

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: FEBRUARY 2002				
APPROPRIATION/BUDGET ACTIVITY						R-1 ITEM NOMENCLATURE					
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /						BA-7					
						0305207N Manned Reconnaissance Systems					
COST (\$ in Millions)	Prior Years Cost		FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Program
Total PE Cost	72.108		44.520	38.132	11.166	15.149	13.601	13.712	13.838	0.000	222.226
* Z0117 Reef Point	0.396		3.176	6.987	8.295	13.267	13.601	13.712	13.838	0.000	73.272
** E2673 F/A-18E/F Tactical Reconnaissance (SHARP)	71.712	**	41.344	27.180	2.871	1.882				0.000	144.989
W9117 Advance Multiband Surveillance Systems	0.000			3.965						0.000	3.965
* Executed at a higher level of classification - no project R2, project unit changed from R0117 to Z0117.											
** Includes \$2.817 executed under PE 0204136N, Project E2350 (FY1998), Project R2673 (FY1999), Projects R2673, E2673, & E2808 (FY 2000).											
*** The FY 2001 budget reflects an \$18 million Congressional add for SHARP risk reduction executed under E2808.											
**** The FY 2002 budget reflects an \$6 million Congressional add for SHARP POD development and procurement.											
Quantity of RDT&E Articles	2		2	1							5
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Provides funds for the development of a dual-spectral-band reconnaissance pod camera system capable of being deployed on tactical aircraft. The camera will have simultaneous visible and infrared imaging capability and provide digital images in national standard formats. The system will be capable of collecting imagery, recording on-board, and transmitting simultaneously to a ground receiving station. Cameras operating in multiple spectral bands will be introduced as the technology evolves. The target aircraft is the F/A-18E/F. A prototype system was flight demonstrated in June 2001. Provision will be made to accommodate transmission of Synthetic Aperture Radar (SAR) data. The system will operate semi-autonomously from the aircraft maximizing standard interfaces. Emphasis will be placed on using commercially available subsystems and components in an open architecture so that evolutionary designs in cameras, processors, transmitters, and recorders can be introduced seamlessly via competitive procurement procedures. An aggressive development schedule will be embraced driving toward an operational capability by May 2003. The purpose of the aggressive development schedule is to have an operational capability ready to replace the F-14 Tactical Air Reconnaissance Pod System (TARPS) due to retire beginning in 2003.</p> <p>(U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it encompasses engineering and manufacturing development for upgrade of existing systems.</p> <p>(U) Details for project Z0117 are held at a higher classification.</p>											

R-1 SHOPPING LIST - Item No. 210

UNCLASSIFIED

Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 1 of 7)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: FEBRUARY 2002			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305207N Manned Reconnaissance Systems					PROJECT NUMBER AND NAME E2673 F/A-18E/F Tactical Reconnaissance (SHARP)					
COST (\$ in Millions)	Prior Years Cost	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Program	
Project Cost	71.712	41.344	27.180	2.871	1.882				0.000	144.989	
RDT&E Articles Qty	2	2	1							5	

*Includes \$2.817 million executed under PE 0204136N, project E2350 (FY 1998) funding executed under PE 0305207N, project R2673 (FY 1999), and was executed under projects R2673, E2673, & E2808 in FY 2000. The FY 2000 budget reflects a \$9.000 million and Congressional add for SHARP risk reduction (E2808); which has been reduced by \$.084 million for Congressional undistributed reductions.

** The FY 2001 budget reflects an \$18 million Congressional add for SHARP risk reduction, executed under E2808 which was reduced by \$.165 million for Congressional undistributed reductions.

