR03) (9.000) MH-53. Complete non-recurring engineering associated with incorporation of the DIRCM system. DIRCM provides an IR jamming capability that counters missile threats in the band one, two, and four IR frequency spectrum. (2QTR03-4QTR03) <p>B. <u>Other Program Funding Summary</u></p> <table border="1"> <thead> <tr> <th></th> <th><u>FY01</u></th> <th><u>FY02</u></th> <th><u>FY03</u></th> <th><u>FY04</u></th> <th><u>FY05</u></th> <th><u>FY06</u></th> <th><u>FY07</u></th> <th>To <u>Complete</u></th> <th>Total <u>Cost</u></th> </tr> </thead> <tbody> <tr> <td>PROC, Rotary Wing Upgrades & Sustainment</td> <td>68.755</td> <td>80.182</td> <td>289.792</td> <td>338.947</td> <td>246.004</td> <td>233.328</td> <td>212.736</td> <td>Cont.</td> <td>Cont.</td> </tr> </tbody> </table>											<u>FY01</u>	<u>FY02</u>	<u>FY03</u>	<u>FY04</u>	<u>FY05</u>	<u>FY06</u>	<u>FY07</u>	To <u>Complete</u>	Total <u>Cost</u>	PROC, Rotary Wing Upgrades & Sustainment	68.755	80.182	289.792	338.947	246.004	233.328	212.736	Cont.	Cont.
	<u>FY01</u>	<u>FY02</u>	<u>FY03</u>	<u>FY04</u>	<u>FY05</u>	<u>FY06</u>	<u>FY07</u>	To <u>Complete</u>	Total <u>Cost</u>																				
PROC, Rotary Wing Upgrades & Sustainment	68.755	80.182	289.792	338.947	246.004	233.328	212.736	Cont.	Cont.																				

UNCLASSIFIED

RDT&E PROJECT JUSTIFICATION SHEET (R-2A Exhibit)					DATE											
					FEBRUARY 2002											
APPROPRIATION / BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE / PROJECT NO.											
RDT&E, DEFENSE-WIDE / 7					PE 1160404BB Special Operations Tactical Systems Development / Project D615											
C. <u>Acquisition Strategy</u> : None.																
					<u>FY01</u>				<u>FY02</u>				<u>FY03</u>			
D. Schedule Profile					1	2	3	4	1	2	3	4	1	2	3	4
MELB Prototype Testing					x	x	x	x	x	x	x	x				
MELB Miniaturization					x	x	x	x								
MELB MS IIIB						x										
MELB Electro-magnetic Interference/Electro-magnetic Countermeasures Integration and Testing					x	x	x	x	x							
ASE Testing and Installation					x	x	x									
Multimode Radar Weather Card					x	x	x	x	x	x						
NBC Crew Protection MH-60/MH-47								x	x	x	x	x				
MH-47 SLEP									x	x	x	x	x	x	x	x
A/MH-6 G Cal 50									x	x	x	x	x			
Modular Avionics					x	x	x	x	x	x	x	x	x			
Army Airborne Command and Control Antenna Pack										x	x	x				
Global Positioning System/Inertial Navigation System						x										
MH 60L Defensive Armed Penetrator Improvements									x	x						
MH-47E Air Transportability Kits										x	x	x				
Multi-Function Displays									x	x	x	x				

UNCLASSIFIED

RDT&E PROJECT JUSTIFICATION SHEET (R-2A Exhibit)					DATE FEBRUARY 2002											
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7					R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project D615											
					FY01				FY02				FY03			
D. Schedule Profile					1	2	3	4	1	2	3	4	1	2	3	4
Next Generation FLIR													x	x	x	x
Radar Altimeter Modifications														x	x	
Panoramic Night Vision Goggles															x	x
Vertical Lift TF/TA													x	x	x	x
OA/CW													x	x	x	x
SOCOM UAV									x	x	x					
UBA Project Enhancement									x	x	x					
MH-53 DIRCM														x	x	x

UNCLASSIFIED

Exhibit R-3 COST ANALYSIS						DATE: FEBRUARY 2002					
APPROPRIATION / BUDGET ACTIVITY				Special Operations Tactical Systems Development/PE1160404BB							
RDT&E DEFENSE-WIDE / 7				Special Operations Forces Aviation/D615							
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 FY01	Award Date FY01	Budget Cost FY02	Award Date FY02	Budget Cost FY03	Award Date FY03	To Complete	Total Program
Primary Hardware Dev											
MH-47/60	Various	PM TAPO/Ft Eustis, VA		5.339	Various	4.352	Various	20.900	Various	Cont.	Cont.
A/MH-6	Various	PM-MELB/Ft Eustis, VA		1.082	Mar-01	0.157	Mar-02			Cont.	Cont.
SOCOM UAV	CFF	Frontier System, Inc., Irvine, CA				5.500	Various				5.500
	CFF	Batelle, Columbus, OH				0.550	Various				0.550
UBA Project Enhancement	TBD	NEDU, Panama City, FL				0.900	Various				0.900
MH-53	TBD	Northop-Grumman, Annapolis, MD						9.000	Various		9.000
Subtotal Product Dev			0.000	6.421		11.459		29.900		Cont.	Cont.
Remarks:											
UBA Project Enhancement	Various	NEDU, Panama City, FL				0.100	Various				0.100
Subtotal Spt						0.100					0.100
Remarks:											

UNCLASSIFIED

Exhibit R-3 COST ANALYSIS						DATE: FEBRUARY 2002					
APPROPRIATION / BUDGET ACTIVITY				Special Operations Tactical Systems Development/PE1160404BB							
RDT&E DEFENSE-WIDE / 7				Special Operations Forces Aviation/D615							
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 FY01	Award Date FY01	Budget Cost FY02	Award Date FY02	Budget Cost FY03	Award Date FY03	To Complete	Total Program
Developmental Test & Eval											
MH-47/60	Various	PM TAPO/Ft Eustis, VA		0.608	Jul-01	6.439	Various	8.766	Various	Cont.	Cont.
A/MH-6	Various	PM-MELB/Ft Eustis, VA		3.465	Various	0.276	Various	0.431	Dec-02	Cont.	Cont.
SOCOM UAV	MIPR	ARL, Aberdeen Proving Ground, MD				0.650	Various				
Subtotal T&E			0.000	4.073		7.365		9.197		Cont.	Cont.
Remarks:											
Subtotal Management											
Remarks:											
Total Cost			0.000	10.494		18.924		39.097		Cont.	Cont.
Remarks:											

RDT&E PROJECT JUSTIFICATION SHEET (R-2A Exhibit)					DATE FEBRUARY 2002							
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7			R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S0417									
COST (Dollars in Millions)				FY01	FY02	FY03	FY04	FY05	FY06	FY07	Cost to Complete	Total Cost
S0417, Underwater Systems Advanced Development				37.808	51.083	13.168	3.053	3.443	2.621	2.373	Cont.	Cont.

A. Mission Description and Budget Item Justification

This project funds the development of Naval Special Warfare (NSW) support items used during hydrographic/inland reconnaissance, beach obstacle clearance, underwater ship attack, and other direct action missions. Sub-projects include:

- Advanced Sea, Air, Land (SEAL) Delivery System (ASDS). The ASDS is a manned combatant mini-submarine used for the clandestine delivery of Special Operations Forces (SOF) personnel and weapons. The ASDS will provide the requisite range, endurance, payload, and other capabilities for operation in the full range of threat environments.
- Surface Planing Wet Submersible (SPWS). The SPWS is a multi-mission, combat-ready platform, capable of medium to high speed surface and submerged operations in open ocean, coastal, and littoral environments. The SPWS provides NSW with the capability to perform insertion/extraction of SOF on the surface with the speed and range of a planing boat, and submerged with the clandestine capabilities of a submersible.
- Undersea Systems. Development of undersea systems which provide the SOF combat swimmers with the necessary diving and diving related equipment to fulfill assigned underwater combat missions includes the following:
- Naval Special Warfare (NSW) Very Shallow Water Mine Countermeasures (VSW MCM). Phased development/improvement equipment to support the combat swimmer in the NSW VSW MCM operational environment.

RDT&E PROJECT JUSTIFICATION SHEET (R-2A Exhibit)		DATE FEBRUARY 2002
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S0417	
<ul style="list-style-type: none"> • Non-Gasoline Burning Outboard Engine (NBOE). Development of a submersible alternative fuel outboard engine for use on SOF Combat Rubber Raiding Craft. • Swimmer Transport Device (STD). Test and procure a Commercial-Off-the-Shelf (COTS)/Non-Developmental Item (NDI) undersea mobility vehicle to transport combat swimmers when the distance from host delivery vehicles to the target area or landing site is excessive. • SEAL Delivery Vehicle (SDV). Replace obsolescent and/or unsupportable electronics with current maintainable systems to improve reliability. <p>FY 2001 ACCOMPLISHMENTS:</p> <ul style="list-style-type: none"> • (34.015) ASDS. Completed contractor deep water trials, received Navy certification, and accepted delivery of first ASDS vehicle. Commenced hydrodynamic testing of host ship maneuvering characteristics and support of Virginia Class host submarine design efforts. Continued development of Pre-Planned Product Improvement (P3I) to include degaussing and batteries. (1QTR01-4QTR01) • (3.071) NSW VSW MCM. Conducted developmental testing/operational testing and began P3I development efforts for the Semi-Autonomous Hydrographic Reconnaissance Vehicle. Conducted developmental and operational testing of the Hydrographic Reconnaissance Littoral Mapping Device. (1QTR01-3QTR01) • (0.212) STD. Completed testing of COTS/NDI units and initiated first production lot buy. (1QTR01-4QTR01) • (0.510) SDV. Developed, tested, and procured improved electronics components. (1QTR01-4QTR01) 		

