EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2006		
APPROPRIATION/BUDGET ACTIVITY REASEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-4						R-1 ITEM NOMENCLATURE 0603216N, AVIATION SURVIVABILITY		
COST ($ in Millions)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	
Total PE Cost	38.313	44.261	6.177	6.319	6.452	6.587	6.732	
0584 A/CREW PROTECT CLOTHING/DEVIC	4.328	2.791	2.395	2.447	2.501	2.556	2.613	
0591 A/CREW SERV & VUNERAB & SAFET	5.850	1.549	1.550	1.590	1.621	1.654	1.691	
0592 A/CREW & ORDANCE SAFETY	1.533	1.259	1.529	1.563	1.595	1.628	1.662	
1819 A/C PROT	.560	.562	.703	.719	.735	.749	.766	
9170 MODULAR ADVANCED VISION SYSTEM	4.082							
9173 ROTORCRAFT EXTERNAL AIRBAG	3.690							
9346 EQUIPMENT LIFE EXTENSION PROGRAM (ELEP)	1.458							
9505 ADVANCED MARITIME TECHNOLOGY CENTER AT	1.835							
9506 INTEGRATED MANIFOLD AND TUBE CERAMIC	4.055							
9507 INTELLIGENT AUTONOMY TECHNOLOGY	2.417							
9508 INTELLIGENT CONTROL SYSTEM FOR SWARM	3.669							
9510 SILVER FOX UAV (NAVAIR)	4.836							
9999 CONGRESSIONAL ADDS		38.100						

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:Aviation Survivability addresses the issues of aircrew and platform survivability, focusing on enhancing overall opportunity for aircrew and platform protection and enhanced performance. The capabilities addressed under this program element counter emerging threats of next generation operational weapons systems and enhance combat effectiveness in future operational mission scenarios.

*Totals may not add due to rounding.

CLASSIFICATION:	
EXHIBIT R-2, RDT&E Budget Item Justification	DATE: **FEBRUARY 2006**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-4**	R-1 ITEM NOMENCLATURE 0603216N Aviation Survivability

(U) Project 0584 develops protective clothing and devices to safeguard aircrew against environmental and physiological threats/hazards during flight and escape. Project 0584 strives to improve the full spectrum of life support equipment ranging from advanced laser eye protection to integrated life support systems to ejection and crashworthiness. In addition to protection, project 0584 enhances situational awareness and target acquisition through the development of helmet mounted displays (HMDs) and smart integrated life support systems. 0584 develops and transitions state-of-the-art life support equipment and protective devices to optimize human/warfighter effectiveness, safety, and survival. Projects 0591, 0592, and 1819 focus on platform survivability, addressing the reductions in aircraft susceptibility to enemy and non-combat threats, as well as aircraft vulnerabilities to conventional, nuclear, chemical, biological, radiological and directed energy weapons. The Aircraft Survivability, Vulnerability and Safety project expands the survivability technology base and develops prototype hardware which is required to improve the survivability of Naval aircraft. Aircraft and Ordnance Safety transitions generic insensitive munitions technology to Navy and Marine Corps air weapons, ensuring that they are insensitive to fast cook-off, slow cook-off, and fragment impact and sympathetic detonation. Carrier Aircraft Fire Suppression Systems develops improved fire fighting systems and fire protective measures for aircraft carriers. Project 9170 (Congressional Add) will shift from traditional cathode ray tube (CRT) based helmet mounted displays to a reflective liquid crystal (RLCD) displays using laser projection. This fundamental change in approach will significantly increase display resolution and brightness while reducing weight and center of gravity problems. As part of the design goals, the ability to add fixed line laser eye protection to the visor assembly will be explored. Project 9173 (Congressional Add) will address the level of protection afforded and feasibility of an external rotorcraft airbag and development of “predictive” crash sensors. Initial impact studies (water and ground) have already been conducted. Joint efforts with the Army for aircrew systems are already underway. Project 9346 reflects a Congressional Add that will fund an equipment life extension laboratory for definition of systems no longer procurable but critical to functionality of weapons systems. Project 9505 (Congressional Add) will support an engineering facility to modify and optimize effective new aviation and information technologies to port the capability over to small maritime craft for special operations. Project 9506 (Congressional Add) will support the feasibility of integrating a Ceramic Oxygen Generator (COGS) into aircraft. Project 9507 (Congressional Add) will support and demonstrate a higher level of Autonomy and Artificial Intelligence for Unmanned Systems to allow them to operate and be accepted in a manned environment. Project 9508 (Congressional Add) develop SWARM, a system consisting of many low cost UAVs (Unmanned Air Vehicles) operating autonomously to achieve a mission with minimum operator intervention. Project 9510 (Congressional Add) will support the assessment of Silver Fox's ability to provide surveillance during mine clearing operations. Project 9999 (Congressional Adds).

R-1 SHOPPING LIST - Item No. 31

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-4**	PROGRAM ELEMENT NUMBER AND NAME **0603216N, AVIATION SURVIVABILITY**	PROJECT NUMBER AND NAME 0584, A/CREW PROTECT CLOTHING/DEVIC	

COST ($ in Millions)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
0584 A/CREW PROTECT CLOTHING/DEVIC	4.328	2.791	2.395	2.447	2.501	2.556	2.613
RDT&E Articles Qty							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Project 0584 develops, demonstrates, and validates technology options for integrated aircrew emergency and life support systems designed to enhance mission effectiveness, in-flight protection and survivability. The project covers fixed and rotary wing life support equipment, advanced helmet vision systems, escape systems technology, crew centered cockpit design, and cockpit integration programs. It responds to a number of operational requirements documents, including OR# 210-05-88 for Chemical and Biological (CB) Protection, OR#099-05-087 for Laser Eye Protection, and the joint Air Force/Navy (CAF 208-93) for an Aerospace Control Helmet Mounted Cueing System. This project also includes a Congressional plus up for the development of an Air Bag Attenuated Airborne Troop Seat. This efforts goal is to use air bag technology to produce an energy attenuating seating system that is more efficient, more capable, and lighter.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

	FY 2005	FY 2006	FY 2007
Accomplishments / Effort / Sub-total Cost	1.360	1.284	1.145
RDT&E Articles Qty			

Advanced Integrated Life Support System (AILSS) program. Exercise option to begin the development of frequency Agile flight worthy unity magnification goggles (laser eye protection). Laboratory and field testing of Agile flight worthy goggles prototypes. Focus on alternative materials and optical design to maximize performance. Finalize unity magnification frequency Agile flight worthy goggles and ready for EMD transition. Integrate Smart Advanced Integrated Life Support System (SAILSS) with on-board oxygen and personal air conditioning systems. Integration of SAILSS with focus on imbedded microsensors and personal air conditioning system. Tactical variant of AILSS (TAILSS), move SAILSS into final phases of laboratory testing. Crewstation technology laboratory demonstration of Active Network Guidance Emergency Logic (ANGEL). System integration laboratory demonstration of ANGEL. Combine flight testing of on board/off board data correlation and ANGEL.

