

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: May 2009		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5				R-1 ITEM NOMENCLATURE 0604264N AIRCREW SYSTEMS DEVELOPMENT				
COST (\$ in Millions)	FY 2008	FY 2009	FY 2010					
Total PE Cost	23.272	15.985	14.265					
0606 AIRCREW SYSTEMS DEVELOPMENT	23.272	15.985	14.265					

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: night vision capability, head protection, communications, clothing, 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.

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B. PROGRAM CHANGE SUMMARY:

Funding:	FY08	FY09	FY10
Previous President's Budget:	23.749	16.192	13.630
Current BES Budget	<u>23.272</u>	<u>15.985</u>	<u>14.265</u>
Total Adjustments	-0.477	-0.207	0.635

Summary of Adjustments

Congressional Recissions			
Congressional Adjustments		-0.163	
SBIR/STTR/FTT Assessments	-0.194		
Program Adjustments	-0.283		0.642
Rate/Misc Adjustments		-0.044	-0.007
Subtotal	<u>-0.477</u>	<u>-0.207</u>	<u>0.635</u>

Schedule:

Minor programs with small amounts of funding were deleted from schedule for clarity. Important changes are as follows:

	FROM	TO	REASON
1. Acquisition Milestone Changes:			
a. AE - MS B	1Q08	4Q08	Delay in Acquisition Decision due to awaiting requirements letter.
b. AE - CDR	3Q09	4Q09	Delay in Acquisition Decision due to awaiting requirements letter.
c. AE - MSC	4Q09	1Q11	Delay in Acquisition Decision due to awaiting requirements letter.
d. AE - FRP	4Q10	1Q11	Delay in Acquisition Decision due to awaiting requirements letter.
e. CMARS - MSB	2Q08	3Q09	Aligned to coincide with current acquisition strategy
f. CMARS - PDR	3Q08	1Q10	Aligned to coincide with current acquisition strategy
g. CMARS - CDR	2Q09	1Q10	Aligned to coincide with current acquisition strategy
2. Test and Evaluation Changes:			
a. AE - DT	2Q08 - 3Q10	3Q08 - 3Q10	Delay in Acquisition Decision for contract award.
b. CMARS - DT/OT	4Q08-1Q10	3Q10-4Q10	Aligned to coincide with current acquisition strategy and refinement of T&E requirements.
c. JHMCS NVCD - DT/OT	1Q07 - 4Q09	1Q07 - 2Q11	Aligned JHMCS NVCD with JHMCS JPO program slip.
d. LEP - DT	2Q08 - 3Q09	3Q09 - 1Q10	Delay in Acquisition Decision for contract award.
e. FDC - DT	1Q09 - 3Q09	4Q08 - 4Q09	Realigned component and system level test requirements.
3. Production Milestone Changes:			
a. AE - DEL	2Q09 - 4Q12	2Q09 - 4Q15	Delay in Acquisition Decision for contract award and product requirements.
b. CMARS - DEL	4Q11 - 4Q13	3Q09 - 4Q15	Realigned with multiple platforms modification schedule.
c. JHMCS NVCD - DEL	4Q08-4Q13	1Q11-4Q15	Delay in Acquisition Decision for contract award.

Technical: N/A

CLASSIFICATION:

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EXHIBIT R-2a, RDT&E Project Justification							DATE: May 2009	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME 0604264N, AIRCREW SYSTEMS DEVELOPMENT			PROJECT NUMBER AND NAME 0606, AIRCREW SYSTEMS DEVELOPMENT		
COST (\$ in Millions)			FY 2008	FY 2009	FY 2010			
0606 AIRCREW SYSTEMS DEVELOPMENT			23.272	15.985	14.265			
RDT&E Articles Qty			N/A					

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

AIRCREW SYSTEMS: Aircrew Endurance (AE), Laser Eye Protection (LEP), Flight Deck Cranial (FDC), Joint Helment Mounted Cueing System (JHMCS), Night Vision Cueing and Display (NVCD), Wide Field of View (WFOV), Aircrew Systems (AS),

AIRCREW SYSTEMS: AE includes Survival Vests & Armor, and Universal Camouflage. LEP includes Joint Service Advanced Aircrew Laser Eye Protection Visor (JALEPV), Agile Frequency Laser Eye Protection (AFLEP), and Laser Eye Protection Improvement Program (LEPIP). FDC includes Improved Hearing Protection. JHMCS NVCD includes JHMCS Night Attack. WFOV includes Ejection (Non-JHMCS) WFOV Night Vision Goggles (NVG), and Non-Ejection WFOV NVG. AS includes State of the Art (SOA), Waste Management, Hydration, Common Helmet, Advanced Helmet Vision System, Hearing Protection, and Hypoxia Awareness.