UNCLASSIFIED

RDT&E PROJECT JUSTIFICATION SHEET (R-2A Exhibit)	DATE FEBRUARY 2002
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S0417
<p>FY 2002 PLAN:</p> <ul style="list-style-type: none"> • (44.850) ASDS. Complete host ship sea trials and acoustic trials. Continue Live Fire Test and Evaluation efforts. Continue P3I (battery and acoustics) development efforts and host submarine support. (1QTR02-4QTR02) • (3.700) SPWS. Complete the design and fabrication of the first SPWS craft. Perform government evaluation and technical trials, and deliver the completed SPWS to the user for evaluation. (1QTR02-4QTR02) • (1.978) NSW VSW MCM. Continue P3I development efforts for the SAHRV program. (1QTR02-4QTR02) • (0.301) NBOE. Continue development of the alternative fuels engine. (1QTR02) • (0.254) SDV. Develop, upgrade/replace obsolete and/or unsupportable electronic equipment. (1QTR02-4QTR02) <p>FY 2003 PLAN:</p> <ul style="list-style-type: none"> • (12.151) ASDS. Complete government testing phase to include operational evaluation. Continue P3I efforts on battery and acoustics. Continue development effort for NSSN host platform. (1QTR03-4QTR03) • (0.550) NSW VSW MCM. Continue P3I development efforts for the SAHRV program. (1QTR03-4QTR03) • (0.250) NBOE. Complete development of the alternative fuels engine. (1QTR03) • (0.217) SDV. Continue to develop and upgrade/replace obsolete and/or unsupportable electronic equipment. (1QTR03-4QTR03) 	

RDT&E PROJECT JUSTIFICATION SHEET (R-2A Exhibit)		DATE	FEBRUARY 2002
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S0417		

B. Other Program Funding Summary

	<u>FY01</u>	<u>FY02</u>	<u>FY03</u>	<u>FY04</u>	<u>FY05</u>	<u>FY06</u>	<u>FY07</u>	<u>To Complete</u>	<u>Total Cost</u>
ASDS									
PROC, ASDS	10.474	27.428	21.804	129.539	30.430	24.074	135.019	Cont.	Cont.
PROC, ASDS Adv Proc		13.697	34.730		34.645	25.207		Cont.	Cont.
Maritime Equip									
PROC, VSW MCM.		1.168	.856			1.104			3.128
PROC, NBOE			1.669	.933					2.602
PROC, STD	0.911	1.188							2.099
MK 8 MOD 1 SDV									
PROC, MK8 MOD 1 SDV		0.504	8.484	1.283	1.826	1.883	10.977	Cont.	Cont.

C. Acquisition Strategy:

- ASDS. Selected three qualified companies to develop independent preliminary designs. Following completion of the preliminary design efforts, a request for proposal for the engineering and manufacturing development contract was released to these companies for proposal submittal for the design, fabrication, and test of the first ASDS. A single contractor was selected based on a best value source selection process.
- HRLMD. Established to acquire a small, handheld unit to be used by NSW forces in the conduct of clandestine hydrographic reconnaissance, ship attack and mine countermeasures missions. The program utilizes COTS technology and employs a phased acquisition strategy designed to leverage

RDT&E PROJECT JUSTIFICATION SHEET (R-2A Exhibit)		DATE FEBRUARY 2002
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S0417	
<p>similar efforts currently being pursued by the Navy. User evaluation of prototype units and further design refinement, as well as developmental testing and follow-on operational assessment, will culminate in a Technical Data Package sufficient to permit a competitive procurement.</p> <ul style="list-style-type: none"> • NBOE. Transition of technology demonstrator to an acquisition program which commenced with advanced demonstration and validation. Modifications to current Military Amphibious Reconnaissance System engine include advanced electronically controlled direct fuel injection and ignition technologies. A competitive source selection was held, with three vendors responding, resulting in a down-select to a single contractor. • SAHRV. SAHRV is a small unmanned underwater vehicle for use by NSW personnel in the conduct of VSW MCM. SAHRV utilizes COTS technology and employs a phased acquisition strategy designed to leverage Office of Naval Research sponsored initiatives. Four engineering development models (EDMs) were delivered in December 2000. The EDMs support developmental testing and operational testing and evaluation. Following operational testing and evaluation, a production decision will commence the production phase. Initial operational capability is planned for 1st Qtr FY03. Full operational capability of 14 units is planned to be completed by 4th Qtr FY03. • SDV. This effort replaces obsolete and/or unsupportable electronics equipment with current equipment. Identification and development of equipment for upgrading and/or replacing systems on the SDV will be accomplished through either Best-Value acquisition or, where appropriate, original equipment manufacturer replacement efforts. 		

UNCLASSIFIED

RDT&E PROJECT JUSTIFICATION SHEET (R-2A Exhibit)					DATE											
					FEBRUARY 2002											
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7					R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S0417											
					<u>FY01</u>			<u>FY02</u>			<u>FY03</u>					
<u>D. Schedule Profile</u>					1	2	3	4	1	2	3	4	1	2	3	4
ASDS																
Deep Water Testing/ Delivery of First Unit to govt					x	x	x	x								
Hydrodynamic Testing (HOST)						x	x	x								
Host ship/Acoustic trials/LFT&E/OPEVAL									x	x	x	x	x			
Delivery to User (IOC)														x		
P3I Development					x	x	x	x	x	x	x	x	x	x	x	x
NBOE																
Development/Testing								x	x	x	x	x	x			
Milestone C															x	
NSW VSW MCM																
DT (SAHRV)						x	x	x								
OT (SAHRV)								x	x							
Milestone C (SAHRV)										x						
P3I (SAHRV)								x	x	x	x	x	x	x	x	
DT/OT (HRLMD)							x	x	x							
Milestone C (HRLMD)										x						
STD																
Test COTS/NDI					x	x	x		x	x	x					
SDV																
Develop and Test Improved Electronics					x	x	x	x	x	x	x	x	x	x	x	
SPWS																
Prototype Completion/Evaluation/Testing										x	x	x				

UNCLASSIFIED

Exhibit R-3 COST ANALYSIS						DATE: FEBRUARY 2002					
APPROPRIATION / BUDGET ACTIVITY				Special Operations Tactical Systems Development/PE1160404BB							
RDT&E DEFENSE-WIDE / 7				Underwater Systems Advance Development/S0417							
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 FY01	Award Date FY01	Budget Cost FY02	Award Date FY02	Budget Cost FY03	Award Date FY03	To Complete	Total Program
Primary Hardware Dev											
SAHRV	FFP	WHOI, Woods Hole, MA	2.448	0.980	Dec-00	1.425	Dec-01	0.211	Oct-02	1.929	6.993
HRLMD	FFP	UT-ARL, Austin, TX		0.500	Dec-00						0.500
NBOE	CPF	TBD	0.507			0.250	Dec-01	0.200	Oct-02		0.957
SDV	WR	CSS, Panama City, FL	11.719	0.476	Various	0.229	Various	0.217	Various	Cont.	Cont.
STD	FFP	Stidd Systems, Inc. Greenport, NY	0.162								0.162
ASDS	CPHF/C	Northrop-Grumman	218.992	28.087	Various	11.000	Various			Cont.	Cont.
ASDS	CPFF	Newport News Ship Yard, VA	5.125	1.649	Various					Cont.	Cont.
ASDS P3I and Host Support	Various	Various	3.768	2.803	Various	7.000	Various	9.451	Various		6.571
SPWS	FFP	Stidd Systems, Inc., Greenport, NY				2.960	Various				2.960
Subtotal Product Dev			242.721	34.495		22.864		10.079		Cont.	Cont.
Remarks											
Technical Data											
ASDS	Various	Various	7.399			0.645	Various				8.044
SAHRV	WR	CSS, Panama City, FL						0.111	Oct-02	0.073	0.184
HRLMD	WR	CSS, Panama City, FL		0.200	Dec-00						0.200
NBOE	WR	CSS, Panama City, FL	0.043								0.043
Subtotal Supt.			7.442	0.200		0.645		0.111		0.073	8.471
Remarks											
Test & Evaluation											
Engineering T&E (NBOE)			0.268					0.050	Feb-02		0.318
DT&E (STD)	MIPR	CSS, Panama City, FL		0.159	Jan-00						0.159
OT&E (ASDS)	Various	OPTEVFOR, Norfolk, VA				1.085	Various	0.500	Various		1.585
Host Testing (ASDS)	Various	NAVSEA, Arlington, VA				19.115	Various				19.115
SEAFAC Trials (ASDS)	Various	NAVSEA, Arlington, VA						2.200	Various		2.200
LFT&E (ASDS)	Various	NAVSEA, Arlington, VA				5.000	Various				5.000
DT&E (SAHRV)	WR	CSS, Panama City, FL	0.035	0.187	Dec-00						0.222
DT&E (SAHRV)	WR	CARDEROCK, West Bethesda, MD		0.037	Dec-00						0.037
OT&E (SAHRV)	WR	OPTEVFOR, Norfolk, VA		0.049	Apr-01						28.636

