

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification								DATE: FEBRUARY 2002			
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5						R-1 ITEM NOMENCLATURE 0604264N/Aircrew Systems Development					
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			17.904	15.380	6.695	8.679	7.404	2.592	2.703	Continuing	Continuing
W0606 Aircrew Systems Development			17.869	7.649	6.695	8.679	7.404	2.592	2.703	Continuing	Continuing
W2879 Joint Ejection Seat Program			0.035	0.991							1.026
W2877 Joint Helmet Mounted Cueing System				2.478							2.478
W9061 Intensifier Tube Advanced Development				4.262							4.262
Quantity of RDT&E Articles	Not Applicable										
<p>*The FY 2001 Budget reflects a \$3.500M Congressional add for Joint Helmet Mounted Cueing System which was reduced by \$.032 million for Congressional Reductions and \$.102 million for a SBIR assessment and was executed under W0606. The FY 2001 Budget also reflects a \$4.000M Congressional add for Modular Flight Helmet/Adv Visionics Helmet Sys/HAILSS which was reduced by \$.037 million for Congressional Reductions and \$.117 million for a SBIR assessment and was executed under W0606.</p> <p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Aircrew Systems Development program provides engineering and manufacturing development (EMD) of Aviation Life Support Systems to protect aircrews from current and future threats including: directed energy weapons, chemical/biological/radiological agents/fallout, ballistic projectiles, temperature extremes, heat/fire, low concentration oxygen environments, high dynamic forces during emergency egress, and high "G" forces. The program also provides development for the following capabilities: head protection, in flight restraint and stability emergency egress and descent, escape and evasion, survival and rescue, crash protection, and anthropometric sizing for small aircrew. Acquisition initiatives include: competition, the application of streamlining initiatives, use of non-developmental items (NDI), joint and tri-service developments, and the pursuit of NATO/allied cooperative ventures, which expedite introduction of new products into Navy and Marine Corps fixed and rotary wing aircraft, reduce costs, and promote commonality.</p> <p>(U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under ENGINEERING AND MANUFACTURING DEVELOPMENT because it encompasses engineering and manufacturing development of new end-items prior to production approval decision.</p>											

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Exhibit R-2, RDTEN Budget Item Justification
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EXHIBIT R-2a, RDT&E Project Justification								DATE: FEBRUARY 2002			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604264N/Aircrew Systems Development				PROJECT NUMBER AND NAME W0606/Aircrew Systems Development					
COST (\$ in Millions)	Prior Year Cost	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Program	
Project Cost		17.869	7.649	6.695	8.679	7.404	2.592	2.703	Continuing	Continuing	
RDT&E Articles Qty											

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(U) SUBPROJECTS:

- (U) ESCAPE AND CRASH SAFETY: Naval Aircrew Common Ejection Seat Pre-Planned Product Improvement (NACES P3I), Advanced Crashworthy Aircrew Survival Systems (ACASS), Joint Cockpit Air Bag System (JCABS), Crashworthy Troop Seats (CWTS), Escape System Injury Reduction Program (ESIRP) for aircrew using Helmet Mounted Cueing and small occupants (formerly NON-NACES and Small Occupant Escape System).
- (U) LIFE SUPPORT/THREAT PROTECTION: Extreme Cold Weather Improvement Program/State of the Art Survival Items (ECWIP/SOASI), Personal Protective Apparel (PPA) formerly AMELIA, Aircrew Accommodation Expansion Program (AAEP), Aviation Oxygen Systems (AOS), Aircrew Exposure Protection Systems (AEPS) formerly Aircrew Cooling/Helicopter Advanced Integrated Life Support Systems (HALSS), Liquid Oxygen to ON-Board Oxygen Generating System (LOX to OBOGS), Common Smoke Mask (CSM), Joint Protective Air Crew Ensemble (JPACE), Combat Survivor Evader Locator (CSEL), and Tri-Service Safety Harness (TSSH).
- (U) HELMET, VISION AND DISPLAYS: Night Vision Systems (NVS), Joint Helmet Mounted Cueing System (JHMCS), Integrated Day/Night All Weather Helmet (IDNAWH), Wide Field of View (WFOV) Night Vision Goggle (formerly Panaramic Night Vision Goggle (PNVG), JHMCS Night Attack and Agile Frequency Laser Eye Protection, and Laser Eye Protection Improvement Program (LEPIP)..