	FY 2005	FY 2006	FY 2007
Accomplishments / Effort / Sub-total Cost	2.968	1.507	1.250
RDT&E Articles Qty			

Advanced Technology Crew Station (ATCS) program. System integration and flight testing of Advanced Helmet Vision System enhanced resolution Crusader. I2/Thermal mode control studies. Pilot Vehicle Interface (PVI) on-board/off board data correlation on test aircraft and began flight testing. Advanced Technology Escape System (ATES) ejection seat trajectory and crashworthy seat stroke models with biodynamic models exploring various integrated aircrew head/neck protection configurations for ejection safe helmet mounted systems. Incorporate computational fluid dynamics and parachute models. Preliminary ergonomic seating design, validated BioRID performance and mature final version. Incorporate models of helmet mounted displays into the PVI to support testing and validation of on board/off board data correlation. Horizontal accelerator/vibrating platform assessment of ergonomics, posture, and crashworthiness. Development of Charge Coupled Device (CCD) based, high resolution Advanced Helmet Vision System (follow on to the low resolution Crusader HMD). Integrate results of injury prevention research into protective equipment to include helmet mounted devices and into ejection seat design for improved seal performance, retention, and safety. Development and testing of side facing seat and improved restraint system. Focus on shock and vibration work.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-4**	PROGRAM ELEMENT NUMBER AND NAME **0603216N, AVIATION SURVIVABILITY**	PROJECT NUMBER AND NAME 0584, A/CREW PROTECT CLOTHING/DEVIC

C. PROGRAM CHANGE SUMMARY

Funding:	FY 2005	FY 2006	FY 2007
Previous President's Budget:	4.519	2.834	2.512
Current BES / President's Budget:	4.328	2.791	2.395
Total Adjustments	-0.191	-0.043	-0.117
Summary of Adjustments			
Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions	-0.056	-0.030	
Congressional Increases			
Economic Assumptions		-0.013	
Miscellaneous Adjustments	-0.135		-0.117
Subtotal	-0.191	-0.043	-0.117

Schedule: Not Applicable

Technical: Not Applicable

D. OTHER PROGRAM FUNDING SUMMARY	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
Not Applicable									

E. ACQUISITION STRATEGY:

Not Applicable

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2006		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 4		PROGRAM ELEMENT 0603216N, AVIATION SURVIVABILITY				PROJECT NUMBER AND NAME 0584, A/CREW PROTECT CLOTHING/DEVIC						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Licenses	VARIOUS	VARIOUS				.180	12/1/2005	.180	12/1/2006	Continuing	Continuing	
Primary Hdw Development	VARIOUS	VARIOUS				1.097	3/1/2006	1.070	1/1/2007	Continuing	Continuing	
Systems Eng	VARIOUS	NAWCAD, PATUXENT RIVER MD	22.117	2.968	12/1/2004	.884	12/1/2005	.515	12/1/2006	Continuing	Continuing	
Systems Eng	VARIOUS		13.900								13.900	
SUBTOTAL PRODUCT DEVELOPMENT			36.017	2.968		2.161		1.765		Continuing	Continuing	
Remarks:												
SUPPORT												
Configuration Mgmt	WR	NAWCAD, PATUXENT RIVER MD		.532	1/13/2005						.532	
Configuration Mgmt	Various	Various	3.232								3.232	
SUBTOTAL SUPPORT			3.232	.532							3.764	
Remarks:												
TEST & EVALUATION												
Dev Test & Eval	VARIOUS	NAWCAD, PATUXENT RIVER MD		.818	12/1/2004	.200	12/1/2005	.200	12/1/2006	Continuing	Continuing	
Dev Test & Eval	VARIOUS	VARIOUS	18.240							Continuing	Continuing	
SUBTOTAL TEST & EVALUATION			18.240	.818		.200		.200		Continuing	Continuing	
Remarks:												
MANAGEMENT												
Program Mgmt Sup	WR	NAWCAD, PATUXENT RIVER MD				.410	12/1/2005	.410	12/1/2006	Continuing	Continuing	
Travel	TO	NAVAIR HEADQUARTERS, PAX RIVER, MD	.135	.010	10/1/2004	.020	10/1/2005	.020	10/1/2006	Continuing	Continuing	
SUBTOTAL MANAGEMENT			.135	.010		.430		.430		Continuing	Continuing	
Remarks:												
Total Cost			57.624	4.328		2.791		2.395		Continuing	Continuing	
Remarks:												

CLASSIFICATION:

EXHIBIT R4, Schedule Profile

DATE: **February 2006**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-4	0603216N Aviation Survivability	0584 Aircrew Protective Clothing and Devices

Fiscal Year	2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Program Milestones																												
Agile Laser Eye Protection																												
Unity Magnification Goggle																												
Intensified Unity Mag Goggle																												
Advance Helmet Vision System (AHVS)																												
Crusader																												
Visually Coupled Display (high resolution)																												
Adanced Integrated Life Support System (AILSS)																												
Tactical AILSS (TAILSS)																												
Smart AILSS (SAILSS)																												
Injury Prevention																												
T&E Milestones																												
AHVS laboratory testing																												
ANGEL																												
Advanced Technology Crew Station (ATCS)																												

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2006**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-4**	PROGRAM ELEMENT **0603216N**			PROJECT NUMBER AND NAME 0584 Aircrew Protective Clothing and Devices			
Schedule Profile	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Advanced Technology Crew Station (ATCS)	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Agile Laser Eye Protection	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-2Q		
Unity Magnification Goggle	1Q-4Q	1Q-2Q					
Intensified Unity Mag Goggle		1Q-4Q	1Q-4Q	1Q-4Q	1Q-2Q		
Advanced Helmet Vision System (AHVS)	1Q-4Q	1Q-4Q	1Q-4Q				
Crusader							
Visually Coupled Display (high resolution)	1Q-4Q	1Q-4Q					
Advanced Integrated Life Support System (AILSS)	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Tactical AILSS (TAILSS	1Q-4Q						
Smart AILSS (SAILSS)	1Q-4Q	1Q-4Q	1Q-4Q				
4th Generation Escape							
Crashworthiness & Improved Restraint System							
Injury Prevention	1Q-4Q	1Q-4Q	1Q-4Q				
Pilot Vehicle Interface (PVI)							
On Board - Off Board Data Correlation							
AHVS laboratory testing	1Q-4Q	1Q-4Q	1Q-4Q				
ANGEL	1Q-4Q						

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-4**	PROGRAM ELEMENT NUMBER AND NAME **0603216N, AVIATION SURVIVABILITY**	PROJECT NUMBER AND NAME 0591, A/CREW SERV & VUNERAB & SAFET	

COST ($ in Millions)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
W0591 A/CREW SERV & VUNERAB & SAFET	5.850	1.549	1.550	1.590	1.621	1.654	1.691
RDT&E Articles Qty	23						

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:
Aircraft Survivability, Vulnerability and Safety. This project develops prototype hardware to improve the survivability of Navy and Marine Corps aircraft. This project addresses the likelihood of an aircraft being hit (susceptibility) and the probability of a kill if the aircraft is hit (vulnerability). Types of programs funded under this project include signature reduction efforts, subsystem and component hardening and development of fire and explosion suppression techniques for fuel systems and the Military Flight Operations Quality Assurance (MFOQA).
*RDT&E,N test articles include Military Flight Operations Quality Assurance (MFOQA) units.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

	FY 2005	FY 2006	FY 2007
Accomplishments / Effort / Sub-total Cost	4.592		
RDT&E Articles Qty	23		

MFOQA: Conduct an MFOQA flight demonstration on multiple fleet platforms (F/A-18, H-60, H-53, T-45, V-22, C-40) that includes: Develop requirements for MFOQA parameter selection and standardization. Develop and refine a concept of operations (CONOPS) for MFOQA in the DON. Develop an implementation plan/acquisition strategy for future fleet-wide introduction of MFOQA.