*** The FY 2002 budget reflects a \$6 million Congressional add for SHARP pod development and procurement.

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Shared Reconnaissance Pod (SHARP) provides funds for the development of a dual-spectral-band reconnaissance pod camera system capable of being deployed on tactical aircraft. The camera will have simultaneous visible and infrared imaging capability and provide digital images in national standard formats. The system will be capable of collecting imagery, recording on-board, and transmitting simultaneously to a ground receiving station. Cameras operating in multiple spectral bands will be introduced as the technology evolves. The target aircraft is the F/A-18E/F. A prototype system was flight demonstrated in June 2001. Provision will be made to accommodate transmission of Synthetic Aperture Radar (SAR) data. The system will operate semi-autonomously from the aircraft maximizing standard interfaces. Emphasis will be placed on using commercially available subsystems and components in an open architecture so that evolutionary designs in cameras, processors, transmitters, and recorders can be introduced seamlessly via competitive procurement procedures. An aggressive development schedule will be embraced driving toward an operational capability by May 2003.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. FY 2001 ACCOMPLISHMENTS:

- (U) (\$.190) Program Management coordinated development activities during the EMD Phase of the Program.
- (U) (\$17.532) Continued SHARP EDM development. Upgraded design as needed to support pod qualification. Completed pod design for EMD phase and fabricated 2 EDM pods. Integrated Weapons Replaceable Assembly (WRA)'s and began initial aircraft integration on F/A-18 E/F aircraft. Procured SHARP subsystem units.
- (U) (\$9.723) Procured sensor for EMD phase.
- (U) (\$2.379) Continued work on F/A-18 SCS software. Began integration and testing of the SHARP subsystems.

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE:
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0305207N Manned Reconnaissance Systems	E2673 F/A-18 Tactical Reconnaissance
<p>- (U) (\$5.219) Completed coding for RMS to support integration of the EMD phase. Began BIT software development and testing and began integration of the F/A-18E/F SCS.</p> <p>- (U) (\$1.202) Continued logistics planning and performed preliminary design of support equipment to ensure the Rapid Prototype could be transitioned to a fleet asset.</p> <p>- (U) (\$.800) Procured EMD Datalink</p> <p>- (U) (\$4.299) Performed EMD test and evaluation.</p> <p>2. FY 2002 PLANS:</p> <p>- (U) (\$.184) Continue program management to coordinate development activities during the EMD Phase of the Program.</p> <p>- (U) (\$.280) Continue to perform systems engineering to develop EDM pods, design/develop the (software/hardware) interface to the F/A-18 aircraft. Coordinate with other subsystems (F/A-18 EW, Weapons, and Radar) to ensure system compatibility. Coordinate with ground station activities to ensure compatibility.</p> <p>- (U) (\$8.118) Procure five additional sensors for EMD phase.</p> <p>- (U) (\$5.883) EMD pod development and procurement.</p> <p>- (U) (\$.470) Continue build of F/A-18 SCS software. Integration and test of the SHARP subsystems.</p> <p>- (U) (\$6.103) Complete coding for RMS to support integration of the EMD phase. Continue BIT software development and testing, and begin integration to the F/A-18E/F SCS.</p> <p>- (U) (\$5.477) Continue integration and test of the SHARP EDM pod. Continue performing initial E3 testing, Carrier Suitability testing, and Initial Operation Testing to support Low Rate Initial Production.</p> <p>- (U)(\$.665) Portion of extramural program reserved for Small Business Innovation Research assessment in accordance with 15 USC 638.</p>		