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. FY 2001 ACCOMPLISHMENTS:

- (U) (\$4.940) NACES P3I: Commenced aircraft (A/C) platform installation. Conducted subsystem demonstration testing (DT) on selected Phase II injury risk reduction candidate technologies and initiated system DT testing. AV8B: Conducted component DT testing and commenced system DT testing. CWTS: Completed H-1 system testing. Continued preliminary design on H-3 and H-46. ESIRP: Conducted preliminary documentation for Request for Proposal (RFP), conducted source selection, and contract award.
- (U) (\$3.610) ECWIP/SOASI: Continued evaluations and authorizations of state of the art survival items. PPA: Selected high performance materials and advanced designs for multi-climate protections system components and completed anti-exposure system accommodation efforts. AAEP: Collected Naval fixed wing non-ejection aircraft cockpit data and released restriction codes. HALSS: Selected validated technology options and commenced full scale DT of selection. LOX TO OBOGS: Continuing risk reduction/acquisition planning for replacement of Liquid Oxygen System with OBOGS for Naval aircraft. CSM: Initiated determination and validated requirements. Continued to prepare to conduct initial product demonstrations of full face containment devices for Naval fixed wing non-ejection aircraft. JPACE: Continued with DT and completion of initial source selection for fabric and garment producers. TSSH: Initiated and validated requirements. Conducted initial product demonstrations.
- (U) (\$9.319) NVS: Continued to monitor and participate in PNVG Advanced Technology Development. JHMCS: Completed F/A-18 E/F DT/OT, LRIP II, reengineer F/A-18 C/D integration, JHMCS P3I: Completed studies. HALSS VISIONICS: Develop Visionics and Helmet Shell, Helmet Demonstration.

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Exhibit R-2, RDTEN Budget Item Justification
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EXHIBIT R-2a, RDT&E Project Justification		DATE: FEBRUARY 2002
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604264N/Aircrew Systems Development	PROJECT NUMBER AND NAME W0606/Aircrew Systems Development
<p>2. FY 2002 PLANS:</p> <ul style="list-style-type: none"> - (U) (\$2.777) NACES P3I: Continue A/C platform installation and continue Phase II injury risk reduction component and system DT testing. AV-8B: Continue A/C platform installation. CWTS: Incorporate into H-1 A/C OT testing. Continue preliminary design on H-3 and H-46. ESIRP: Purchase long lead DT test hardware and prototype design fabrication. - (U) (\$2.729) ECWIP/SOASI: Continue evaluations and authorizations of state of the art survival items. PPA: Initiate DT and Fleet assessment of potential multi-climate protection system components. AAEP: Publish Naval fixed wing non-ejection aircraft accommodation envelopes and commence development of detailed cockpit Computer Aided Drafting (CAD) images. AEPS/HAILSS: Continue full scale DT of demonstrated technology. LOX to OBOGS: Continuing risk reduction/acquisition planning for replacement of Liquid Oxygen System with OBOGS for Naval aircraft. CSM: Conduct initial product demonstrations of full smoke masks and O2 containment devices for Naval fixed wing non-ejection aircraft. CSEL: Conduct testing/logistics planning and development. JPACE: Continue with DT phase and completion of risk reduction testing. TSSH: Commence DT and prepare ECP. - (U) (\$1.911) NVS: Continue to monitor and participate in WFOVNVG (formerly PNVG) testing. JHMCS: F/A-18 E/F OT, MS III. JHMCS: P3I Night Attack Interface Control Design (ICD) Development. JALEPV: DT Assist. IDNAWH: Program Design Review (PDR), - (U) (\$0.232) Portion of extramural program reserved for Small Business Innovation Research assessment in accordance with 15 USC 638. <p>3. FY 2003 PLANS:</p> <ul style="list-style-type: none"> - (U) (\$2.685) NACES P3I: Continue system design interface and system demonstration testing (DT) on selected Phase II injury risk reduction candidate technology improvements. AV-8B: Complete A/C platform installation. CWTS: Commence preparation of H-3/H46 platform ECP's. ESIRP: Conduct DT on selected injury risk reduction candidate subsystem technologies. - (U) (\$1.967) ECWIP/SOASI: Continue evaluations and authorizations of state of the art survival items. PPA: Finalize designs and complete data packages for potential multi-climate protection system components. AAEP: Continue development of detailed cockpit CAD images and establish updated population anthropometric data collected by Digital Anthropometric Video Imaging Device (DAVID) or whole body scanners. AEPS/HAILSS: Continue full scale DT of demonstrated technology. LOX TO OBOGS: Continuing risk reduction/acquisition planning for the replacement of Liquid Oxygen System with OBOGS for Naval aircraft. CSM: Continue DT of full face smoke masks and O2 containment devices for Naval fixed wing non-ejection aircraft. JPACE: Continue with DT phase and completion of full system testing. TSSH: Complete DT and contracting. - (U) (\$2.043) JHMCS P3I Night Attack: Initiate DT/OT. JALEPV: MS III. LEPID (formerly Laser Spectacle Improvements): Commence DT. IDNAWH: Initiate DT/OT. 		