	FY 2005	FY 2006	FY 2007
Accomplishments / Effort / Sub-total Cost	.055	.089	.089
RDT&E Articles Qty			

Technology Test & Evaluation: Integration, laboratory, ground, and flight tests of prototype hardware. Includes ballistic testing of coupons, samples, and production representative hardware. Radio frequency, Infrared, visual, and acoustic signature measurements of components and fully installed systems. Testing of hardware uses surrogate or real threats or threat systems at major range and test facilities. All tests are designed to demonstrate prototype's technology readiness level indicating maturity level and ability to transition to production (though engineering change proposal (ECP) or spiral development).

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-4**	PROGRAM ELEMENT NUMBER AND NAME **0603216N, AVIATION SURVIVABILITY**	PROJECT NUMBER AND NAME 0591, A/CREW SERV & VUNERAB & SAFET	

	FY 2005	FY 2006	FY 2007
Accomplishments / Effort / Sub-total Cost	.580	1.119	1.119
RDT&E Articles Qty			

Technology Design & Development: Design of susceptibility and/or vulnerability reduction prototype hardware. Fabrication and integraton/installation of prototype hardware in mockups, aircraft, test fixtures, or as part of larger subsystems. Prototype hardware includes Common On-Board Inert Gas Generation System (COBIGGS) for transport aircraft, transparent and opaque armors, exhaust suppressors, counter-asymmetric threat hardware.

	FY 2005	FY 2006	FY 2007
Accomplishments / Effort / Sub-total Cost	.623	.341	.342
RDT&E Articles Qty			

Technology Requirements: Determine future survivability technology requirements through trade studies that result in program master plans or specific system improvement plans. Data gathering and analysis that determines specific survivability improvements for a platform or platform types. Technology reviews that determine current state of survivability technology development for USN, USMC, US Army, US Air Force, and industry. Trade studies include transport aircraft infrared signature analysis, rotary wing survivability requirements, advanced threat assessments, and methodology improvements. Support the program manager by performing survivability related systems engineering support. Fund travel expenses related to the program.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-4**	PROGRAM ELEMENT NUMBER AND NAME **0603216N, AVIATION SURVIVABILITY**	PROJECT NUMBER AND NAME 0591, A/CREW SERV & VUNERAB & SAFET

C. PROGRAM CHANGE SUMMARY

Funding:	FY 2005	FY 2006	FY 2007
Previous President's Buget:	6.080	1.572	1.601
Current BES / President's Budget:	5.850	1.549	1.550
Total Adjustments	-0.230	-0.023	-0.051
Summary of Adjustments			
Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions	-0.142	-0.016	
Congressional Increases			
Economic Assumptions		-0.007	
Miscellaneous Adjustments	-0.088		-0.051
Subtotal	-0.230	-0.023	-0.051

Schedule: The Aircraft Survivability, Vulnerability and Safety program has no new starts. Schedule changes are due to a restructure/consolidation of multiple accomplishments reflected on the FY06 President's Budget.

Technical: N/A

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-4**	PROGRAM ELEMENT NUMBER AND NAME **0603216N, AVIATION SURVIVABILITY**	PROJECT NUMBER AND NAME 0591, A/CREW SERV & VUNERAB & SAFET

D. OTHER PROGRAM FUNDING SUMMARY: FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 FY 2010 FY 2011 To Complete Total Cost

E. ACQUISITION STRATEGY:

Military Flight Operations Quality Assurance (MFOQA) utilizes existing aircraft hardware, and a combination of existing Commericial Off The Shelf (COTS) and Government Off The Shelf (GOTS) ground analysis tools. A competitive contract will be awarded to meet the increased aircraft recorder requirements for the demonstration platforms. The program will integrate with existing aircraft systems that are currently post-MS III, utilizing existing contract vehicles to add MFOQA capabilities to demonstrate platform systems.