R-1 SHOPPING LIST - Item No. 210

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE:	FEBRUARY 2002																																		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME																																			
RDT&E, N / BA-7	0305207N Manned Reconnaissance Systems	E2673 F/A-18 Tactical Reconnaissance																																			
<p>3. FY 2003 PLANS:</p> <ul style="list-style-type: none"> - (U) (\$.200) Continue program management to coordinate development activities during the EMD Phase of the Program. - (U) (\$2.240) Complete BIT software development and testing, and integration to the F/A-18E/F SCS. - (U) (\$.431) Complete E3 testing, Carrier Suitability testing, and Initial Operation Testing to support Low Rate Initial Production. <p>(U) B. PROGRAM CHANGE SUMMARY:</p> <table style="margin-left: 40px; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;"><u>FY2001</u></th> <th style="text-align: center;"><u>FY2002</u></th> <th style="text-align: center;"><u>FY2003</u></th> </tr> </thead> <tbody> <tr> <td>(U) FY 2002 President's Budget:</td> <td style="text-align: right;">43.826</td> <td style="text-align: right;">22.182</td> <td></td> </tr> <tr> <td>(U) Adjustments from the FY 2002 President's Budget:</td> <td style="text-align: right;">-2.482</td> <td style="text-align: right;">4.998</td> <td></td> </tr> <tr> <td>(U) FY 2003 President's Budget:</td> <td style="text-align: right;">41.344</td> <td style="text-align: right;">27.18</td> <td style="text-align: right;">2.871</td> </tr> </tbody> </table> <p>CHANGE SUMMARY EXPLANATION:</p> <p>(U) Funding: The FY 2001 decrease of \$ 2.482 million reflects a reprioritization of requirements within the Navy. The FY 2002 increase of \$ 4.998 million reflects a Congressional add of \$6 million, decrease of \$.189 million for an undistributed congressional reduction and a decrease of \$.813 million reprioritization of requirements within the Navy.</p> <p>(U) Schedule: Not Applicable.</p> <p>(U) Technical: Not Applicable.</p> <p>(U) C. OTHER PROGRAM FUNDING SUMMARY:</p> <table style="margin-left: 40px; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Line Item No. & Name</u></th> <th style="text-align: center;">FY 2001</th> <th style="text-align: center;">FY 2002</th> <th style="text-align: center;">FY 2003</th> <th style="text-align: center;">FY 2004</th> <th style="text-align: center;">FY 2005</th> <th style="text-align: center;">FY 2006</th> <th style="text-align: center;">FY 2007</th> <th style="text-align: center;">To Complete</th> </tr> </thead> <tbody> <tr> <td>F/A-18E/F Fighter (Hornet) APN-1/BLI 014500 (Ancillary Equipment)</td> <td style="text-align: center;">0</td> <td style="text-align: center;">20.016</td> <td style="text-align: center;">54.909</td> <td style="text-align: center;">66.733</td> <td style="text-align: center;">66.096</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">207.754</td> </tr> </tbody> </table> <p>(U) C. RELATED RDT&E</p> <ul style="list-style-type: none"> (U) PE0305206N (Airborne Reconnaissance Advance Development) (U) PE0204236N (F/A-18 Squadrons) (U) PE0305208N (JSIPS) 					<u>FY2001</u>	<u>FY2002</u>	<u>FY2003</u>	(U) FY 2002 President's Budget:	43.826	22.182		(U) Adjustments from the FY 2002 President's Budget:	-2.482	4.998		(U) FY 2003 President's Budget:	41.344	27.18	2.871	<u>Line Item No. & Name</u>	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	F/A-18E/F Fighter (Hornet) APN-1/BLI 014500 (Ancillary Equipment)	0	20.016	54.909	66.733	66.096	0	0	207.754
	<u>FY2001</u>	<u>FY2002</u>	<u>FY2003</u>																																		
(U) FY 2002 President's Budget:	43.826	22.182																																			
(U) Adjustments from the FY 2002 President's Budget:	-2.482	4.998																																			
(U) FY 2003 President's Budget:	41.344	27.18	2.871																																		
<u>Line Item No. & Name</u>	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete																													
F/A-18E/F Fighter (Hornet) APN-1/BLI 014500 (Ancillary Equipment)	0	20.016	54.909	66.733	66.096	0	0	207.754																													