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EXHIBIT R-2a, RDT&E Project Justification						DATE: FEBRUARY 2002		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604264N/Aircrew Systems Development			PROJECT NUMBER AND NAME W0606/Aircrew Systems Development			
(U) B. PROGRAM CHANGE SUMMARY:								
	<u>FY2001</u>	<u>FY2002</u>	<u>FY2003</u>					
(U) FY 2002 President's Budget:	18.329	7.717						
(U) Adjustments from the FY2002 President's Budget:	-0.460	-0.068						
(U) FY 2003 President's Budget Submit:	17.869	7.649	6.695					
CHANGE SUMMARY EXPLANATION:								
<p>(U) Funding: The FY 2001 decrease of \$0.460 million consists of a \$0.330 million decrease for a Small Business Innovative Research Assessment, and a \$0.130 million decrease for reprioritization of requirements within the Navy. FY 2002 decrease of \$0.068 million consists of a \$0.070 million decrease for an undistributed congressional reduction and a \$0.002 increase for reprioritization of requirements within the Navy. FY 2003 decrease of \$0.671 million consists of a \$0.500 million decrease for the Elimination of LOX TO OBOGS, a \$0.151 million decrease for reprioritization of requirements within the Navy, a \$0.009 million decrease to reduce projected carryover, a \$0.038 million decrease for economic assumptions and a \$0.027 million increase for economic assumptions.</p> <p>(U) Schedule: FY 01 - IDNAWH will perform a demonstration test and LRIP II and not a PDR/CDR. ECP preparation of CWTS for H-3/H-46 has been delayed from FY 2001 to FY 2003 because of platform attention being shifted to higher priority efforts. NACES II P3I DT testing has been extended to FY 2003 because of attention being shifted to higher competing priority efforts. JHMCS has added a demonstration test to the previous announced operational test. AILSS program has been better defined, and an ECP avoided by being replaced by HAILSS. PPA will address demonstration testing and not ECP's. Tri-Service Safety Harness is a new program start.</p>								
(U) C. OTHER PROGRAM FUNDING SUMMARY:								
<u>Line Item No. & Name</u>	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007
Aviation Life Support - OPN	36.645	30.079	20.741	25.676	28.406	28.606	54.924	27.012
Related RDT&E								
(U) P.E. 0603216N (Aviation Survivability), P.E. 0604706F (Life Support Equipment, related Air Force efforts), P.E. 0604713A (Combat Feeding, Clothing and Equipment, related Army efforts. Coordinated through the OSD sponsored Tri-Service Life Support RDT&E Steering Committee), P.E. 0604384BP (Chemical Biological (CB) program), P.E. 06084201F (Common Avionics related Air Force efforts).								
(U) D. ACQUISITION STRATEGY: Commercial Off-The-Shelf (COTS)/NDI where possible, cost plus award fee contracts, Cost as an Independent Variable. Majority of programs non-ACAT programs with no specific acquisition strategies.								