UNCLASSIFIED

Exhibit R-3 COST ANALYSIS						DATE: FEBRUARY 2002					
APPROPRIATION / BUDGET ACTIVITY				Special Operations Tactical Systems Development/PE1160404BB							
RDT&E DEFENSE-WIDE / 7				Underwater Systems Advance Development/S0417							
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 FY01	Award Date FY01	Budget Cost FY02	Award Date FY02	Budget Cost FY03	Award Date FY03	To Complete	Total Program
Test & Evaluation (Cont.)											
DT&E (HRLMD)	WR	CSS, Panama City, FL		0.118	Jan-01						0.118
OT&E (HRLMD)	WR	TBD		0.020	Mar-01						0.020
DT&E (SPWS)	MIPR	CSS, Panama City, FL				0.250	Various				0.250
DT&E (SPWS)	MIPR	CCD, Norfolk, VA				0.150	Various				0.150
Subtotal T&E			0.303	0.570		25.600		2.750			0.538
Remarks											
Management											
Contract Eng. Supt. (SAHRV)	FFP	ANADAC, Arlington, VA	0.451	0.223	Dec-00	0.224	Dec-01				0.898
Govt. Eng. Supt. (SAHRV)	WR	CSS, Panama City, FL	0.210	0.471	Dec-00	0.229	Dec-01	0.094	Oct-02	0.254	1.258
Program Mgt. Supt. (SAHRV)	WR	NAVSEA, Washington, DC	0.075	0.075	Various	0.100	Various	0.134	Various	0.077	0.461
Contract Eng. Supt. (HRLMD)	FFP	ANADAC, Arlington, VA		0.050	Dec-00						0.050
Govt. Eng. Supt. (HRLMD)	WR	CSS, Panama City, FL		0.089	Dec-00						0.089
Program Mgt. Supt. (HRLMD)	WR	NAVSEA, Arlington, VA		0.072	Various						0.072
Contract Eng. Supt. (NBOE)	FFP	DMR, Panama City, FL	0.165								0.165
Program Mgt. Supt. (NBOE)	WR	TBD	0.781			0.051	Dec-01				0.832
Program Mgt Spt (SDV)	WR	NAVSEA, Arlington, VA	0.374	0.034	Dec-00	0.025	Various			Cont.	Cont.
Various (ASDS)	Various	Various	2.950	1.476	Various	1.005	Various			Cont.	Cont.
Program Mgt Supt. (STD)	Various	Various		0.013	Various						0.013
Govt. Eng Support (STD)	MIPR	CSS, Panama City, FL		0.040	Nov-00						0.040
Program Mgt Supt. (SPWS)	Various	SOCOM, Tampa, FL				0.155	Various				0.155
Govt Eng. Supt. (SPWS)	MIPR	CCD, Norfolk, VA				0.085	Various				0.085
Govt Eng. Supt. (SPWS)	MIPR	CSS, Panama City, FL				0.100	Various				0.100
Subtotal Management			5.006	2.543		1.974		0.228		Cont.	Cont.
Remarks:											
Total Cost			255.472	37.808		51.083		13.168		Cont.	Cont.
Remarks:											

UNCLASSIFIED

RDT&E PROJECT JUSTIFICATION SHEET (R-2A Exhibit)	DATE FEBRUARY 2002
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S350

COST (Dollars in Millions)	FY01	FY02	FY03	FY04	FY05	FY06	FY07	Cost to Complete	Total Cost
S350, Special Operations Forces Planning and Rehearsal System (SOFPARS)	2.340	5.089	1.789	1.897	2.681	2.641	2.518	Cont.	Cont.

A. Mission Description and Budget Item Justification

Present mission planning capabilities cannot adequately support the stated mission need. Existing systems are insufficient for planning special operations. Specifically, existing systems lack sufficient processing speed and flexibility, storage capacity, growth potential, graphics (both on-screen and hard copy output), image processing and storage, and the ability to process combat planning folder data in a timely manner. They also lack near-real-time access to national/tactical level databases and the capability to update data in a timely fashion, and the means to effectively process the data during mission planning. The mobility, complexity, quantity, and lethality of enemy threats dictate automated data input and systems that can be interfaced via electronic communication systems throughout the Special Operations Forces (SOF).

SOF Planning and Rehearsal System (SOFPARS) is an evolutionary acquisition program for developing an automated mission planning capability with automated interfaces to Command, Control, Communications, Computer and Intelligence Systems. SOFPARS will consist of a collection of automated mission planning hardware and software tools. Those tools include SOF enhancements to the Air Force Mission Support System's personal computer-based Portable Flight Planning Software (PFPS) and the future Joint Mission Planning System (JMPS).

Current SOFPARS funding supports software development, hardware procurement, operational support, and emergent requirements to the air components (Air Force Special Operations Command and United States Army Special Operations Command) for basic mission planning and data loading to the following aircraft: AC-130H/U, AH/MH-6J/M, MC-130E/H/P, MH-47E/D, MH-53J/M, MH-60K/L, and CV-22. The Maritime Component (Naval Special Warfare Command) is currently funded as a separate program known as Special Warfare Automated Mission Planning System under the Navy's appropriation, except for O&M beginning in FY 2003. Although the SOFPARS air platform effort will meet the joint requirement to ensure interoperability

UNCLASSIFIED

RDT&E PROJECT JUSTIFICATION SHEET (R-2A Exhibit)		DATE FEBRUARY 2002
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S350	
<p>across SOF and the services. SOFPARS will provide a timely mission critical planning/data transfer capability to the SOF ground, maritime and theater systems/forces. This would allow SOF commanders and operators to plan and respond quickly to missions of national importance, as well as day-to-day tasking and a multi-command-level planning capability at major SOF headquarters, theater headquarters, SOF forward operating bases and forward operating locations.</p> <p>FY 2001 ACCOMPLISHMENTS:</p> <ul style="list-style-type: none"> • (1.059) Continued to develop software interfaces to ensure system compatibility with service/component mission planning, rehearsal, and execution intel/ops systems environment. PFPS released 3.2. (2QTR01) • (0.463) Continued meeting deferred/future requirements and aircraft weapons/electronics enhancements and interfaces with joint systems. (1QTR01) • (0.818) Continued test and evaluation on core software, installable software modules, aircraft weapons/electronics, and flight performance models. (1QTR01-2QTR01) <p>FY 2002 PLAN:</p> <ul style="list-style-type: none"> • (1.468) Continue to develop software architecture interfaces to service/component mission planning, rehearsal, and execution systems environment. Planned PFPS release 3.3. (1QTR02-2QTR02) • (1.357) Continue meeting deferred requirements and aircraft weapons/electronics interfaces support for personal computer development and interface with joint systems. (1QTR02-2QTR02) 		

UNCLASSIFIED

RDT&E PROJECT JUSTIFICATION SHEET (R-2A Exhibit)					DATE FEBRUARY 2002																								
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7			R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S350																										
<ul style="list-style-type: none"> • (1.859) Conduct the development and modification of automated tools to meet ground mission planning requirements. (1QTR02-4QTR02) • (0.405) Continue test and evaluation on core software, installable software modules, aircraft weapons/electronics, and flight performance models. (2QTR02) <p>FY 2003 PLAN:</p> <ul style="list-style-type: none"> • (0.845) Continue to develop software interfaces to ensure system compatibility with service/component mission planning, rehearsal, and execution intel/ops systems environment. Planned PFPS release 3.4. (2QTR03) • (0.524) Continue meeting deferred/future requirements and aircraft weapons/electronics enhancements and interfaces with joint systems. (1QTR03) • (0.420) Continue test and evaluation on core software, installable software modules, aircraft weapons/electronics, and flight performance models. (1QTR03) <p>B. <u>Other Program Funding Summary</u></p> <table border="1"> <thead> <tr> <th></th> <th><u>FY01</u></th> <th><u>FY02</u></th> <th><u>FY03</u></th> <th><u>FY04</u></th> <th><u>FY05</u></th> <th><u>FY06</u></th> <th><u>FY07</u></th> <th><u>To Complete</u></th> <th><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>PROC, SOFPARS</td> <td>1.991</td> <td>1.448</td> <td>0.300</td> <td>0.297</td> <td>0.198</td> <td>0.692</td> <td>0.493</td> <td>Cont.</td> <td>Cont.</td> </tr> </tbody> </table>											<u>FY01</u>	<u>FY02</u>	<u>FY03</u>	<u>FY04</u>	<u>FY05</u>	<u>FY06</u>	<u>FY07</u>	<u>To Complete</u>	<u>Total Cost</u>	PROC, SOFPARS	1.991	1.448	0.300	0.297	0.198	0.692	0.493	Cont.	Cont.
	<u>FY01</u>	<u>FY02</u>	<u>FY03</u>	<u>FY04</u>	<u>FY05</u>	<u>FY06</u>	<u>FY07</u>	<u>To Complete</u>	<u>Total Cost</u>																				
PROC, SOFPARS	1.991	1.448	0.300	0.297	0.198	0.692	0.493	Cont.	Cont.																				

RDT&E PROJECT JUSTIFICATION SHEET (R-2A Exhibit)					DATE					FEBRUARY 2002						
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7					R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S350											
<p>C. <u>Acquisition Strategy:</u></p> <p>Develop mission planning software to support SOF operations leveraging ongoing personal computer-based efforts known as PFPS under the Air Force Mission Support System program and migration to the JMPS in the future year defense program. 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. Maximize 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.</p>																
<u>D. Schedule Profile</u>					<u>FY01</u>		<u>FY02</u>				<u>FY03</u>					
					1	2	3	4	1	2	3	4	1	2	3	4
Mission Planning Environment Software Suite																
Portable Flight Planning System Releases																
3.2																
3.3																
3.4 (USAF Program Build)																
Aircraft/Weapons & Electronics Software Modules																
(one per Aircraft Avionics Type)																
Enhancements required to take advantage of new PFPS																
Functionality																

UNCLASSIFIED

RDT&E PROJECT JUSTIFICATION SHEET (R-2A Exhibit)					DATE FEBRUARY 2002											
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7					R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S350											
					<u>FY01</u>		<u>FY02</u>				<u>FY03</u>					
					1	2	3	4	1	2	3	4	1	2	3	4
<u>D. Schedule Profile</u>																
Route Analysis Tool							x		x	x			x	x	x	x
Mission Planning Module						x	x		x	x			x	x	x	x
Development of Automated Tools									x	x	x	x				

UNCLASSIFIED

Exhibit R-3 COST ANALYSIS						DATE: FEBRUARY 2002					
APPROPRIATION / BUDGET ACTIVITY				Special Operations Tactical Systems Development/PE1160404BB							
RDT&E DEFENSE-WIDE / 7				Special Operations Forces Planning and Rehearsal System /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 FY01	Award Date FY01	Budget Cost FY02	Award Date FY02	Budget Cost FY03	Award Date FY03	To Complete	Total Program
Subtotal Product Dev											
Remarks:											
Development Support	C/CPFF	CAS, Huntsville, AL	1.061	0.463	Dec-00	0.516	Jan-02	0.524	Dec-02	Cont.	Cont.
	C/CPFF	LMFS, Owego, NY	7.629								7.629
	TBD	TBD				0.841	Jan-02				Cont.
Software Dev/Integ	SS/CPFF	GTRI, Atlanta, GA	0.606	0.819	Mar-01	1.468	Feb-02	0.845	Feb-03	Cont.	Cont.
	T&M	Tybrin, Ft Walton Beach, FL	5.346								5.346
	TBD	TBD		0.240	Various	1.859	Various				Cont.
Subtotal Spt											
			14.642	1.522		4.684		1.369		Cont.	Cont.
Remarks:											