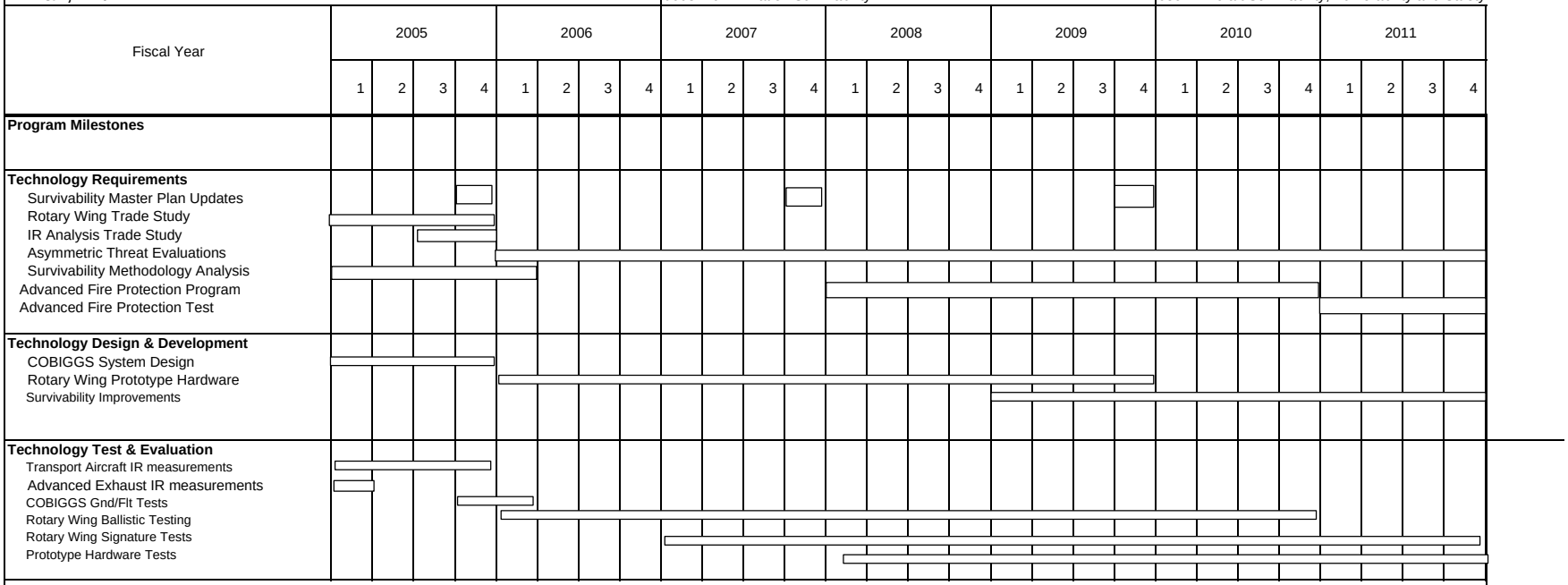
Exhibit R-3 Cost Analysis (page 1)									DATE: February 2006			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 4		PROGRAM ELEMENT 0603216N, AVIATION SURVIVABILITY				PROJECT NUMBER AND NAME 0591, A/CREW SERV & VUNERAB & SAFET						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Primary Hdw Development	SS-CPFF	VARIOUS	8.606			.775	11/1/2005	.387	12/1/2006	9.791	19.559	19.559
Systems Eng	VARIOUS	VARIOUS	7.766	.912	10/1/2004	.250	11/1/2005	.250	11/1/2006	Continuing	Continuing	
Systems Eng (RB) MFOQA	TBD	NSWC CARDERCK D, WST BETHESDA MD		4.520	12/1/2004						4.520	
SUBTOTAL PRODUCT DEVELOPMENT			16.372	5.432		1.025		.637		Continuing	Continuing	
Remarks:												
SUPPORT												
Development Support, MFOQA	WX	NSWC, CARDEROCK, MD	2.483								2.483	
Software Development, MFOQA	TBD	BOEING, ST. LOUIS, MO	1.012								1.012	
Technical Data	WX	VARIOUS	.279								.279	
Studies & Analyses	CPFF	SURVICE, Inc.	.150			.250	11/1/2005	.185	11/1/2005		.585	.585
SUBTOTAL SUPPORT			3.924			.250		.185			4.359	
Remarks:												
TEST & EVALUATION												
Dev Test & Eval (RB)	WX	NAWCAD, PATUXENT RIVER MD		.198	10/1/2004						.198	
Dev Test & Eval (RB)	WX	VARIOUS										
Dev Test & Eval	WX	VARIOUS	1.922								1.922	
Live Fire Test & Evaluation	WX	NAWCWD, CHINA LAKE CA	.350			.200	11/1/2005	.649	11/1/2006	.700	1.899	
SUBTOTAL TEST & EVALUATION			2.272	.198		.200		.649		.700	4.019	
Remarks:												
MANAGEMENT												
Program Mgmt Sup	VARIOUS	VARIOUS	.120	.200	VARIOUS	.064	VARIOUS	.069	VARIOUS	Continuing	Continuing	
Travel (RB)	TO	NAVAIR HQ, PATUXENT RIVER, MD	.225	.019	10/1/2004	.010	11/1/2005	.010	11/1/2006	Continuing	Continuing	
SUBTOTAL MANAGEMENT			.345	.220		.074		.079		Continuing	Continuing	
Remarks:												
Total Cost			22.913	5.850		1.549		1.550		Continuing	Continuing	
Remarks:												

CLASSIFICATION:

EXHIBIT R4, Schedule Profile

DATE: **FEBRUARY 2006**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-4	0603216N Aviation Survivability	0591 Aircraft Survivability, Vulnerability and Safety



CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **FEBRUARY 2006**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-4**	PROGRAM ELEMENT 0603216N Aviation Survivability				PROJECT NUMBER AND NAME 0591 A/C Surv, Vulnerability & Safety		
Schedule Profile	2005	2006	2007	2008	2009	2010	2011
Technology Requirements							
Survivability Master Plan Updates	4Q		4Q		4Q		
Rotary Wing Trade Study	1Q-4Q						
IR Analysis Trade Study	3Q-4Q						
Asymmetric Threat Evaluations		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Survivability Methodology Analysis	1Q-4Q	1Q					
Advanced Fire Protection Program				1Q-4Q	1Q-4Q	1Q-4Q	
Advanced Fire Protection Test							1Q-4Q
Technology Design & Development							
COBIGGS System Design	1Q-4Q						
Rotary Wing Prototype Hardware		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q		
Survivability Improvements					1Q-4Q	1Q-4Q	1Q-4Q
Technology Test & Evaluation							
Transport Aircraft IR Measurements	1Q-4Q						
Advance Exhaust IR Measurements	1Q						
COBIGGS Gnd/Flt Tests	4Q	1Q					
Rotary Wing Ballistic Testing		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	
Rotary Wing Signature Tests			1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Prototype Hardware Tests				1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q

CLASSIFICATION:

EXHIBIT R4, Schedule Profile **MFOQA** | DATE: **FEBRUARY 2006**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-4	0603216N Aviation Survivability	0591 A/C Survivability, Vulnerability & Safety

Fiscal Year	2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																												
MFOQA Parameter Selection																												
MFOQA Version 1 Release																												
MFOQA Version 2 Release																												
Report																												
Systems Integration																												
Flight Demos																												
CONOPS/Fleet Implementation Plan																												
Production Milestones																												
Deliveries																												

CLASSIFICATION:							
Exhibit R-4a, Schedule Detail **MFOQA**					DATE: **FEBRUARY 2006**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-4**				PROJECT NUMBER AND NAME 0591 Aircraft Survivability, Vulnerability and Safety			
Schedule Profile	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
MFOQA Parameter Selection							
MFOQA Version 1 Release							
MFOQA Version 2 Release	2Q						
Report	4Q						
Systems Integration	1Q-2Q						
Flight Demos	1Q-4Q						
CONOPS/Fleet Implementation Plan	2Q-3Q						

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-4**	PROGRAM ELEMENT NUMBER AND NAME **0603216N, AVIATION SURVIVABILITY**	PROJECT NUMBER AND NAME 0592, A/CREW & ORDANCE SAFETY	

COST ($ in Millions)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
0592 A/CREW & ORDANCE SAFETY	1.533	1.259	1.529	1.563	1.595	1.628	1.662
RDT&E Articles Qty							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Aircraft and Ordnance Safety Program transitions innovative munitions safety technology to Navy and Marine Corps air weapons, to comply with the Chief of Naval Operations direction that all munitions carried aboard Navy ships be insensitive to unplanned stimuli (thermal, impact, and shock events). The Aircraft and Ordnance Safety Program also ensures the safety and protection of personnel, aircraft, ships, and operational facilities, through improved precision targeting, fail-safe ordnance, selective effects munitions and shock/blast force protection technologies.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

	FY 2005	FY 2006	FY 2007
Accomplishments / Effort / Sub-total Cost	1.533	1.259	1.529
RDT&E Articles Qty			

INSENSITIVE MUNITIONS

*Conduct improved air to air missile propulsion demonstration and testing. Output: baseline Insensitive Munitions (IM) performance of air breathing systems.

*Conduct shock/blast barrier protection demonstration and testing. Demonstrate pumice as a sympathetic detonation barrier for weapon shipping containers. Investigate alternative mitigation materials. Output: Design, modeling and demonstration of shock absorbent materials for the protection of weapons and weapon platforms.

*Demonstrate improved air launched munitions for force protection and homeland defense. Analysis, Design, Demonstration of an improved Navy IM bomb that will mitigate Sympathetic Detonation and cook-off threats. Output: Demonstrate/determine the IM and safety characteristics of improved air launched munitions.