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APPROPRIATION/BUDGET ACTIVITY		PROJECT NUMBER AND NAME		
RDT&E, N /	BA-5	W0606/Aircrew Systems Development		
(U) Program Milestones	<u>FY 2001</u> 2Q/01 AAEP* 4Q/01 NACES II P3I DT 4Q/01 ESIRP CA 3Q/01 JHMCS LRIP II 3Q/01 IDNAWH DEMO	<u>FY 2002</u> 2Q/02 AAEP* 2Q/02 JHMCS MS III 2Q/02 PPA MS B 3Q/01 JHMCS F/A-18 C/D INTEGRATION	<u>FY 2003</u> 2Q/03 AAEP* 2Q/03 CWTS H-3, H-46 DT 3Q/03 NACES II P3I DT 3Q/03 ESIRP DT 2Q/03 JALEPV MS III 1Q/03 JHMCS P3I Program Commence 3Q/03 PPA MS C	<u>TO COMPLETE</u> AAEP TBD CWTS H-3,H-46 (TBD) ESIRP (TBD) 3Q/07 AGILE FREQUENCY LASER PROTECTION TBD
(U) Engineering Milestones	3Q/01 PPA PDR		2Q/03 PPA CDR	
(U) T&E Milestones	4Q/01 ECWIP/SOASI** 2Q/01 HAILSS DT 3Q/01 CWTS H-1 DT 4Q/01 TSSH DT 4Q/01 PPA DT 4Q/01 NACES II P3I DT	4Q/02 ECWIP/SOASI** 2Q/02 AEPS/HAILSS DT 3Q/02 JALEPV DT 4Q/02 TSSH DT 4Q/02 PPA DT 4Q/02 NACES II P3I DT 4Q/02 ESIRP DT	4Q/03 ECWIP/SOASI** 2Q/03 AEPS/HAILSS DT 3Q/03 TSSH DT II/QUAL. 2Q/03 PPA LRIP 3Q/03 NACES II P3I DT 3Q/03 ESIRP DT	ECWIP/SOASI TBD 2Q/04 AEPS/HAILSS OT CWTS H-3/H-46 (TBD) 4Q/06 TSSH LRIP NACES II P3I DT/OT (TBD) ESIRP DT/OT (TBD)
(U) Contract Milestones	1Q/01 JHMCS FA-18 E/F DT/OT	3Q/02 JHMCS P3I NIGHT ATTACK ICD Dev. CDR 2Q/02 PNVG DEMO	2Q/03 JHMCS NIGHT ATTACK DT 4Q/03 IDNAWH DT/OT	JHMCS NIGHT ATTACK DT/OT TBD IDNAWH TBD
		2Q/02 CSM DT 4Q/02 CSEL OT	1Q/03 CSM DT	CSM TBD

* AAEP covers numerous platforms. This denotes milestones reached for various platform(s) during Fiscal Year.