UNCLASSIFIED

Exhibit R-3 COST ANALYSIS						DATE: FEBRUARY 2002					
APPROPRIATION / BUDGET ACTIVITY				Special Operations Tactical Systems Development/PE1160404BB							
RDT&E DEFENSE-WIDE / 7				Special Operations Forces Planning and Rehearsal System /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 FY01	Award Date FY01	Budget Cost FY02	Award Date FY02	Budget Cost FY03	Award Date FY03	To Complete	Total Program
Developmental Test & Eval	MIPR	46th FTS, Hurlburt Field, FL	0.524	0.479	Dec-00	0.175	Feb-02	0.180	Dec-02	Cont.	Cont.
	SS/CPFF	ARINC, Annapolis, MD		0.339	Jan-01	0.230	Feb-02	0.240	Dec-02	Cont.	Cont.
	SS/CPFF	Salinas TECH, FL	0.017								0.017
Operational Test & Eval GFE	MIPR	18th FTS, Hurlburt Field, FL	0.663							Cont.	Cont.
	MIPR	Integrated Aviation Systems 21 Working Group Ft Campbell, KY	0.279							Cont.	Cont.
Subtotal T&E			1.483	0.818		0.405		0.420		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							12.249
Remarks:											
Total Cost			28.374	2.340		5.089		1.789		Cont.	Cont.
Remarks:											

RDT&E PROJECT JUSTIFICATION SHEET (R-2A Exhibit)					DATE FEBRUARY 2002						
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7			R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S375								
COST (Dollars in Millions)			FY01	FY02	FY03	FY04	FY05	FY06	FY07	Cost to Complete	Total Cost
S375, Weapons and Support Systems Advanced Development			3.129	2.902	.252	.501	.498	.252	.858	Cont.	Cont.

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 SOF. Special Operations Forces (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:

- M4A1 Carbine SOF Accessory Kit. SOF variant of standard Army M4 Carbine (M4MOD). Allows mounting of 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.
- Modular Integrated Communications Helmet (MICH). MICH is a single integrated headgear system that provides ballistic, fragmentation, aural and impact protection while being night vision, communications and Nuclear, Biological and Chemical (NBC) equipment compatible. MICH incorporates a ballistic helmet and both a high and low noise communications system that allows operators to communication over the full spectrum of radios and intercoms inherent to SOF peculiar operations.
- SOF Tactical Advanced Parachute System (SOFTAPS). SOFTAPS is a static line parachute system designed to provide operators with a dependable, reduced opening shock, and lower rate of decent steerable parachute capable of use in the full spectrum of SOF operating environments. SOFTAPS will replace all current MC1-1C and T-10 parachutes in the inventory. SOFTAPS will attempt to leverage technology and solutions from the Army Tactical Airborne Parachute System (TAPS).

RDT&E PROJECT JUSTIFICATION SHEET (R-2A Exhibit)		DATE FEBRUARY 2002
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S375	
<ul style="list-style-type: none"> • SOF Machine Gun (SMG). The SMG program will develop a compact, highly reliable, offensive/defensive 7.62MM weapon that will give operational units the capability to project a significant level of firepower without significantly impacting load-bearing constraints. The weapon will be capable of effectively engaging personnel and area targets at long ranges. This weapon will replace the current 7.62MM machine gun (MK-43) within the Naval Special Warfare (NSW) inventory. • SOF Personal Equipment Advanced Requirements (SPEAR) Lightweight Environmental Protection (LEP). SPEAR-LEP is a continuation of an on-going clothing insulation subsystem, which includes five garments designed to provide protection to -40 degrees Fahrenheit. LEP includes lightweight underwear, mid-weight underwear, medium weight stretch bib overalls, a pile jacket and wind resistant jacket. The system is designed to be individually configured based upon mission, terrain and climatic requirements. Follow-on Block II efforts include flame resistant capabilities designed specifically for SOF aviators. <p>FY 2001 ACCOMPLISHMENTS:</p> <ul style="list-style-type: none"> • (2.467) M4 MOD. M4MOD RDT&E was used to test several items for follow-on procurement. This included testing of various thermal and enhanced day optics, baseline reliability fixes to the existing M4A1 Carbine, solicitations for/testing of both a day/night combat optic for the M203 Grenade Launcher as well as testing for a pocket scope mount which allows currently fielded night vision optics and existing SOPMOD equipment to work together for an enhanced low light engagement capability. (1QTR01-4QTR01) • (0.121) MICH. MICH RDT&E was used to fund both the developmental and operational testing of the MICH helmet. The MICH is currently being fielded. (1QTR01) • (0.441) SPEAR LEP. SPEAR-LEP RDT&E was used to explore advances in fire retardant materials which can be used by aviators assigned to both AFSOC and USASOC. This included efforts working with Nomex and Gortex materials that can provide this capability. (2QTR01) 		

RDT&E PROJECT JUSTIFICATION SHEET (R-2A Exhibit)	DATE FEBRUARY 2002
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S375
<ul style="list-style-type: none"> • (0.100) SMG. SMG RDT&E was used to begin examination of existing machine guns to determine if current models would meet the mission requirements of NSW. A 7.62MM machine gun is required to replace the aging MK-43. (4QTR01) <p>FY 2002 PLAN:</p> <ul style="list-style-type: none"> • (1.500) M4MOD. Funding will be used in the development of a Family of Muzzle Break suppressors, a Close Quarter Combat Receiver, improvements to the current M4A1 Carbine, the Enhanced Grenade Launcher Module, and the Miniature Day/Night sight. (1QTR02-4QTR02) • (0.402) SOFTAPS. SOFTAPS RDT&E will be used to leverage technology from the Army's steerable Army Tactical Advanced Parachute System development. (4QTR02) • (1.000) Titanium Tilting Helmet Mounts (TTHM). Funding will be used in the development of a Titanium Tilting Helmet Mount. (4QTR02) <p>DEFENSE EMERGENCY RESPONSE FUND (DERF) PLAN:</p> <ul style="list-style-type: none"> • (0.780) Special Purpose Receiver-Variant (SPR-V). Funds the development of a SPR-V that uses existing Kalashnikov magazines and Soviet Bloc 7.62X3.9MM ammunition while retaining the characteristics of the M4A1 and remaining compatible with SOPMOD components. (1QTR02) • (0.429) Man-Portable Decontamination. Funds decontamination testing analysis/protocol development and report, live agent testing/safety certification, materials testing, and test articles. (2QTR02) 	

UNCLASSIFIED

Exhibit R-3 COST ANALYSIS						DATE: FEBRUARY 2002					
APPROPRIATION / BUDGET ACTIVITY				Special Operations Tactical Systems Development/PE1160404BB							
RDT&E DEFENSE-WIDE / 7				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 FY01	Award Date FY01	Budget Cost FY02	Award Date FY02	Budget Cost FY03	Award Date FY03	To Complete	Total Program
Hardware Dev											
M4MOD	Various	NSWC-Crane, Crane, IN	0.810	1.637	Various	1.162	Various	0.169	Various	Cont.	Cont.
MICH	FFP	Natick Soldier Center, Natick, MA	0.211	0.080	Dec-01					Cont.	Cont.
SPEAR	FFP	Natick Soldier Center, Natick, MA	2.715	0.290	Aug-01					Cont.	Cont.
SMG	Various	NSWC-Crane, Crane, IN		0.067	Aug-01					Cont.	Cont.
SOFTAPS	FFP	Natick Soldier Center, Natick, MA				0.263	Aug-02			Cont.	Cont.
Titanium Tilting Helmet Mounts						0.775	Sep-02				
Subtotal Product Dev			3.736	2.074		2.200		0.169		Cont.	Cont.
Remarks: DERF Funds:											
SPR	FFP	NSWC-Crane, Crane, IN				0.592	Nov-01				0.592
Decontamination	FFP	Odenwald-Were, Ritterbach, FRG				0.326	Jan-02				0.326
Development Spt											
M4MOD	ALLOT	NSWC-Crane, Crane, IN	0.049	0.090	Various	0.054	Various	0.009	Various	Cont.	Cont.
MICH	ALLOT	Natick Soldier Center, Natick, MA	0.013	0.004	Dec-00					Cont.	Cont.
SPEAR	ALLOT	Natick Soldier Center, Natick, MA	0.165	0.016	Mar-01					Cont.	Cont.
SMG	ALLOT	NSWC-Crane, Crane, IN		0.004	Aug-01					Cont.	Cont.
SOFTAPS	ALLOT	Natick Soldier Center, Natick, MA				0.015	Aug-02			Cont.	Cont.
Titanium Tilting Helmet Mounts						0.036	Sep-02				
Intregated Logistics Spt											
M4MOD	ALLOT	NSWC-Crane, Crane, IN	0.012	0.035	Various	0.022	Various	0.004	Various	Cont.	Cont.
MICH	ALLOT	Natick Soldier Center, Natick, MA	0.003	0.002	Dec-00					Cont.	Cont.
SPEAR	ALLOT	Natick Soldier Center, Natick, MA	0.041	0.006	Mar-01					Cont.	Cont.
SMG	ALLOT	NSWC-Crane, Crane, IN		0.001	Aug-01					Cont.	Cont.
SOFTAPS	ALLOT	Natick Soldier Center, Natick, MA				0.006	Aug-02			Cont.	Cont.
Titanium Tilting Helmet Mounts						0.014	Sep-02				
Configuration Mgmt											
M4MOD	ALLOT	NSWC-Crane, Crane, IN	0.025	0.048	Various	0.029	Various	0.005	Various	Cont.	Cont.
MICH	ALLOT	Natick Soldier Center, Natick, MA	0.006	0.002	Dec-00					Cont.	Cont.
SPEAR	ALLOT	Natick Soldier Center, Natick, MA	0.082	0.009	Mar-01					Cont.	Cont.
SMG	ALLOT	NSWC-Crane, Crane, IN		0.002	Aug-01					Cont.	Cont.