R-1 SHOPPING LIST - Item No. 210

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: FEBRUARY 2002																										
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME																											
RDT&E, N / BA-7	0305207N Manned Reconnaissance Systems	E2673 F/A-18 Tactical Reconnaissance																											
<p>(U) D. ACQUISITION STRATEGY: The SHARP program consists of three separate procurements.</p> <ol style="list-style-type: none"> 1. The pod will be procured with an order on a Cost Plus Fixed-Fee (CPFF)/IDIQ contract to Raytheon, Indy. 2. The sensor is being procured competitively with a Cost Plus Fixed Fee (CPFF) contract. 3. The digital recorder will be procured competitively with a FPI or CPFF contract. <p>(U) E. SCHEDULE PROFILE:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%;"></th> <th style="width: 20%; text-align: center;"><u>FY 2001</u></th> <th style="width: 20%; text-align: center;"><u>FY 2002</u></th> <th style="width: 20%; text-align: center;"><u>FY 2003</u></th> <th style="width: 15%; text-align: center;"><u>TO COMPLETE</u></th> </tr> </thead> <tbody> <tr> <td>(U) Program Milestones</td> <td></td> <td style="text-align: center;">1Q/02 LRIP</td> <td></td> <td style="text-align: center;">2Q/04 - MS-III</td> </tr> <tr> <td>(U) Engineering Milestones</td> <td style="text-align: center;">4Q/01 Prototype Complete 4Q/01 CDR (EMD)</td> <td></td> <td style="text-align: center;">2Q/03 - TECHEVAL 4Q/03 - OPEVAL</td> <td></td> </tr> <tr> <td>(U) T&E Milestones</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Contract Milestones</td> <td style="text-align: center;">2Q/01 Sensor Award</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>						<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>TO COMPLETE</u>	(U) Program Milestones		1Q/02 LRIP		2Q/04 - MS-III	(U) Engineering Milestones	4Q/01 Prototype Complete 4Q/01 CDR (EMD)		2Q/03 - TECHEVAL 4Q/03 - OPEVAL		(U) T&E Milestones					(U) Contract Milestones	2Q/01 Sensor Award			
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>TO COMPLETE</u>																									
(U) Program Milestones		1Q/02 LRIP		2Q/04 - MS-III																									
(U) Engineering Milestones	4Q/01 Prototype Complete 4Q/01 CDR (EMD)		2Q/03 - TECHEVAL 4Q/03 - OPEVAL																										
(U) T&E Milestones																													
(U) Contract Milestones	2Q/01 Sensor Award																												

R-1 SHOPPING LIST - Item No.

210

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: FEBRUARY 2002		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0305207N Manned Reconnaissance Systems			E2673 F/A-18 Tactical Reconnaissance						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Prototype POD Development	SS/FP-LOE	Raytheon, Indianapolis, IN	14.373								14.373	14.373
Prototype Sensor (3 suppliers)	C/FFP	Various	2.507								2.507	2.507
Prototype RMS Cards	C/Plus	Space Dyn Lab, Logan , UT	3.500								3.500	3.500
Procure EMD Sensor	C/FFP	Recon Optical, Barrington, IL		9.723	02/01	8.118	11/01				17.841	17.841
ILS Facilities (Ship Shore)	WX	SPAWAR, San Diego, CA		0.800	07/01						0.800	
EMD POD Development & Procurement	SS/FP-LOE	Raytheon, Indianapolis, IN	16.303	17.532	11/00	5.883	11/01				39.718	39.718
Software Engineering Development	WR	NAWCWD, China Lake, CA	5.434	5.219	11/00	6.103	11/01	2.240	11/02	1.491	20.487	
Systems Engineering/RMS Dev.	WR	NRL, Washington, DC	8.509								8.509	
Product Development	WR	NAWCWD, China Lake, CA	5.982	2.379	11/00	0.470	11/01				8.831	
ILS Support	WR	NAWCWD, Lakehurst, NJ	0.992	1.202	11/00	0.280	11/01				2.474	
Misc. Product Development	WR	Various	1.286	0.190	11/00	0.184	11/01	0.200	11/02	0.200	2.060	
Misc. Hardware Proc./Upgrades	WR	NRL, Washington, DC	4.050								4.050	
Subtotal Product Development			62.936	37.045		21.038		2.440		1.691	125.150	
Remarks:												

R-1 SHOPPING LIST - Item No. 210

UNCLASSIFIED

Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 6 of 7)

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: FEBRUARY 2002				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0305207N Manned Reconnaissance Systems			E2673 F/A-18 Tactical Reconnaissance						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Product Test & Integration	Various	VARIOUS	8.177	3.765	Various	4.748	Various	0.240	11/02	0.000	16.930	
Operational Test & Evaluation	WR	OPTEVFOR		0.017	11/00	0.016	11/01				0.033	
Subtotal T&E			8.177	3.782		4.764		0.240		0.000	16.963	
Remarks:												
Contractor Support/Travel/Misc.	Various	NAVAIR, Patuxent River, MD	0.599	0.517	Various	0.713	Various	0.191	Various	0.191	2.211	
SBIR Assessment						0.665						
Subtotal Management			0.599	0.517		1.378		0.191		0.191	2.876	
Remarks:												
Total Cost			71.712	41.344		27.180		2.871		1.882	144.989	
Remarks:												