**ECWIP/SOASI covers numerous platforms. This denotes milestones reached for various platform(s) during Fiscal Year.

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Exhibit R-3 Cost Analysis (page 1)										DATE: FEBRUARY 2002		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME					
RDT&E, N / BA-5			0604264N/AIRCREW SYSTEMS DEVELOPMENT				W0606/AIRCREW SYSTEMS DEVELOPMENT					
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
Systems Engrg. (Misc. less \$1M)	WX/RX	NAWCAD, PAX RIVER, MD	33.552	2.813	Various	2.120	Various	2.957	Various	Continuing	Continuing	
Systems Engrg. (Misc. less \$1M)	WX/RX	NAWCWD, CHINA LAKE,CA	1.305	0.950	Various	1.571	Various	0.413	Various	Continuing	Continuing	
Systems Engrg. (Misc. less \$1M)	WX/RX	NSWC, INDIAN HEAD, MD		0.200	Various	0.225	Various	0.137	Various	Continuing	Continuing	
JHMCS Hardware Development	MIPR	WPafb, OH	6.279	6.500	03/01						12.779	
JHMCS Hdw. Dev. (Misc. less \$1M)	WX/RX	NAWCAD, PAX RIVER, MD				0.225	03/02				0.225	
JHMCS Hardware Development	WX/RX	NAWCAD, PAX RIVER, MD		2.870	03/01						2.870	
Subtotal Product Development			41.136	13.333		4.141		3.507		Continuing	Continuing	
Remarks:												
Developmental T&E(Misc. less \$1M)	WX/RX	NAWCAD, PAX RIVER, MD	25.977	2.898	Various	1.600	Various	1.800	Various	Continuing	Continuing	
Developmental T&E(Misc. less \$1M)	WX/RX	NAWCWD, CHINA LAKE,CA	4.630	0.300	03/01	0.475	02/02	0.138	04/03	Continuing	Continuing	
Developmental T&E(Misc. less \$1M)	WX/RX	NADEP, CHERRY PT. NC	0.221								0.221	
Developmental T&E	WX/RX	NAWCAD, PAX RIVER, MD	5.939								5.939	
Developmental T&E	WX/RX	NAWCWD, CHINA LAKE,CA	2.424								2.424	
Operational T&E (Misc. less \$1M)	WX/RX	NAWCAD, PAX RIVER, MD	4.933								4.933	
Subtotal Support			44.124	3.198		2.075		1.938		Continuing	Continuing	
Remarks:												

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Exhibit R-3 Cost Analysis (page 2)										DATE: FEBRUARY 2002		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604264N/AIRCREW SYSTEMS DEVELOPMENT			PROJECT NUMBER AND NAME W0606/AIRCREW SYSTEMS DEVELOPMENT						
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
Integrated Log.Supt. (Misc.less \$1M)	WX/RX	NAWCAD, PAX RIVER, MD	15.256	0.799	Various	0.730	Various	0.750	Various		17.535	
Subtotal T&E			15.256	0.799		0.730		0.750			17.535	
Remarks:												
MISC (LESS THAN \$1M)	WX/RX	NAWCAD, PAX RIVER, MD	5.819	0.539	Various	0.471	Various	0.500	Various	Continuing	Continuing	
SBIR ASSESSMENT						0.232					0.232	
Subtotal Management			5.819	0.539		0.703		0.500		Continuing	Continuing	
Remarks:												
Total Cost			106.335	17.869		7.649		6.695		Continuing	Continuing	
Remarks:												