UNCLASSIFIED

Exhibit R-3 COST ANALYSIS						DATE: FEBRUARY 2002					
APPROPRIATION / BUDGET ACTIVITY				Special Operations Tactical Systems Development/PE1160404BB							
RDT&E DEFENSE-WIDE / 7				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 FY01	Award Date FY01	Budget Cost FY02	Award Date FY02	Budget Cost FY03	Award Date FY03	To Complete	Total Program
Development Spt (Cont)											
SOFTAPS	ALLOT	Natick Soldier Center, Natick, MA				0.008	Aug-02			Cont.	Cont.
Titanium Tilting Helmet Mounts						0.020	Sep-02				0.020
Subtotal Spt			0.396	0.219		0.204		0.018		Cont.	Cont.
Remarks: DERF Funds:											
SPR	FFP	NSWC-Crane, Crane, IN				0.055	Nov-01				0.055
Decontamination	FFP	Odenwald-Were, Ritterbach, FRG				0.030	Jan-02				0.030
Developmental Test											
M4MOD	ALLOT	NSWC-Crane, Crane, IN	0.061	0.122	Various	0.074	Various	0.038	Various	Cont.	Cont.
MICH	ALLOT	Natick Soldier Center, Natick, MA	0.016	0.006	Dec-00						0.022
SPEAR	ALLOT	Natick Soldier Center, Natick, MA	0.206	0.022	Mar-01					Cont.	Cont.
SMG	ALLOT	NSWC-Crane, Crane, IN		0.005	Aug-01						0.005
SOFTAPS	ALLOT	Natick Soldier Center, Natick, MA				0.015	Aug-02				0.015
Titanium Tilting Helmet Mounts						0.050	Sep-02				0.050
Operational Test											
M4MOD	ALLOT	NSWC-Crane, Crane, IN	0.123	0.237	Various					Cont.	Cont.
MICH	ALLOT	Natick Soldier Center, Natick, MA	0.032	0.012	Mar-01						0.044
SPEAR	ALLOT	Natick Soldier Center, Natick, MA	0.411	0.044	Mar-01					Cont.	Cont.
SMG	ALLOT	NSWC-Crane, Crane, IN		0.009	Aug-01						0.009
SOFTAPS	ALLOT	Natick Soldier Center, Natick, MA				0.029	Aug-02				0.029
Subtotal T & E			0.849	0.457		0.168		0.038		Cont.	Cont.
Remarks: DERF Funds:											
SPR	FFP	NSWC-Crane, Crane, IN				0.045	Nov-01				0.045
Decontamination	FFP	Odenwald-Were, Ritterbach, FRG				0.025	Jan-02				0.025
Government Eng Spt											
M4MOD	ALLOT	NSWC-Crane, Crane, IN	0.025	0.054	Various	0.033	Various	0.006	Various	Cont.	Cont.
MICH	ALLOT	Natick Soldier Center, Natick, MA	0.006	0.003	Dec-00						0.009
SPEAR	ALLOT	Natick Soldier Center, Natick, MA	0.082	0.010	Mar-01					Cont.	Cont.
SMG	ALLOT	NSWC-Crane, Crane, IN		0.002	Aug-01						0.002
SOFTAPS	ALLOT	Natick Soldier Center, Natick, MA				0.012	Aug-02				0.012

UNCLASSIFIED

Exhibit R-3 COST ANALYSIS						DATE: FEBRUARY 2002					
APPROPRIATION / BUDGET ACTIVITY				Special Operations Tactical Systems Development/PE1160404BB							
RDT&E DEFENSE-WIDE / 7				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 FY01	Award Date FY01	Budget Cost FY02	Award Date FY02	Budget Cost FY03	Award Date FY03	To Complete	Total Program
Government Eng Spt (Cont)											
Titanium Tilting Helmet Mounts						0.022	Sep-02				0.022
Program Mgmt Spt											
M4MOD	ALLOT	NSWC-Crane, Crane, IN	0.086	0.176	Various	0.107	Various	0.014	Various	Cont.	Cont.
MICH	ALLOT	Natick Soldier Center, Natick, MA	0.022	0.009	Dec-00						0.031
SPEAR	ALLOT	Natick Soldier Center, Natick, MA	0.288	0.032	Mar-01					Cont.	Cont.
SMG	ALLOT	NSWC-Crane, Crane, IN		0.007	Aug-01						0.007
SOFTAPS	ALLOT	Natick Soldier Center, Natick, MA				0.039	Aug-02				0.039
Titanium Tilting Helmet Mounts						0.072	Sep-02				0.072
Travel											
M4MOD	ALLOT	NSWC-Crane, Crane, IN	0.037	0.068	Various	0.018	Various	0.007	Various	Cont.	Cont.
MICH	ALLOT	Natick Soldier Center, Natick, MA	0.011	0.003	Dec-00						0.014
SPEAR	ALLOT	Natick Soldier Center, Natick, MA	0.123	0.012	Mar-01					Cont.	Cont.
SMG	ALLOT	NSWC-Crane, Crane, IN		0.003	Aug-01						0.003
SOFTAPS	ALLOT	Natick Soldier Center, Natick, MA				0.015	Aug-02				0.015
Titanium Tilting Helmet Mounts						0.012	Sep-02				0.012
Subtotal Management			0.680	0.379		0.330		0.027		Cont.	Cont.
Remarks: DERF Funds:											
SPR	FFP	NSWC-Crane, Crane, IN				0.088	Nov-01				0.088
Decontamination	FFP	Odenwald-Were, Ritterbach, FRG				0.048	Jan-02				0.048
Total Cost			5.661	3.129		2.902		0.252		Cont.	Cont.
Remarks:											

RDT&E PROJECT JUSTIFICATION SHEET (R-2A Exhibit)					DATE FEBRUARY 2002						
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7			R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S800								
COST (Dollars in Millions)			FY01	FY02	FY03	FY04	FY05	FY06	FY07	Cost to Complete	Total Cost
S800, Special Operations Munitions Advanced Development			9.648	3.000	1.830	1.284	1.956	1.547	2.076	Cont.	Cont.

A. Mission Description and Budget Item Justification

This project provides for the acquisition of selected, specialized munitions and equipment to meet unique Special Operations Forces (SOF) requirements. This is a continuing program. Sub-projects include:

- SOF Demolition Kit (SOFDK). The kit consists of inert hardware sets for Explosively Formed Penetrators (EFP), conical shaped charges and linear shaped charges, along with tools, equipment, and attachment devices for constructing and emplacing a variety of demolition charges. The kit allows the SOF operator to tailor the demolition charges to the target providing greater lethality and mission flexibility.
- Improved Limpet Mine (ILM). The ILM was being developed to replace the existing limpet assembly modular. The ILM was required for sea, air, land delivery vehicle attacks against ships, submarines, nested patrol craft, submerged harbor facilities, and various other maritime targets. The ILM would have provided greater explosive weight to be delivered to the target, decreased time-on-target by improved handling procedures, and resulted in an enhanced probability of mission success. However, development efforts did not yield a materiel solution; therefore, the current effort was terminated. The requirement remains valid.
- Time Delay Firing Device(TDFD)/Sympathetic Detonator (SYDET). Provides the SOF operator command and control of hand-emplaced munitions (i.e., influence when and how munitions will be initiated). Capability provided includes time delay or sympathetic initiation (acoustic recognition) of munitions without the use of primary explosives during tactical operations. The elimination of primary explosives is a quantum leap in the safety and reliability of initiation devices.

UNCLASSIFIED

RDT&E PROJECT JUSTIFICATION SHEET (R-2A Exhibit)	DATE FEBRUARY 2002
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S800
<p>FY 2001 ACCOMPLISHMENTS:</p> <ul style="list-style-type: none"> • (3.601) SOFDK. Continued design, fabrication and testing of several Pre-Planned Product Improvement (P3I) warheads. Conducted MS C for the extra-large EFP. (1QTR01-4QTR01) • (0.050) ILM. Completed contract closeout and program termination. (2QTR01-4QTR01) • (5.997) TDFD/SYDET. Conducted MS B decision review. Performed Engineering and Manufacturing Development (EMD) for the land variant of TDFD/SYDET. (2QTR01-4QTR01) <p>FY 2002 PLAN:</p> <ul style="list-style-type: none"> • (0.814) SOFDK. Continue design, fabrication, and testing of P3I warheads and kit items. Update acquisition documents and complete MS C for explosive cable cutters, the medium EFP, and fence piercing tandem EFP. (1QTR02-4QTR02) • (2.186) TDFD/SYDET. Complete EMD and subsystem testing/system integration testing on the land variant of TDFD/SYDET; conduct MS C. (1QTR02-4QTR02) <p>FY 2003 PLAN:</p> <ul style="list-style-type: none"> • (0.830) SOFDK. Begin EMD and testing on multi-fragmenting EFP, update acquisition documents, staff MS C package, and prepare for materiel release. (1QTR03-3QTR03) 	