*Develop and validate insensitive munitions solutions to advanced energetic material warheads and rocket motors. Hyperbaric materials, New binding materials, Novel fuses and high energy density materials. Continue Improved Navy IM bomb analysis/design/demo. Output: Design, modeling and demonstration of insensitive munitions solutions to new advanced energetic materials.

*Develop and validate insensitive munitions solutions for advanced containment/case/warhead materials. Metal matrix composite materials, High temperature cases, Reactive warheards, Composite cases. Continue evaluating reactive material warheads for IM compliance. Output: Design, modeling and demonstration of insensitive munitions solutions to new advanced containment/case/warhead materials.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-4**	PROGRAM ELEMENT NUMBER AND NAME **0603216N, AVIATION SURVIVABILITY**	PROJECT NUMBER AND NAME 0592, A/CREW & ORDANCE SAFETY

C. PROGRAM CHANGE SUMMARY

Funding:	FY 2005	FY 2006	FY 2007
Previous President's Buget:	1.237	1.278	1.536
Current BES / President's Budget:	1.533	1.259	1.529
Total Adjustments	0.296	-0.019	-0.007
Summary of Adjustments			
Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions	-0.001	-0.013	
Congressional Increases			
Economic Assumptions		-0.006	
Miscellaneous Adjustments	0.297		-0.007
Subtotal	0.296	-0.019	-0.007

Schedule:
Advanced Energretic Materials and Advanced Containment/Case/Warhead Materials were previously included under Reactive Materials and Improved Navy IM Bombs in previous budget submits but have been broken out separately.

Technical: N/A

D. OTHER PROGRAM FUNDING SUMMARY: N/A	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost

E. ACQUISITION STRATEGY:
The Aircraft and Ordnance Safety Project acquisition strategy consists of actions (technology transition) which are intended to assist the improvement of NAVAIR-cognizant munitions. Specific task planning involves close coordination with the program offices, field activities, and the IM and IMAD offices. Primary considerations in planning address windows of opportunity within the overall system procurement/life cycle, including milestone II (E&MD), P3I, and PIP events. Munition system design elements involving IM response risk (existing or anticipated) are analyzed in relation to proven and available IM technologies applicable to improvements in those design elements. When it is established that a system can probably be improved by implementing new technology and a window of opportunity for transition is available, the greatest overall improvement in fleet safety regarding IM response risk is the final deciding factor used to prioritize task selection for funding from limited resources.

Exhibit R-3 Cost Analysis (page 1)									DATE: February 2006			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4		PROGRAM ELEMENT 0603216N, AVIATION SURVIVABILITY				PROJECT NUMBER AND NAME 0592, A/CREW & ORDANCE SAFETY						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Systems Eng	WX	NAWCWD, CHINA LAKE CA	19.195	1.533	10/30/2004	1.259	10/30/2005	1.529	10/30/2006	Continuing	Continuing	
SUBTOTAL PRODUCT DEVELOPMENT			19.195	1.533		1.259		1.529		Continuing	Continuing	
Remarks:												
SUPPORT												
SUBTOTAL SUPPORT												
Remarks:												
TEST & EVALUATION												
Developmental Test & Evaluation												
SUBTOTAL TEST & EVALUATION												
Remarks:												
MANAGEMENT												
Travel												
SUBTOTAL MANAGEMENT												
Remarks:												
Total Cost			19.195	1.533		1.259		1.529		Continuing	Continuing	
Remarks:												

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																				DATE: **FEBRUARY 2006**							
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /**					PROGRAM ELEMENT NUMBER AND NAME 0603216N, Aviation Survivability												PROJECT NUMBER AND NAME 0592, Aircrfat & Ordnance Safety											
Fiscal Year	2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Air to Air Missile Propulsion System Demo/Testing:																												
Shock/Blast Barrier Protection Modeling and Demo/Testing:																												
Improved Air Launched Weapons																												
Advanced Energetic Materials																												
Advanced Containment/Case/ Warhead Materials																												

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **FEBRUARY 2006**		
APPROPRIATION/BUDGET ACTIVITY **RDT& BA-4**	PROGRAM ELEMENT 0603216N, Aviation Survivability				PROJECT NUMBER AND NAME 0592 Acft & Ordnance Safety		
Schedule Profile	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Air to Air Missile Propulsion System Demo/Testing	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q		
Shock/Blast Barrier Protection Modeling and Demo/Testing	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q		
Improved Air Launched Weapons	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q		
Advanced Energetic Materials		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Advanced Containment/Case/Warhead Materials		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-4**	PROGRAM ELEMENT NUMBER AND NAME **0603216N, AVIATION SURVIVABILITY**	PROJECT NUMBER AND NAME 1819, CV ACFT FIRE SUPPRESS SYSTEM	

COST ($ in Millions)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
1819 A/C PROT	.560	.562	.703	.719	.735	.749	.766
RDT&E Articles Qty							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project develops improved fire fighting systems and fire protective measures for aircraft related fires on aircraft carriers, including assessment of fire properties, definition of fire threats, improvements to fire fighting agents and delivery systems, fire detection and suppression system performance evaluations, and fire fighter training improvements.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

	FY 2005	FY 2006	FY 2007
Accomplishments / Effort / Sub-total Cost	.560	.562	.703
RDT&E Articles Qty			

Fire Fighting Agents: Evaluate new or modified agents which adequately address changing agent restrictions or technical needs. Objective is to ensure that periodic, but unpredictable, restrictions on agent production or use, primarily driven by the environmental and toxicological fields, do not negatively impact fleet safety.

Fire Fighting Systems: Evaluate system automation features and demonstrate enhancements to personnel protection equipment. Objective is to evaluate system hardware for effectiveness against updated fire threats.

Fire Fighting Tactics: Evaluate reduced manning impact and resultant modifications to tactics. Provide opportunities for training during agent/system testing. Objective is to maintain emergency capabilities as reductions in manpower draw from available response crews.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-4**	PROGRAM ELEMENT NUMBER AND NAME **0603216N, AVIATION SURVIVABILITY**	PROJECT NUMBER AND NAME 1819, CV ACFT FIRE SUPPRESS SYSTEM

C. PROGRAM CHANGE SUMMARY

Funding:	FY 2005	FY 2006	FY 2007
Previous President's Budget:	0.583	0.571	0.706
Current BES / President's Budget:	0.560	0.562	0.703
Total Adjustments	-0.023	-0.009	-0.003
Summary of Adjustments			
Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions		-0.006	
Congressional Increases			
Economic Assumptions		-0.003	
Miscellaneous Adjustments	-0.023		-0.003
Subtotal	-0.023	-0.009	-0.003

Schedule:
Not applicable

Technical:
Not Applicable

D. OTHER PROGRAM FUNDING SUMMARY:

	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
Not Applicable									

E. ACQUISITION STRATEGY:

Not Applicable

EXHIBIT R-2a, RDT&E Project Justification			DATE: FEBRUARY 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-4**	PROGRAM ELEMENT NUMBER AND NAME **0603216N, AVIATION SURVIVABILITY**	PROJECT NUMBER AND NAME 9170, MODULAR ADVANCED VISION SYSTEM	