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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-5	0604264N/Aircrew Systems Development					W2879/Joint Ejection Seat Program/SIIS Ejection System					
COST (\$ in Millions)	Prior Year Cost		FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Program
Project Cost			0.035	0.991							1.026
RDT&E Articles Qty											
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p style="padding-left: 40px;">(U) SUBPROJECTS- ESCAPE AND CRASH SAFETY:</p> <p style="padding-left: 40px;">(U) JOINT EJECTION SEAT PROGRAM (JESP): Congressional intent is that this program would lead to the development of fully qualifies seats that can be competed for installation in the Joint Strike fighter and other current and future aircraft.</p> <p style="padding-left: 40px;">(U) SIIS EJECTION SYSTEM: The FY2002 funding is needed to improve ejection seat performance, increase crashworthy protection, and reduce risk of injury to ejecting aircrew. This improvement is needed due to the introduction of newer technologies to enhance war fighting capabilities through the use additional aircrew attached information systems (i.e. Helmet Mounted Displays), and more man-mounted equipment. This effort will help mitigate the increased physiological loading imparted to the aircrew as a result of these newer technologies, and still maintain current risk of injury envelope and protection. Funds will be used to reduce physiological loads by developing modular devices that can be used to improve stability and restraint of the SIIS ejection seat.</p> <p>(U) PROGRAM ACCOMPLISHMENTS AND PLANS:</p> <ol style="list-style-type: none"> 1. FY 2001 ACCOMPLISHMENTS: <ul style="list-style-type: none"> - (U) (\$0.035) JESP: Phase I - Completed trade-off studies on the Joint Ejection Seat Program (JESP). 2. FY 2002 PLANS: <ul style="list-style-type: none"> - (U) (\$0.991) SIIS: FY-02 funds are for the SIIS Ejection System and is not related to the Joint Ejection Seat Program (JESP). These funds were placed into Project Unit W2879 for accounting and budget tracking purposes only. FY 02 SIIS Ejection System efforts are for stability and restraint improvements to reduce aircrew physiological loading that occur during ejections with the introduction of newer aircrew helmet and man-mounted technologies. Initiate design fabrication and commence early component DT. 3. FY 2003 PLANS: Not Applicable 											

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROJECT NUMBER AND NAME W2879/Joint Ejection Seat Program/SIIS Ejection System			
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>TO COMPLETE</u>
(U) Program Milestones	3Q/01 JESP Completed trade studies			
(U) Engineering Milestones				
(U) T&E Milestones	4Q/01 JESP Phase I (Risk Reduction Tests)	4Q/02 SIIS DT	3Q/03 SIIS DT	
(U) Contract Milestones		3Q/02 SIIS CA		

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Exhibit R-2, RDTE Budget Item Justification
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Exhibit R-3 Cost Analysis (page 1)										DATE: FEBRUARY 2002		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			0604264N/AIRCREW SYSTEMS DEVELOPMENT			W2879/Joint Ejection Seat Program/SIIS Ejection System						
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
Systems Engrg. (Misc. less \$1M)	WX/RX	NAWCWD, CHINA LAKE, CA		0.035	Various						0.035	
Systems Engrg. (Misc. less \$1M)	WX/RX	NAWCAD, PAX RIVER, MD				0.991	Various				0.991	
Subtotal Product Development			0.000	0.035		0.991		0.000			1.026	
Remarks:												
Subtotal Support			0.000	0.000		0.000		0.000			0.000	
Remarks:												

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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
Subtotal T&E			0.000	0.000		0.000		0.000			0.000	
Remarks:												
Subtotal Management			0.000	0.000		0.000		0.000			0.000	
Remarks:												
Total Cost			0.000	0.035		0.991		0.000			1.026	
Remarks:												

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604264N/Aircrew Systems Development				PROJECT NUMBER AND NAME W2877/Joint Helmet Mounted Cueing System					
COST (\$ in Millions)	Prior Year Cost		FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Program
Project Cost				2.478							2.478
RDT&E Articles Qty											

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

- (U) JOINT HELMET MOUNTED CUEING SYSTEM (JHMCS). JHMCS currently has the capability to cue and verify cueing of high off-axis sensors and weapons in the air-to-ground and air-to-air arena (TFLIR and AIM-9X). To take advantage and enhance the war fighting capability at night the program is integrating night vision capabilities into the JHMCS. This will increase the pilot's situational awareness through all phases of flight. Many friendly and threat aircraft already employ helmet mounted systems. In order to maintain U.S. aerospace control and superiority as addressed in the U.S.N. "From The Sea" and U.S.A.F. "Global Reach, Global Power" the continuing development of JHMCS is needed to meet Counter Air mission needs.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. FY 2001 ACCOMPLISHMENTS: Not Applicable
2. FY 2002 PLANS:
 - (U) (\$2.478) JHMCS: Commence F/A-18 C/D Design. Commence DT Testing.
3. FY 2003 PLANS: Not Applicable