AIRCRAFT SYSTEMS: Escape System Injury Reduction Program (ESIRP), Common Mobile Aircrew Restraint System (CMARS), and Aircraft Systems (ACS)

AIRCRAFT SYSTEMS: ESIRP includes aircrew endurance modifications for F/A-18 aircraft. CMARS includes a retractor system for rotary wing aircraft. Aircraft Systems include studies for Advanced Crash Protection (ACP), Crashworthy Troop Seats (CWTS), and Seat Endurance (SE) for non-ejection seat aircraft.

B. Accomplishments/Planned Program

IMPROVED AIRCREW ENDURANCE	FY 08	FY 09	FY 10	
Accomplishments/Effort/Subtotal Cost	9.321	12.285	11.672	
RDT&E Articles Quantity	N/A			

AIRCREW MOUNTED SYSTEMS:

AE: Survival Vest and Armor - Upgrading the vest and armor to reduce weight and bulk through new materials, revised design, new survival items, updating survival items carried for improved capability in current theaters of operations

AE: Universal Camouflage - Development and approval of a universal color for ALSS equipment that allows mission deployment to multiple terrain conditions without the need to obtain equipment in different colors.

LEP: JALEPV - Develop and procure LEP that provides fixed wavelength self/hazard and/or threat protection. Units will be used to conduct laboratory/ground/aircraft testing, fleet verification, and system evaluation.

LEP: AFLEP - Develop and procure LEP that provides frequency agile wavelength self/hazard and threat protection. Units will be used to conduct laboratory/ground/aircraft testing, fleet verification, and system evaluation.

LEP: LEPIP - Develop and procure LEP Spirals that provides self/hazard and/or threat protection. Units will be used to conduct laboratory/ground/aircraft testing, fleet verification, and system evaluation.

FDC - Develop and procure an integrated modular FDC that provides improved impact protection, hearing, communications, and speech intelligibility. Units will be used to conduct laboratory/flight deck testing, fleet verification, and system evaluation.

FDC: Improved Hearing Protection - Develop and procure improved hearing protection for aircrew and flight deck personnel. Units will be used to conduct laboratory/flight deck testing, fleet verification, and system evaluation.

JHMCS NVCD - Continue the joint USAF/USN developmental flight test of the JHMCS NVCD system. Conduct laboratory testing, development testing, aircraft system integration testing, and operational test and evaluation.

WFOV: Non-JHMCS WFOV NVG - Develop and procure WFOV NVG for ejection seat NVG platforms that are non-JHMCS equipped. Units will be used to conduct laboratory/ground/aircraft testing, fleet verification, and system evaluation.

WFOV: Non-Ejection WFOV NVG - Develop and procure WFOV NVG for non-ejection seat NVG platforms. Units will be used to conduct laboratory/ground/aircraft testing, fleet verification, and system evaluation.

AS: SOA - Continued evaluation and authorization of state of the art survival and clothing items.

AS: Waste Management - Testing and approval of Mission Extender Device to allow bladder relief without removal of seat safety harness and equipment.

AS: Hydration - Integration of water reservoirs and filtration systems with ALSS equipment.

AS: Common Helmet - Develop and procure a common aircrew integrated day/night all weather modular helmet system. Units will be used to conduct laboratory/ground/aircraft testing, fleet verification, and system evaluation.

AS: Advanced Helmet Vision System: Develop Advanced Helmet Vision System incorporating displays, night vision, and cueing

AS: Hypoxia Awareness: Develop and procure integrated Hypoxia awareness capability alerting aircrew. Units will be used to conduct laboratory/ground/aircraft testing and system evaluation.

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EXHIBIT R-2a, RDT&E Project Justification		DATE: May 2009
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604264N, AIRCREW SYSTEMS DEVELOPMENT	PROJECT NUMBER AND NAME 0606, AIRCREW SYSTEMS DEVELOPMENT

B. Accomplishments/Planned Program (Cont.)

ENHANCED AIRCRAFT SAFETY SYSTEMS	FY 08	FY 09	FY 10
Accomplishments/Effort/Subtotal Cost	13.951	3.700	2.593
RDT&E Articles Quantity	N/A		

AIRCRAFT SYSTEMS:

ESIRP: Continuing fleet assessment of aircrew endurance modifications for F/A-18 aircraft and develop ECP.

CMARS: Leverages existing technology and integrates webbing retractor system into all front line rotary wing aircraft. Design also includes new AIRSAVE aircrew interface. Developmental testing continues for new aircrew mounted interface.

ACS: Seat Endurance: New generation of endurance systems to be retrofit in front line "non-ejection seat" equipped aircraft.

ACS: Advanced Crash Protection-continue studies and development on advanced crash protection.