COST ($ in Millions)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
9170 MODULAR ADVANCED VISION SYSTEM	4.082						
RDT&E Articles Qty							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This funding will support the shift from traditional CRT based helmet mounted displays to a reflective liquid crystal display using laser projection. This fundamental change in approach will significantly increase display resolution and brightness while reducing weight and center of gravity problems. The AHVS is comprosed of two modules. The outer helmet module is a binocular, multi-spectral (day, night, NVG, FLIR) visor projected display. Communications equipment, improved hearing protection, and oxygen mask are mounted to the inner module, which is custom fitted to each aircrew. The inner module (helmet) provides a stable platform upon which mission specific outer modules are attached. Their concept reduces future development cost - designers would begin work from a stable, defined inner helmet platform with common attachment points. Separate helmet development would not be required for any future designs.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

	FY 2005	FY 2006	FY 2007
Accomplishments / Effort / Sub-total Cost	4.082		
RDT&E Articles Qty			

Modular Advanced Vision System

The initial design of the laser projected reflective LCD has been completed. This fundamental change in approach will significantly increase display resolution and brightness while reducing weight and center of gravity problems. Currently the laser source and associated relay optics are being fine tuned to improve manufacturability. Fit studies are assessing portion of the population accommodated by inner module and improving level of sound attenuation provided by hearing protection.

EXHIBIT R-2a, RDT&E Project Justification		DATE: FEBRUARY 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-4**	PROGRAM ELEMENT NUMBER AND NAME **0603216N, AVIATION SURVIVABILITY**	PROJECT NUMBER AND NAME 9170, MODULAR ADVANCED VISION SYSTEM

C. PROGRAM CHANGE SUMMARY

Funding:	FY 2005	FY 2006	FY 2007
Previous President's Budget:	4.160	0.000	0.000
Current BES / President's Budget:	4.082	0.000	0.000
Total Adjustments	-0.078	0.000	0.000
Summary of Adjustments			
Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions	-0.079		
Congressional Increases	0.001		
Economic Assumptions			
Miscellaneous Adjustments			
Subtotal	-0.078	0.000	0.000

Schedule:

Not Applicable

Technical:

Not Applicable

D. OTHER PROGRAM FUNDING SUMMARY:	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost

Not Applicable

E. ACQUISITION STRATEGY:

Not Applicable

EXHIBIT R-2a, RDT&E Project Justification			DATE: FEBRUARY 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-4**	PROGRAM ELEMENT NUMBER AND NAME **0603216N, AVIATION SURVIVABILITY**	PROJECT NUMBER AND NAME 9173, ROTORCRAFT EXTERNAL AIRBAG	

COST ($ in Millions)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
9173 ROTORCRAFT EXTERNAL AIRBAG	3.690						
RDT&E Articles Qty							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This effort will address the level of protection afforded and feasibility of a rotorcraft external airbag, and then to bring the capability to a production ready, aircraft fieldable status. While automotive airbag technology is relatively mature, this unique application will require much larger airbags, aircraft structural integration approach for mounting the airbags in a maintainable manner, and the development of a " predictive" crash sensor. Initial impact studies (water and ground) have already been conducted. Joint efforts with the Army for aircrew systems are already underway.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:				
	FY 2005	FY 2006	FY 2007	
Accomplishments / Effort / Sub-total Cost	3.690			
RDT&E Articles Qty				

Rotocraft External Airbag

Rotocraft application will require larger airbags integrated into the aircraft and development of a "predictive" crash sensors and algoritms. Initial impact studies (water and ground) have already been conducted. Two flight tests of the REAPS system onboard H-53 will be conducted.

EXHIBIT R-2a, RDT&E Project Justification		DATE: FEBRUARY 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-4**	PROGRAM ELEMENT NUMBER AND NAME **0603216N, AVIATION SURVIVABILITY**	PROJECT NUMBER AND NAME 9173, ROTORCRAFT EXTERNAL AIRBAG

C. PROGRAM CHANGE SUMMARY

Funding:	FY 2005	FY 2006	FY 2007
Previous President's Buget:	3.764	0.000	0.000
Current BES / President's Budget:	3.690	0.000	0.000
Total Adjustments	-0.074	0.000	0.000

Summary of Adjustments			
Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions	-0.075		
Congressional Increases	0.001		
Economic Assumtions			
Miscellaneous Adjustments			
Subtotal	-0.074	0.000	0.000

Schedule:

Not Applicable

Technical:

Not Applicable

D. OTHER PROGRAM FUNDING SUMMARY:	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
Not Applicable									

E. ACQUISITION STRATEGY:

Not Applicable

EXHIBIT R-2a, RDT&E Project Justification			DATE: FEBRUARY 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-4**	PROGRAM ELEMENT NUMBER AND NAME **0603216N, AVIATION SURVIVABILITY**	PROJECT NUMBER AND NAME 9346, EQUIPMENT LIFE EXTENSION PROGRAM (ELEP)	

COST ($ in Millions)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
9346 EQUIPMENT LIFE EXTENSION PROGRAM (ELEP)	1.458						
RDT&E Articles Qty							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:
This effort will fund an equipment life extension laboratory for definition of systems no longer procurable that are critical to functionality of weapon systems. By equipping currently existing in house laboratories to maintain, modify, and update existing, non supported systems a significant cost reduction will be realized. The alternative of modifying and updating aircraft and weapons systems to accept new technologies is cost prohibitive.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

	FY 2005	FY 2006	FY 2007	
Accomplishments / Effort / Sub-total Cost	1.458			
RDT&E Articles Qty				

Equipment Life Extension Program
This effort will fund an equipment life extension laboratory for definition of systems no longer procurable that are critical to functionality of weapon systems. By equipping currently existing in house laboratories to maintain, modify, and update existing, non supported systems a significant cost reduction will be realized.

EXHIBIT R-2a, RDT&E Project Justification			DATE: FEBRUARY 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-4**	PROGRAM ELEMENT NUMBER AND NAME **0603216N, AVIATION SURVIVABILITY**	PROJECT NUMBER AND NAME 9346, EQUIPMENT LIFE EXTENSION PROGRAM (ELEP)	

C. PROGRAM CHANGE SUMMARY

Funding:	FY 2005	FY 2006	FY 2007
Previous President's Budget:	1.485		
Current BES / President's Budget:	1.458		
Total Adjustments	-0.027	0.000	0.000
Summary of Adjustments			
Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions	-0.027		
Congressional Increases			
Economic Assumptions			
Miscellaneous Adjustments			
Subtotal	-0.027	0.000	0.000

Schedule: Not Applicable

Technical: Not Applicable

D. OTHER PROGRAM FUNDING SUMMARY:

	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
Not Applicable									

E. ACQUISITION STRATEGY: Not Applicable

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-4**	PROGRAM ELEMENT NUMBER AND NAME **0603216N, AVIATION SURVIVABILITY**						PROJECT NUMBER AND NAME 9505, ADVANCED MARITIME TECH CENTER AT PAX RIVER NAS