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EXHIBIT R-2a, RDT&E Project Justification		DATE: FEBRUARY 2002																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604264N/Aircrew Systems Development	PROJECT NUMBER AND NAME W2877/Joint Helmet Mounted Cueing System																
<p>(U) B. PROGRAM CHANGE SUMMARY:</p> <table style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"></th> <th style="text-align: center; border-bottom: 1px solid black;"><u>FY2001</u></th> <th style="text-align: center; border-bottom: 1px solid black;"><u>FY2002</u></th> <th style="text-align: center; border-bottom: 1px solid black;"><u>FY2003</u></th> </tr> </thead> <tbody> <tr> <td style="padding-left: 20px;">(U) FY 2002 President's Budget:</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> <td></td> </tr> <tr> <td style="padding-left: 20px;">(U) Adjustments from the FY2002 President's Budget:</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">2.478</td> <td></td> </tr> <tr> <td style="padding-left: 20px;">(U) FY 2003 President's Budget Submit:</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">2.478</td> <td style="text-align: center;">0.000</td> </tr> </tbody> </table> <p>CHANGE SUMMARY EXPLANATION:</p> <p style="padding-left: 40px;">(U) Funding: The FY 2002 increase of \$2.478 consists of \$2.500 million for JHMCS and \$0.022 million decrease for an undistributed congressional reduction.</p> <p style="padding-left: 40px;">(U) Schedule: JHMCS: 3Q/02 DT Testing and 4Q/02 OT Testing.</p> <p>(U) C. OTHER PROGRAM FUNDING SUMMARY: TBD</p> <p>Related RDT&E (U) P.E. 0603216N (Aviation Survivability), P.E. 0604706F (Life Support Equipment, related Air Force efforts), P.E. 0604713A (Combat Feeding, Clothing and Equipment, related Army efforts. Coordinated through the OSD sponsored Tri-Service Life Support RDT&E Steering Committee), P.E. 0604384BP (Chemical Biological (CB) program), P.E. 06084201F (Common Avionics related Air Force efforts).</p> <p>(U) D. ACQUISITION STRATEGY: Commercial Off-The-Shelf (COTS)/NDI where possible, cost plus award fee contracts, Cost as an Independent Variable. There is no requirement for Milestone Reviews or a Milestone Decision Authority. The qualification program will require execution oversight and a management structure consistent with an ACAT III program.</p>				<u>FY2001</u>	<u>FY2002</u>	<u>FY2003</u>	(U) FY 2002 President's Budget:	0.000	0.000		(U) Adjustments from the FY2002 President's Budget:	0.000	2.478		(U) FY 2003 President's Budget Submit:	0.000	2.478	0.000
	<u>FY2001</u>	<u>FY2002</u>	<u>FY2003</u>															
(U) FY 2002 President's Budget:	0.000	0.000																
(U) Adjustments from the FY2002 President's Budget:	0.000	2.478																
(U) FY 2003 President's Budget Submit:	0.000	2.478	0.000															

R-1 SHOPPING LIST - Item No. 106

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: FEBRUARY 2002		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROJECT NUMBER AND NAME W2877/Joint Helmet Mounted Cueing System		
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>TO COMPLETE</u>
(U) Program Milestones				
(U) Engineering Milestones		2Q/02 CDR		
(U) T&E Milestones		3Q/02 DT 4Q/02 OT		
(U) Contract Milestones				