ACS: Crashworthy Troop Seats: continue feasibility study and development of improving crashworthiness of troop seats on rotary aircraft

ACS: Oxygen Systems: system development and improvement

C. OTHER PROGRAM FUNDING SUMMARY:

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
Aviation Life Support - OPN 424400	17.912	21.609	45.250
Aviation Life Support Mods - APN 057500	4.132	1.984	5.594

D. ACQUISITION STRATEGY:

Commercial Off-The-Shelf (COTS)/NDI where possible, cost plus award fee contracts. Majority of programs non-Acat programs.

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DATE:

May 2009

Exhibit R-3 Cost Analysis (page 1)

APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME					
RDT&E, N / BA-5		0604264N, AIRCREW SYSTEMS DEVELOPMENT				0606, AIRCREW SYSTEMS DEVELOPMENT					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 09	FY 09 Award	FY 10	FY 10 Award				
Systems Eng AIRCREW ENDURANCE	WX	VARIOUS	1.876	1.870	12/08	1.920	03/10				
Systems Eng LEP	WX	NAWCAD, PAX RIVER	1.250	1.450	12/08	1.157	03/10				
Systems Eng LEP	TBD	TBD	0.647	0.600	12/08	0.575	03/10				
Systems Eng FLIGHT DECK CRANIAL	WX	NAWCAD, PAX RIVER	1.100	0.600	12/08	1.000	03/10				
Systems Eng FLIGHT DECK CRANIAL	TBD	TBD	0.250	1.800	12/08	2.112	03/10				
Systems Eng JHMCS NVCD	WX	VARIOUS	4.151	1.388	12/08	0.762	03/10				
Systems Eng JHMCS NVCD	TBD	TBD		1.014	12/08	0.343	03/10				
Systems Eng WFOV	WX	VARIOUS		0.437	12/08	0.312	03/10				
Systems Eng WFOV	TBD	TBD		0.300	12/08	0.604	03/10				
Systems Eng AIRCREW SYSTEMS	WX	VARIOUS	2.080	1.145	12/08	1.560	03/10				
Systems Eng CMARS	TBD	TBD	5.127	0.849	06/09						
Systems Eng CMARS	WX	VARIOUS	3.217	1.157	12/08	1.720	03/10				
Systems Eng AIRCRAFT SYSTEMS	WX	VARIOUS	36.633	1.694	12/08	0.873	03/10				
Subtotal Product Development			56.331	14.304		12.938					
Program Management Support											
Contractor ETS	C/CPFF	VARIOUS	6.691	1.406	12/08	1.052	12/09				
Contractor MSS	C/CPFF	MCR	0.600	0.150	12/08	0.150	12/09				
Travel	WX	VARIOUS	0.615	0.125	12/08	0.125	12/09				
Subtotal Management			7.906	1.681		1.327					
Test & Evaluation											
Subtotal T&E											
Test & Evaluation											
Subtotal T&E											
Total Cost			64.237	15.985		14.265					

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EXHIBIT R4, Schedule Profile	DATE: May 2009
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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 0606, AIRCREW SYSTEMS DEVELOPMENT
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Fiscal Year	2008				2009				2010			
	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones												
AIRCREW ENDURANCE			MSB/ADR/AM ▲				CDR ▲					
CMARS						MS B ▲			PDR/CDR ▲			
Test & Evaluation Milestones												
AIRCREW ENDURANCE			DT									
CMARS											DT/OT	
JHMCS NCVD			DT									
LEP							DT					
FLIGHT DECK CRANIAL			DT									
Production Milestones												
Production Deliveries												
AIRCREW ENDURANCE												
CMARS												

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Exhibit R-4a, Schedule Detail				DATE: May 2009			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5		PROGRAM ELEMENT 0604264N, AIRCREW SYSTEMS DEVELOPMENT			PROJECT NUMBER AND NAME 0606, AIRCREW SYSTEMS DEVELOPMENT		
Schedule Profile	FY 2008	FY 2009	FY 2010				
AIRCREW ENDURANCE: MS B/ADR for AMXD	4Q						
AIRCREW ENDURANCE: CDR		4Q					
CMARS: MS B		3Q					
CMARS: PDR/CDR			1Q				
AIRCREW ENDURANCE: DT	3Q - 4Q	1Q - 4Q	1Q - 3Q				
CMARS DT			3Q-4Q				
JHMCS NVCD: DT	1Q - 4Q	1Q - 4Q	1Q-4Q				
LEP: DT		3Q - 4Q	1Q				
FLIGHT DECK CRANIAL: DT	4Q	1Q - 4Q					
AIRCREW ENDURANCE: DELIVERABLES		2Q - 4Q	1Q - 4Q				
CMARS DELIVERABLES		3Q-4Q	1Q - 4Q				

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