COST ($ in Millions)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
9505 ADVANCED MARITIME TECHNOLOGY CENTER AT	1.835						
RDT&E Articles Qty							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This effort will establish a technology center to rapidly transition capabilities developed for air to sea environment. In particular, advanced display concepts, helmets, crashworthiness, energy absorbing systems, as well as basic injury component models are directly applicable and needed for fast attack boats and other surface application. Although developed for aircraft the technologies are directly applicable to the harsh surface environment. The resultant capability will establish a capability to rapidly modify and transition critical products.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

	FY 2005	FY 2006	FY 2007
Accomplishments / Effort / Sub-total Cost	1.835		
RDT&E Articles Qty			

Advanced Maritime Technology Center

The Advanced Maritime Technology Center will be an engineering facility to modify / optimize effective new aviation and information technologies to port the capability over to small maritime craft for special operations. The key feature in designing small watercraft are mission / crew-centered innovations embodying technology drawn from advances in the areas of display design, crashworthiness, advanced restraint systems, helmet mounted displays , and supporting head / neck injury research.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-4**	PROGRAM ELEMENT NUMBER AND NAME **0603216N, AVIATION SURVIVABILITY**	PROJECT NUMBER AND NAME 9505, ADVANCED MARITIME TECH CENTER AT PAX RIVER NAS

C. PROGRAM CHANGE SUMMARY

Funding:	FY 2005	FY 2006	FY 2007
Previous President's Buget:	1.882	0.000	0.000
Current BES / President's Budget:	1.835	0.000	0.000
Total Adjustments	-0.047	0.000	0.000

Summary of Adjustments

Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions	-0.047		
Congressional Increases			
Economic Assumtions			
Miscellaneous Adjustments			
Subtotal	-0.047	0.000	0.000

Schedule:

Not Applicable

Technical:

Not Applicable

D. OTHER PROGRAM FUNDING SUMMARY:	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
Not Applicable									

E. ACQUISITION STRATEGY:

Not Applicable

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-4**	PROGRAM ELEMENT NUMBER AND NAME **0603216N, AVIATION SURVIVABILITY**				PROJECT NUMBER AND NAME 9506, INTEGRATED MANIFOLD & TUBE CERAMIC OXYGEN GEN		

COST ($ in Millions)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
9506 INTEGRATED MANIFOLD AND TUBE CERAMIC	4.055						
RDT&E Articles Qty							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This effort will begin resarch that will primarily be devoted to advancing the oxygen generating technology using ceramic membranes. To integrate Ceramic Oxygen Generators (COGS) into an aircraft work will be required to conserve oxygen using pulse dosing breathing regulators, monitoring aircrew via user acceptable sensors and biofeedback technology, and improving real-time oxygen sensing capability.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

	FY 2005	FY 2006	FY 2007	
Accomplishments / Effort / Sub-total Cost	4.055			
RDT&E Articles Qty				

Integrated Manifold and Tube Ceramic Oxygen Generator

This effort will provide funding for a currently unfunded effort to build and flight test a molecular sieve based oxygen concentrator with built in diagnostics and dilution control via external input. The research will focus on advancing the oxygen generating technology using ceramic membranes. To integrate COGS into an aircraft will require a method to conserve oxygen using pulse dosing breathing regulators, monitoring aircrew via user acceptable sensors and biofeedback technology, and improving real-time oxygen sensing capability. An alternative advanced Oxygen Generating Technology will also be pursued to improve fleet oxygen systems as ceramic technology matures.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-4**	PROGRAM ELEMENT NUMBER AND NAME **0603216N, AVIATION SURVIVABILITY**	PROJECT NUMBER AND NAME 9506, INTEGRATED MANIFOLD & TUBE CERAMIC OXYGEN GEN

C. PROGRAM CHANGE SUMMARY

Funding:	FY 2005	FY 2006	FY 2007
Previous President's Buget:	4.160	0.000	0.000
Current BES / President's Budget:	4.055	0.000	0.000
Total Adjustments	-0.105	0.000	0.000
Summary of Adjustments			
Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions	-0.106		
Congressional Increases	0.001		
Economic Assumtions			
Miscellaneous Adjustments			
Subtotal	-0.105	0.000	0.000

Schedule:

Not Applicable

Technical:

Not Applicable

D. OTHER PROGRAM FUNDING SUMMARY:	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost

E. ACQUISITION STRATEGY:

Not Applicable

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-4**	PROGRAM ELEMENT NUMBER AND NAME **0603216N, AVIATION SURVIVABILITY**	PROJECT NUMBER AND NAME 9507, INTELLIGENT AUTONOMY TECH TRANSITION PROGRAM	

COST ($ in Millions)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
9507 INTELLIGENT AUTONOMY TECHNOLOGY	2.417						
RDT&E Articles Qty							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This effort will focus on transitioning advancements and COTS technology into Unmanned Systems. The capability will greatly expand DoD's tactical options while safeguarding the warfighter. Physical limits on bandwidth and network connectivity require future devices to have high levels of organic autonomy to support the envisioned scenarios. Core technologies include sensing, data fusion, situational awareness, and intelligent autonomous operations, replanning, systems management and group cooperation. The funding will be used to demonstrate a higher level of Autonomy and Artificial Intelligence for Unmanned Systems to allow them to operate and be accepted in a manned environment. A high level of autonomy is required to achieve manpower reduction goals, data-link bandwidth limitations, and covert operations. The challenge is integrating new technology into existing military unmanned craft and finding a Research and Development/Test and Integration Center to host developmental testing. Autonomous systems are non-deterministic which are very difficult to test/certify. The current effort attempts to break this cycle of cost increases for unmanned systems by developing control algorithms and low cost high bandwidth data links to connect the UAVs to the control systems.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

	FY 2005	FY 2006	FY 2007
Accomplishments / Effort / Sub-total Cost	2.417		
RDT&E Articles Qty			

Intelligent Autonomy Technology Transition

A high level of autonomy is required to achieve manpower reduction goals, data-ling bandwidth limitations, and covert operations. The challenge is integrating new technology into existing military unmanned craft and finding a Research and Development/Test and Integration Center to host developmental testing. Autonomous systems are non-deterministic which are very difficult to test/certify. The current effort attempts to break this cycle of cost increases for unmanned systems by developing control algorithms and low cost high bandwidth data links to connect to UAV's to the control system.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-4**	PROGRAM ELEMENT NUMBER AND NAME **0603216N, AVIATION SURVIVABILITY**	PROJECT NUMBER AND NAME 9507, INTELLIGENT AUTONOMY TECH TRANSITION PROGRAM

C. PROGRAM CHANGE SUMMARY

Funding:	FY 2005	FY 2006	FY 2007
Previous President's Buget:	2.476	0.000	0.000
Current BES / President's Budget:	2.417	0.000	0.000
Total Adjustments	-0.059	0.000	0.000

Summary of Adjustments

Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions	-0.060		
Congressional Increases	0.001		
Economic Assumtions			
Miscellaneous Adjustments			
Subtotal	-0.059	0.000	0.000

Schedule:

Not Applicable

Technical:

Not Applicable

D. OTHER PROGRAM FUNDING SUMMARY:

	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost

Not Applicable

E. ACQUISITION STRATEGY:

Not Applicable

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-4**	PROGRAM ELEMENT NUMBER AND NAME **0603216N, AVIATION SURVIVABILITY**	PROJECT NUMBER AND NAME 9508, INTELLIGENT CONTROL SYSTEM FOR SWARM	