RDT&E PROJECT JUSTIFICATION SHEET (R-2A Exhibit)	DATE FEBRUARY 2002																				
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S800																				
<ul style="list-style-type: none"> • (1.000) TDFD/SYDET. Begin EMD and testing on the sea variant of TDFD/SYDET. (1QTR03-4QTR03) <p>B. <u>Other Program Funding Summary</u></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%;"></th> <th style="width: 7.5%; text-align: center;"><u>FY01</u></th> <th style="width: 7.5%; text-align: center;"><u>FY02</u></th> <th style="width: 7.5%; text-align: center;"><u>FY03</u></th> <th style="width: 7.5%; text-align: center;"><u>FY04</u></th> <th style="width: 7.5%; text-align: center;"><u>FY05</u></th> <th style="width: 7.5%; text-align: center;"><u>FY06</u></th> <th style="width: 7.5%; text-align: center;"><u>FY07</u></th> <th style="width: 7.5%; text-align: center;"><u>To Complete</u></th> <th style="width: 7.5%; text-align: center;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>PROC, Ordnance Acquisition</td> <td style="text-align: center;">23.539</td> <td style="text-align: center;">9.035</td> <td style="text-align: center;">7.078</td> <td style="text-align: center;">10.139</td> <td style="text-align: center;">8.930</td> <td style="text-align: center;">13.507</td> <td style="text-align: center;">10.802</td> <td style="text-align: center;">Cont.</td> <td style="text-align: center;">Cont.</td> </tr> </tbody> </table> <p>C. <u>Acquisition Strategy:</u></p> <ul style="list-style-type: none"> • SOFDK. Program managed by Office of Project Manager for Mines, Countermines and Demolitions (PM-MCD). Designs developed by Army research and development centers are currently in production and are being managed under an evolutionary acquisition strategy. • TDFD/SYDET. Program managed by PM-MCD. Designs and prototypes will be developed by Army research and development centers. Contract strategy is a competitive cost-plus contract. This program will be managed under an evolutionary acquisition strategy. 			<u>FY01</u>	<u>FY02</u>	<u>FY03</u>	<u>FY04</u>	<u>FY05</u>	<u>FY06</u>	<u>FY07</u>	<u>To Complete</u>	<u>Total Cost</u>	PROC, Ordnance Acquisition	23.539	9.035	7.078	10.139	8.930	13.507	10.802	Cont.	Cont.
	<u>FY01</u>	<u>FY02</u>	<u>FY03</u>	<u>FY04</u>	<u>FY05</u>	<u>FY06</u>	<u>FY07</u>	<u>To Complete</u>	<u>Total Cost</u>												
PROC, Ordnance Acquisition	23.539	9.035	7.078	10.139	8.930	13.507	10.802	Cont.	Cont.												

UNCLASSIFIED

RDT&E PROJECT JUSTIFICATION SHEET (R-2A Exhibit)					DATE FEBRUARY 2002																														
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7					R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S800																														
					<u>FY01</u>		<u>FY02</u>				<u>FY03</u>																								
<u>D. Schedule Profile</u>					1	2	3	4	1	2	3	4	1	2	3	4																			
SOFDK																																			
MS C (extra-large warhead)																																			
P3I Warhead Design, Fabrication, and Testing																	x	x	x	x	x	x													
MS C (medium warhead and explosive cable cutters)																																			
MS C (fence piercing tandem warhead)																																			
EMD and Testing (multi-fragmenting warhead)																														x	x	x			
ILM																																			
Program termination notice																																			
Contract closeout																																			
TDFD/SYDET																																			
MS B (SYDET)																																			
EMD, DT/OT (Land Variant)																																			
MS C (Land Variant)																																			
EMD, DT/OT (Sea Variant)																																			

UNCLASSIFIED

Exhibit R-3 COST ANALYSIS						DATE: FEBRUARY 2002					
APPROPRIATION / BUDGET ACTIVITY				Special Operations Tactical Systems Development/PE1160404BB							
RDT&E DEFENSE-WIDE / 7				Special Operations Munitions Advanced Development/S800							
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 FY01	Award Date FY01	Budget Cost FY02	Award Date FY02	Budget Cost FY03	Award Date FY03	To Complete	Total Program
Primary Hardware Dev											
DK	FFP	PM-MCD, Picatinny, NJ		3.007	Various	0.469	Various	0.470	Various	Cont.	Cont.
TDFD/SYDET	CPFF	ARL, Picatinny, NJ		4.020	Various	0.930	Various	0.580	Various	Cont.	Cont.
Subtotal Product Dev			34.215	7.027		1.399		1.050		Cont.	Cont.
Remarks:											
Development Spt											
TDFD/SYDET	ALLOT	PM-MCD, Picatinny, NJ		0.075	Various	0.050	Various	0.050	Various	Cont.	Cont.
ILM	ALLOT	NAVSEA, WASH, DC		0.050	Various						0.050
Training Development											
TDFD/SYDET	ALLOT	PM-MCD, Picatinny, NJ		0.256	Various	0.080	Various	0.050	Various	Cont.	Cont.
Integrated Logistics Support											
DK	ALLOT	PM-MCD, Picatinny, NJ		0.100	Various	0.100	Various	0.100	Various	Cont.	Cont.
TDFD/SYDET	ALLOT	PM-MCD, Picatinny, NJ		0.105	Various	0.100	Various	0.075	Various	Cont.	Cont.
Configuration Management											
DK	ALLOT	PM-MCD, Picatinny, NJ		0.011	Various	0.025	Various	0.025	Various	Cont.	Cont.
TDFD/SYDET	ALLOT	PM-MCD, Picatinny, NJ		0.025	Various	0.025	Various	0.020	Various	Cont.	Cont.
Technical Data											
DK	ALLOT	PM-MCD, Picatinny, NJ		0.011	Various	0.020	Various	0.020	Various	Cont.	Cont.
TDFD/SYDET	ALLOT	PM-MCD, Picatinny, NJ		0.075	Various	0.050	Various	0.035	Various	Cont.	Cont.
Subtotal Spt			7.811	0.708		0.450		0.375		Cont.	Cont.
Remarks:											

UNCLASSIFIED

Exhibit R-3 COST ANALYSIS						DATE: FEBRUARY 2002					
APPROPRIATION / BUDGET ACTIVITY				Special Operations Tactical Systems Development/PE1160404BB							
RDT&E DEFENSE-WIDE / 7				Special Operations Munitions Advanced Development/S800							
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 FY01	Award Date FY01	Budget Cost FY02	Award Date FY02	Budget Cost FY03	Award Date FY03	To Complete	Total Program
Developmental Test & Eval											
DK	ALLOT	PM-MCD, Picatinny, NJ						0.080	Various	Cont.	Cont.
TDFD/SYDET	ALLOT	PM-MCD, Picatinny, NJ		0.500	Various	0.300	Various	0.020	Various	Cont.	Cont.
Operational Test & Eval											
DK	ALLOT	PM-MCD, Picatinny, NJ		0.395	Various	0.100	Various	0.035	Various	Cont.	Cont.
TDFD/SYDET	ALLOT	PM-MCD, Picatinny, NJ		0.226	Various	0.200	Various	0.035	Various	Cont.	Cont.
Subtotal T&E			10.782	1.121		0.600		0.170		Cont.	Cont.
Remarks:											
Contractor Engineering Spt											
TDFD/SYDET	ALLOT	PM-MCD, Picatinny, NJ		0.280	Various	0.100	Various	0.035	Various	Cont.	Cont.
Government Engineering Spt											
TDFD/SYDET	ALLOT	PM-MCD, Picatinny, NJ		0.075	Various	0.050	Various	0.035	Various	Cont.	Cont.
Program Management Spt											
DK	ALLOT	PM-MCD, Picatinny, NJ		0.063	Various	0.075	Various	0.075	Various	Cont.	Cont.
TDFD/SYDET	ALLOT	PM-MCD, Picatinny, NJ		0.300	Various	0.250	Various	0.050	Various	Cont.	Cont.
Travel											
DK	ALLOT	PM-MCD, Picatinny, NJ		0.014	Various	0.025	Various	0.025	Various	Cont.	Cont.
TDFD/SYDET	ALLOT	PM-MCD, Picatinny, NJ		0.060	Various	0.051	Various	0.015	Various	Cont.	Cont.
Subtotal Management			7.225	0.792		0.551		0.235		Cont.	Cont.
Remarks:											
Total Cost			60.033	9.648		3.000		1.830		Cont.	Cont.
Remarks:											

RDT&E PROJECT JUSTIFICATION SHEET (R-2A Exhibit)					DATE FEBRUARY 2002				
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7			R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project SF100						

COST (Dollars in Millions)	FY01	FY02	FY03	FY04	FY05	FY06	FY07	Cost to Complete	Total Cost
SF100, Aviation Systems Advanced Development	22.646	35.926	49.015	39.964	46.729	48.378	43.728	Cont.	Cont.

A. Mission Description and Budget Item Justification

This project investigates the applicability of current and maturing technologies that have great potential for direct application to the development and procurement of specialized equipment to meet Special Operations Forces (SOF)-unique aviation requirements. Timely application of SOF-unique technology is critical and necessary to meet requirements in such areas as: Low Probability of Intercept/Low Probability of Detection (LPI/LPD) radios and radar; LPI formation/rendezvous flight; digital terrain elevation data and electronic order of battle; digital maps; LPI radar altimeter; display technology; situational awareness; near-real-time intelligence to include data fusion; laser radar/millimeter wave radar obstacle avoidance; imagery; threat detection and avoidance; electronic support measures for threat geolocation and specific emitter identification; navigation; target detection and identification technologies; aerial refueling; and studies for future SOF aircraft requirements. Sub-projects include:

- AC-130U Pre-Planned Product Improvement (P3I). Provides correction of system deficiencies and enhancement of mission capabilities for 13 AC-130U Gunships.
- Aviation Engineering Analysis. Provides a rapid response capability to support SOF fixed-wing aircraft. The purpose is to correct systems deficiencies, improve asset life, and enhance mission capability through the means of feasibility studies and engineering analyses. This sub-project provides the engineering required to improve the design and performance integrity of the aircraft support systems, sub-systems equipment, and embedded computer software as they relate to the maintenance, overhaul, repair, quality assurance, modifications, material improvements and service life extensions.