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Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, page 15 of 22)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: FEBRUARY 2002		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			0604264N/AIRCREW SYSTEMS DEVELOPMENT			W2877/Joint Helmet Mounted Cueing System						
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
Systems Engrg. (Misc. less \$1M)	WX/RX	NAWCAD, PAX RIVER, MD				0.300	Various				0.300	
Systems Engrg. (Misc. less \$1M)	WX/RX	NAWCWD,CHLKE, CA				0.200	Various				0.200	
Subtotal Product Development			0.000	0.000		0.500		0.000		0.000	0.500	
Remarks:												
Developmental T&E	MIPR	WPAFB, OH				1.978	12/02				10.000	
Subtotal Support			0.000	0.000		1.978		0.000		0.000	1.978	
Remarks:												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: FEBRUARY 2002		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604264N/AIRCREW SYSTEMS DEVELOPMENT			PROJECT NUMBER AND NAME W2877/Joint Helmet Mounted Cueing System						
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
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			0.000	0.000		2.478		0.000		0.000	2.478	
Remarks:												

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 17 of 22)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: FEBRUARY 2002			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME 0604264N/Aircrew Systems Development				PROJECT NUMBER AND NAME W9061/Intensifier Tube Advanced Development				
COST (\$ in Millions)	Prior Year Cost		FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Program
Project Cost				4.262							4.262
RDT&E Articles Qty											

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(U) INTENSIFIER TUBE ADVANCED DEVELOPMENT: The funding is needed to develop and integrate smaller and lighter night vision intensifier tubes (16mm) for wide field of view night vision systems. The advanced intensifier tubes will be the foundation for wide field of view night vision devices that can be integrated with the Joint Helmet Mounted Cueing System (JHMCS) and the AH-1Z helmet mounted display system to provide a night vision cueing capability. This capability is necessary for rapid targeting of air-to-air missiles and air-to-ground weapons at night. Funding for the development of enhanced wide field of view night vision imaging systems and the incorporation of this capability in current and future helmet mounted cueing systems will extend current daytime only technology for night use.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. FY 2001 ACCOMPLISHMENTS: Not Applicable

2. FY 2002 PLANS:

(U) (\$4.262): Commence trade studies through ITT, Roanoke, VA and Litton Electro-Optics Systems, TX. Perform initial development of the advanced intensifier tubes. This will be the foundation for wide field of view night vision devices that can be integrated with the Joint Helmet Mounted Cueing System (JHMCS) and the AH-1Z helmet mounted display system to provide a night vision cueing capability. Currently, JHMCS has cueing capability during day operations only.

3. FY 2003 PLANS: Not Applicable

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	<u>FY2001</u>	<u>FY2002</u>	<u>FY2003</u>															
(U) FY 2002 President's Budget:	0.000	0.000																
(U) Adjustments from the FY2002 President's Budget:	0.000	4.262																
(U) FY 2003 OSD/OMB Budget Submit:	0.000	4.262	0.000															

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: FEBRUARY 2002		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROJECT NUMBER AND NAME W9061/Intensifier Tube Advanced Development		
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>TO COMPLETE</u>
(U) Program Milestones				
(U) Engineering Milestones		2Q/02 SRR 4Q/02 PDR		
(U) T&E Milestones				
(U) Contract Milestones		2Q/02 RFP		

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Exhibit R-2, RDTE Budget Item Justification
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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: FEBRUARY 2002		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604264N/AIRCREW SYSTEMS DEVELOPMENT			PROJECT NUMBER AND NAME W9061/Intensifier Tube Advanced Development						
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
Systems Engrg. (Misc. less \$1M)	WX/RX	NAWCAD, PAX RIVER, MD				0.300	Various				0.300	
Subtotal Product Development			0.000	0.000		0.300		0.000		0.000	0.300	
Remarks:												
Developmental T&E	MIPR	WPAFB, OH				3.962	05/02				3.962	
Subtotal Support			0.000	0.000		3.962		0.000		0.000	3.962	
Remarks:												

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Exhibit R-2, RDTEEN Budget Item Justification
(Exhibit R-2, page 21 of 22)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: FEBRUARY 2002		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604264N/AIRCREW SYSTEMS DEVELOPMENT			PROJECT NUMBER AND NAME W9061/Intensifier Tube Advanced Development						
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
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			0.000	0.000		4.262		0.000		0.000	4.262	
Remarks:												

R-1 SHOPPING LIST - Item No. 106

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 22 of 22)