RDT&E PROJECT JUSTIFICATION SHEET (R-2A Exhibit)	DATE FEBRUARY 2002
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project SF100
<ul style="list-style-type: none"> • MC-130H Aerial Refueling. This program extends the range of vertical lift aircraft operating in politically sensitive/denied airspace through the use of MC-130H as a penetrating tanker aircraft. Integrates the air refueling system and necessary accessories into the MC-130H 1553 data bus. Elements of the air refueling system includes enlarged paratroop door windows and non-developmental item aerial refueling pods. • Common Avionics Architecture for Penetration (CAAP). This program initiates development of terrain following/terrain avoidance radar having LPI/LPD characteristics, and it initiates development of an enhanced situational awareness system which consolidates threat data from on and off-board sensors into a single coherent image to the crew, to include software development for electronic warfare data bus to coordinate on-board defensive system response to threats. • Leading Edge Technology. This program is directed toward improving near real time intelligence on SOF aircraft. This program will mature technologies enabling exploitation of vibroacoustic signatures relating to targets or tracking of friendly forces. • Autonomous Landing Guidance System (ALGS). This program is directed toward development of aircraft systems permitting landing in near zero visibility weather conditions without the aid of land based navigation systems. <p>FY 2001 ACCOMPLISHMENTS:</p> <ul style="list-style-type: none"> • (0.263) AC-130U P3I. Completed government tests on the ALR-69 upgrade to validate the redesigned cable and to verify that the system operated within system parameters. (2QTR01) • (0.474) Aviation Engineering Analysis. Continued engineering analysis of SOF fixed wing aircraft avionics and sensors. (1QTR01-4QTR01) 	

UNCLASSIFIED

RDT&E PROJECT JUSTIFICATION SHEET (R-2A Exhibit)	DATE FEBRUARY 2002
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project SF100
<ul style="list-style-type: none"> • (9.823) CAAP. Continued prototyping of complex waveform modification into off-the-shelf airborne radar. Initiated CAAP Terrain Following/Terrain Avoidance (TF/TA) and Enhanced Situational Awareness (ESA) development under the US Air Force C-130 Avionics Modernization Program (AMP). (1QTR01-4QTR01) • (4.809) MC-130H Aerial Refueling. Started Engineering & Manufacturing Development of hardware/software, integration and test to support formalization and procurement of one set of pods. (4QTR01) • (2.911) Leading Edge Technology. Conducted demonstration of several technologies providing near real time intelligence to aircrews. Technologies include Coherent Change Detection (CCD), Vibro Electronic Signature Target Analysis (VESTA) and Passive Acoustic Reflection Device (PARD) with Enhanced Digital Geodata Environment (EDGE). (4QTR01) • (4.366) Autonomous Landing Guidance System (ALGS). Conducted a series of studies on autonomous landing guidance technology to include the ability of millimeter wave radar to meet enhanced vision systems requirements. (4QTR01) <p>FY 2002 PLAN:</p> <ul style="list-style-type: none"> • (0.490) Aviation Engineering Analysis. Continue engineering analysis of SOF fixed wing aircraft avionics and sensors. (1QTR02-4QTR02) • (24.276) CAAP. Complete prototyping and conduct a ground demonstration of complex waveform modifications to an off-the-shelf airborne radar. Incorporate production of complex waveform modification. Conduct demonstration of vertical lift mission processor with CAAP functionality and time/space partitioning. Continue TF/TA and ESA development under the US Air Force AMP. (1QTR02-4QTR02) • (6.860) MC-130H Aerial Refueling. Continue Engineering & Manufacturing Development; integration of aerial refueling system, aircraft plumbing and fuel tanks; and ground testing. Initiate trial install and flight test. (1QTR02) 	

RDT&E PROJECT JUSTIFICATION SHEET (R-2A Exhibit)	DATE FEBRUARY 2002
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project SF100
<ul style="list-style-type: none"> • (4.300) Leading Edge Technology. Explore and demonstrate the suitability of the integration of CCD, VESTA, PARD, and EDGE visualization technology on-board the AC-130U Gunship. (2QTR02) <p>FY 2003 PLAN:</p> <ul style="list-style-type: none"> • (1.958) AC-130U P3I. Initiate APQ-180 Radar improvements to include identifying reliability and maintainability problems and implement corrections, incorporate deficiency report corrections and update test program sets. (1QTR03) • (19.031) CAAP. Continue TF/TA and ESA development under the US Air Force AMP contract. Specific CAAP activities scheduled for completion under this contract for FY03 are: C-130 CAAP Risk Reduction effort and Critical Design Review for the MC-130H Combat Talon II aircraft. (1QTR03-4QTR03) • (9.000) CAAP On-Board ESA. Initiate development of below line-of-sight ESA. Initiates engineering analysis and development of special receiver technology for ESA. (1QTR-4QTR03) • (18.537) MC-130H Aerial Refueling. Complete Engineering & Manufacturing Development activities. (1QTR03) • (0.489) Aviation Engineering Analysis. Continue engineering analysis of SOF fixed wing aircraft avionics and sensors. (1QTR03-4QTR03) 	

RDT&E PROJECT JUSTIFICATION SHEET (R-2A Exhibit)		DATE	FEBRUARY 2002
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project SF100		

B. Other Program Funding Summary

	<u>FY01</u>	<u>FY02</u>	<u>FY03</u>	<u>FY04</u>	<u>FY05</u>	<u>FY06</u>	<u>FY07</u>	To <u>Complete</u>	Total <u>Cost</u>
PROC, C-130 Mods'	28.286	2.339	3.249	25.896	70.939	54.242	35.107	Cont.	Cont.

Includes C-130 Modifications sub-line item funds for AC-130H Web Seats, Image Transfer Sys, Control Display Unit Upgrade, Night Vision Imaging Sys, Aircrew Info Mapping Sys, Pitot Static Boom Replacement, Oxygen Regulators and AVQ-19 Replacement System, AC-130U Comm Upgrade, Covert Laser Illuminator Assembly, Selectable Laser Illuminator Beam, Reduced Drag/Weight Reduction, ALR-69/ALQ-172 Antennas, AC-130U P3I, Radar Maintainability, ACP3I for Radar APG63V1, MC-130E/P Sustainment, MC-130H Auxiliary Power Unit Upgrade, AC-130H Low Light Level TV, and MC-130 Aerial Refueling Capability.

C. Acquisition Strategy:

- AC-130U P3I, All Light Level Television laser beam shaping. Maximize use of nondevelopmental laser technology to integrate improvements to the laser illuminator. Use Integrated Weapon System Support Program contract.
- CAAP. Develop a common technical solution satisfying fixed and rotary wing requirements for penetration missions. The program will leverage knowledge gained on previously conducted advanced technology demonstrations to implement a low risk solution. The fixed wing application of CAAP will be accomplished by merging with the USAF C-130 Avionics Modernization Program. Optimal integration for vertical lift application is under investigation and will be implemented separately. USAF funds will pay for the majority of production items.

RDT&E PROJECT JUSTIFICATION SHEET (R-2A Exhibit)					DATE FEBRUARY 2002											
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7					R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project SF100											
<ul style="list-style-type: none"> MC-130H Aerial Refueling. Maximize use of nondevelopmental item technology to develop, design, build and test an integrated aerial refueling system via Integrated Weapon System Support Program contract. The first phase of this program is Foreign Comparative Testing (FCT) of the MK 32B-902E Aerial Refueling POD. The FCT contract includes options to support engineering, manufacturing and development and production installs. 																
					<u>FY01</u>		<u>FY02</u>				<u>FY03</u>					
<u>D. Schedule Profile</u>					1	2	3	4	1	2	3	4	1	2	3	4
AC-130 P3I					x	x	x	x					x	x	x	x
MC-130H Aerial Refueling Development Contract Award (Phase II)								x								
MC-130H Aerial Refueling Development/Integration/Test (Phase I & II)					x	x	x	x	x	x	x	x	x	x	x	x
C-130 CAAP/USAF AMP Contract Award								x								
Development/Test								x	x	x	x	x	x	x	x	x
Leading Edge Technology Contract Award								x								
ALGS Contract Award								x								

UNCLASSIFIED

Exhibit R-3 COST ANALYSIS						DATE: FEBRUARY 2002					
APPROPRIATION / BUDGET ACTIVITY				Special Operations Tactical Systems Development/PE1160404BB							
RDT&E DEFENSE-WIDE / 7				Aviation Systems Advance Development/SF100							
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 FY01	Award Date FY01	Budget Cost FY02	Award Date FY02	Budget Cost FY03	Award Date FY03	To Complete	Total Program
Primary Hardware Development											
CAAP	C/CPAF	Boeing, Long Beach, CA	4.168	9.722	Jul-01	23.312	Various	18.015	Various	Cont.	Cont.
Award Fees				0.101	Dec-01	0.964	Dec-02	1.016	Dec-03	Cont.	Cont.
MC-130 Air Ref (P3I)	C/CPFF(AF)	Boeing, Ft. Walton Beach, FL	0.765	4.809	Aug-01	6.860	Nov-01	18.537	Nov-02		30.971
Leading Edge Technology	Allot	SPAWAR, Charleston, SC		2.911	Sep-01	4.300	Mar-02				7.211
ALGS	Allot	Hanscom AFB, MA		4.366	Jul-01						4.366
CAAP ESA	TBD	TBD						9.000	Various	78.000	87.000
Subtotal Product Dev			4.933	21.909		35.436		46.568		Cont.	Cont.
Remarks:											
Development Support											
Analyses/Technical Studies	Various	Various	0.847	0.474	Various	0.490	Various	0.489	Various	Cont.	Cont.
Engineering/Studies											
AC-130U Gunship	Various	Various	4.522	0.263	Various			1.958	Various	Cont.	Cont.
MC-130H Air Refueling	MIPR	46TH TW, Hurlburt Fld, FL	0.300								0.300
ALE-47	SS/FFP	Boeing	0.200								0.200
Subtotal Spt			5.869	0.737		0.490		2.447		Cont.	Cont.
Remarks:											

UNCLASSIFIED

Exhibit R-3 COST ANALYSIS						DATE: FEBRUARY 2002					
APPROPRIATION / BUDGET ACTIVITY				Special Operations Tactical Systems Development/PE1160404BB							
RDT&E DEFENSE-WIDE / 7				Aviation Systems Advance Development/SF100							
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 FY01	Award Date FY01	Budget Cost FY02	Award Date FY02	Budget Cost FY03	Award Date FY03	To Complete	Total Program
Developmental Test & Evaluation											
Subtotal T&E											
Remarks:											
Support											
Subtotal Management											
Remarks:											
Total Cost			10.802	22.646		35.926		49.015		Cont.	Cont.
Remarks:											

UNCLASSIFIED

RDT&E PROJECT JUSTIFICATION SHEET (R-2A Exhibit)					DATE FEBRUARY 2002					
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7			R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project SF200							
COST (Dollars in Millions)		FY01	FY02	FY03	FY04	FY05	FY06	FY07	Cost to Complete	Total Cost
SF200, CV-22		40.224	101.661	62.807	50.843	35.562	0	0	Cont.	Cont.

A. Mission Description and Budget Item Justification

This project provides capabilities necessary to meet Special Operations Forces (SOF) operational requirements. The CV-22 acquisition program delayed the incorporation of some operational capabilities until the completion of a block 10 (formerly Pre-Planned Product Improvement) CV-22 program. This strategy was based on a developmental funding cap agreed to by the Department of the Navy and the USSOCOM Acquisition Executive and concerns over the technical maturity of parallel acquisition programs. Block 10 consists of integrating Directional Infrared Countermeasures (DIRCM), Troop Commander situational awareness connections, ALE-47 control relocation, 2nd forward firing chaff and flare dispenser, and Dual Digital Map.

FY 2001 ACCOMPLISHMENTS:

- (29.758) Continued development of block 10 changes. (1QTR01-3QTR01)
- (2.887) Continued program office support and government engineering effort for block 10 program. (1QTR01-3QTR01)
- (1.767) Provided risk reduction for Suite of Integrated Radio Frequency Countermeasures, CV-22 Joint Avionics System Software integration, and cost reduction initiatives for procurement and sustainment. (1QTR01-3QTR01)
- (5.812) Began development of Low Probability of Intercept/Low Probability of Detection Radar. (4QTR01)

RDT&E PROJECT JUSTIFICATION SHEET (R-2A Exhibit)		DATE FEBRUARY 2002
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project SF200	
<p>FY 2002 PLAN:</p> <ul style="list-style-type: none"> • (82.940) Continue development/integration/testing of block 10 program–Cost Plus Award Fee (CPAF). Effort includes integration and testing of the DIRCM program to provide protection against infrared guided missiles; design and integration of the Troop Commander Situational Awareness station to provide the embarked troop commander access to the CV-22’s communication, navigation and mission management system; relocation of the ALE-47 control head to allow any cockpit crewmember to activate defensive countermeasures; addition of a second forward-firing chaff and flare dispenser to provide an adequate quantity of consumable countermeasures for the extended duration of SOF infiltration/exfiltration missions; and the incorporation of a dual access feature to the Digital Map System to allow both the pilot and co-pilot to independently access and control the digital map display from the mission computer. (2QTR02) • (0.770) Continue program office support for block 10 program. (1QTR02-4QTR02) • (5.500) Edwards AFB test infrastructure, including spares. (1QTR02-4QTR02) • (7.150) Engineering and logistics support for block 10 program. (1QTR02) • (5.301) Continue development of DIRCM laser integration for CV-22. (1QTR02-4QTR02) <p>FY 2003 PLAN:</p> <ul style="list-style-type: none"> • (53.575) Continue development/integration/testing of block 10 program – CPAF. Continue integration and testing of the DIRCM program to provide protection against infrared guided missiles; design and integration of the Troop Commander Situational Awareness station to provide the embarked troop commander access to the CV-22’s communication, navigation and mission management system; relocation of the ALE-47 control head to allow any cockpit crewmember to activate defensive countermeasures; addition of a second forward-firing chaff and flare dispenser to provide an adequate 		

RDT&E PROJECT JUSTIFICATION SHEET (R-2A Exhibit)		DATE FEBRUARY 2002
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project SF200	

quantity of consumable countermeasures for the extended duration of SOF infiltration/exfiltration missions; and the incorporation of a dual access feature to the Digital Map System to allow both the pilot and co-pilot to independently access and control the digital map display from the mission computer. (2QTR03)

- (0.700) Continue program office support for block 10 program. (1QTR03-4QTR03)
- (8.532) NAVAIR engineering and logistics support for block 10 program. (1QTR03)

B. Other Program Funding Summary

	<u>FY01</u>	<u>FY02</u>	<u>FY03</u>	<u>FY04</u>	<u>FY05</u>	<u>FY06</u>	<u>FY07</u>	<u>To Complete</u>	<u>Total Cost</u>
PROC, CV-22 SOF Osprey	8.229	18.202	58.540	118.665	142.461	184.761	199.361	837.960	1568.179

C. Acquisition Strategy:

- The CV-22 program is managed through the Navy V-22 program office (NAVAIR PMA-275). This ensures that the CV-22 changes are incorporated into the ongoing V-22 production line with minimum impact. RDT&E funding is being sent from USSOCOM to PMA-275 to place on contract with the V-22 prime contractor, and began in FY00. The RDT&E funding described will be used to fund block 10 (formerly Pre-Planned Product Improvement) development. Block 10 capability is required for full compliance with the Joint Operational Requirements Document. Funding for the baseline CV-22 Engineering Manufacturing and Development, known as block 0, is embedded in the Navy budget.

UNCLASSIFIED

RDT&E PROJECT JUSTIFICATION SHEET (R-2A Exhibit)					DATE FEBRUARY 2002											
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7					R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project SF200											
					<u>FY01</u>		<u>FY02</u>			<u>FY03</u>						
<u>D. Schedule Profile</u>					1	2	3	4	1	2	3	4	1	2	3	4
Block 0 Development					x	x	x	x	x	x	x	x	x	x	x	x
Block 10 Development					x	x	x	x	x	x	x	x	x	x	x	x

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3 COST ANALYSIS						DATE: FEBRUARY 2002					
APPROPRIATION / BUDGET ACTIVITY				Special Operations Tactical Systems Development/PE1160404BB							
RDT&E DEFENSE-WIDE / 7				Special Operations Munitions Advanced Development/S800							
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 FY01	Award Date FY01	Budget Cost FY02	Award Date FY02	Budget Cost FY03	Award Date FY03	To Complete	Total Program
Primary Hardware Dev											
DK	FFP	PM-MCD, Picatinny, NJ		3.007	Various	0.469	Various	0.470	Various	Cont.	Cont.
TDFD/SYDET	CPFF	ARL, Picatinny, NJ		4.020	Various	0.930	Various	0.580	Various	Cont.	Cont.
Subtotal Product Dev			34.215	7.027		1.399		1.050		Cont.	Cont.
Remarks:											
Development Spt											
TDFD/SYDET	ALLOT	PM-MCD, Picatinny, NJ		0.075	Various	0.050	Various	0.050	Various	Cont.	Cont.
ILM	ALLOT	NAVSEA, WASH, DC		0.050	Various						0.050
Training Development											
TDFD/SYDET	ALLOT	PM-MCD, Picatinny, NJ		0.256	Various	0.080	Various	0.050	Various	Cont.	Cont.
Integrated Logistics Support											
DK	ALLOT	PM-MCD, Picatinny, NJ		0.100	Various	0.100	Various	0.100	Various	Cont.	Cont.
TDFD/SYDET	ALLOT	PM-MCD, Picatinny, NJ		0.105	Various	0.100	Various	0.075	Various	Cont.	Cont.
Configuration Management											
DK	ALLOT	PM-MCD, Picatinny, NJ		0.011	Various	0.025	Various	0.025	Various	Cont.	Cont.
TDFD/SYDET	ALLOT	PM-MCD, Picatinny, NJ		0.025	Various	0.025	Various	0.020	Various	Cont.	Cont.
Technical Data											
DK	ALLOT	PM-MCD, Picatinny, NJ		0.011	Various	0.020	Various	0.020	Various	Cont.	Cont.
TDFD/SYDET	ALLOT	PM-MCD, Picatinny, NJ		0.075	Various	0.050	Various	0.035	Various	Cont.	Cont.
Subtotal Spt			7.811	0.708		0.450		0.375		Cont.	Cont.
Remarks:											

UNCLASSIFIED

Exhibit R-3 COST ANALYSIS						DATE: FEBRUARY 2002					
APPROPRIATION / BUDGET ACTIVITY				Special Operations Tactical Systems Development/PE1160404BB							
RDT&E DEFENSE-WIDE / 7				Special Operations Munitions Advanced Development/S800							
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 FY01	Award Date FY01	Budget Cost FY02	Award Date FY02	Budget Cost FY03	Award Date FY03	To Complete	Total Program
Developmental Test & Eval											
DK	ALLOT	PM-MCD, Picatinny, NJ						0.080	Various	Cont.	Cont.
TDFD/SYDET	ALLOT	PM-MCD, Picatinny, NJ		0.500	Various	0.300	Various	0.020	Various	Cont.	Cont.
Operational Test & Eval											
DK	ALLOT	PM-MCD, Picatinny, NJ		0.395	Various	0.100	Various	0.035	Various	Cont.	Cont.
TDFD/SYDET	ALLOT	PM-MCD, Picatinny, NJ		0.226	Various	0.200	Various	0.035	Various	Cont.	Cont.
Subtotal T&E			10.782	1.121		0.600		0.170		Cont.	Cont.
Remarks:											
Contractor Engineering Spt											
TDFD/SYDET	ALLOT	PM-MCD, Picatinny, NJ		0.280	Various	0.100	Various	0.035	Various	Cont.	Cont.
Government Engineering Spt											
TDFD/SYDET	ALLOT	PM-MCD, Picatinny, NJ		0.075	Various	0.050	Various	0.035	Various	Cont.	Cont.
Program Management Spt											
DK	ALLOT	PM-MCD, Picatinny, NJ		0.063	Various	0.075	Various	0.075	Various	Cont.	Cont.
TDFD/SYDET	ALLOT	PM-MCD, Picatinny, NJ		0.300	Various	0.250	Various	0.050	Various	Cont.	Cont.
Travel											
DK	ALLOT	PM-MCD, Picatinny, NJ		0.014	Various	0.025	Various	0.025	Various	Cont.	Cont.
TDFD/SYDET	ALLOT	PM-MCD, Picatinny, NJ		0.060	Various	0.051	Various	0.015	Various	Cont.	Cont.
Subtotal Management			7.225	0.792		0.551		0.235		Cont.	Cont.
Remarks:											
Total Cost			60.033	9.648		3.000		1.830		Cont.	Cont.
Remarks:											