COST ($ in Millions)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
9508 INTELLIGENT CONTROL SYSTEM FOR SWARM	3.669						
RDT&E Articles Qty							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This program will develop an intelligent control system for the next generation of UAVs, with particular applicability for the SWARM UAV concept. The developed technology would have the capability for coordinated control of multiple UAVs and have processing capabilities required for responding to threat assessment for chemical, biological and nuclear detection sensors. Technology transfers to industry will be included in the program to establish an industrial base to support Defense applications.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

	FY 2005	FY 2006	FY 2007
Accomplishments / Effort / Sub-total Cost	3.669		
RDT&E Articles Qty			

Intelligent Control System for SWARM

The ultimate goal is to develop an intelligent control system that will demonstrate autonomous operations and cooperative behavior for persistent surveillance. The objective is to identify, acquire, and integrate, available technologies to develop prototype SWARM UAVs for test and evaluation. Specific tasks include: 1) identifying available components such as airframes, avionics controls, communication software, and sensors suitable for SWARM applications, 2) evaluating existing technologies and determining required enhancements, 3) algorithm and software development to control several vehicles in the air simultaneously, 4) cooperative behavior such that the vehicles positions are simultaneously tracked on the mission plan map.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-4**	PROGRAM ELEMENT NUMBER AND NAME **0603216N, AVIATION SURVIVABILITY**	PROJECT NUMBER AND NAME 9508, INTELLIGENT CONTROL SYSTEM FOR SWARM

C. PROGRAM CHANGE SUMMARY

Funding:	FY 2005	FY 2006	FY 2007
Previous President's Buget:	3.764	0.000	0.000
Current BES / President's Budget:	3.669	0.000	0.000
Total Adjustments	-0.095	0.000	0.000

Summary of Adjustments

Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions	-0.096		
Congressional Increases	0.001		
Economic Assumtions			
Miscellaneous Adjustments			
Subtotal	-0.095	0.000	0.000

Schedule:

Not Applicable

Technical:

Not Applicable

D. OTHER PROGRAM FUNDING SUMMARY:

	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost

Not Applicable

E. ACQUISITION STRATEGY:

Not Applicable

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-4**	PROGRAM ELEMENT NUMBER AND NAME **0603216N, AVIATION SURVIVABILITY**	PROJECT NUMBER AND NAME 9510, SILVER FOX UAV (NAVAIR)	

COST ($ in Millions)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
9510 SILVER FOX UAV (NAVAIR)	4.836						
RDT&E Articles Qty							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This effort will further accelerate the development of small, low-cost, unmanned air vehicles for Navy ship operations, marine mammal detection, submarine detection, tactical support for ground troops and special operations forces - including convoy protection perimeter defense. This effort will continue sensor development to optimize field of view, resolution, etc. for the scan search pattern for mine clearing, as well as the integration of the Autonomous Intelligent Network of Systems (AINS) program to support autonomous intelligent networks of UAVs.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

	FY 2005	FY 2006	FY 2007
Accomplishments / Effort / Sub-total Cost	4.836		
RDT&E Articles Qty			

Silver Fox UAV

Support the assessment of Silver Fox's ability to provide surveillance during mine clearing operations. In particular, search and scan patterns will be assessed and optimized. Key areas of study include determining resolution and field of view of the sensor as function of altitude and mission profile.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-4**	PROGRAM ELEMENT NUMBER AND NAME **0603216N, AVIATION SURVIVABILITY**	PROJECT NUMBER AND NAME 9510, SILVER FOX UAV (NAVAIR)

C. PROGRAM CHANGE SUMMARY

Funding:	FY 2005	FY 2006	FY 2007
Previous President's Buget:	4.952	0.000	0.000
Current BES / President's Budget:	4.836	0.000	0.000
Total Adjustments	-0.116	0.000	0.000
Summary of Adjustments			
Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions	-0.117		
Congressional Increases	0.001		
Economic Assumtions			
Miscellaneous Adjustments			
Subtotal	-0.116	0.000	0.000

Schedule:

Not Applicable

Technical:

Not Applicable

D. OTHER PROGRAM FUNDING SUMMARY:	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
Not Applicable									

E. ACQUISITION STRATEGY:

Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **FEBRUARY 2006**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-4**	PROGRAM ELEMENT NUMBER AND NAME **0603216N, AVIATION SURVIVABILITY**			PROJECT NUMBER AND NAME 9999, CONGRESSIONAL ADDS				
COST ($ in Millions)		FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost			**38.100**					
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

CONGRESSIONAL ADDS

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2006**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA4	0603216N, AVIATION SURVIVABILITY	9999, CONGRESSIONAL ADDS

B. Accomplishments/Planned Program

9170		FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost			2.300	
RDT&E Articles Quantity				

Modular Advanced Vision System

The initial design of the laser projected reflective LCD has been completed. This fundamental change in approach will significantly increase display resolution and brightness while reducing weight and center of gravity problems. Currently the laser source and associated relay optics are being fine tuned to improve manufacturability. Fit studies are assessing portion of the population accommodated by inner module and improving level of sound attenuation provided by hearing protection.

9173		FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost			2.800	
RDT&E Articles Quantity				

Rotorcraft External Airbag Protection

Rotocraft application will require larger airbags integrated into the aircraft and development of a "predictive" crash sensors and algoritms. Initial impact studies (water and ground) have already been conducted. Two flight tests of the REAPS system onboard H-53 will be conducted.

9346		FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost			1.350	
RDT&E Articles Quantity				

Equipment Life Extension Project

This effort will fund an equipment life extension laboratory for definition of systems no longer procurable that are critical to functionality of weapon systems. By equipping currently existing in house laboratories to maintain, modify, and update existing, non supported systems a significant cost reduction will be realized.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2006**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA4	0603216N, AVIATION SURVIVABILITY	9999, CONGRESSIONAL ADDS

B. Accomplishments/Planned Program

9505		FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost			2.100	
RDT&E Articles Quantity				

Advanced Maritime Technology Center

The Advanced Maritime Technology Center will be an engineering facility to modify / optimize effective new aviation and information technologies to port the capability over to small maritime craft for special operations. The key feature in designing small watercraft are mission / crew-centered innovations embodying technology drawn from advances in the areas of display design, crashworthiness, advanced restraint systems, helmet mounted displays , and supporting head / neck injury research.

9506		FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost			4.200	
RDT&E Articles Quantity				

Integrated Manifold and Tube Ceramic Oxygen Generator

This effort will complete a currently unfunded effort to build and flight test a molecular sieve based oxygen concentrator with built in diagnostics and dilution control via external input. The research will focus on advancing the oxygen generating technology using ceramic membranes. To integrate COGS into an aircraft will require a method to conserve oxygen using pulse dosing breathing regulators, monitoring aircrew via user acceptable sensors and biofeedback technology, and improving real-time oxygen sensing capability. An alternative advanced Oxygen Generating Technology will also be pursued to improve fleet oxygen systems as ceramic technology matures. This effort will complete a currently unfunded effort to build and flight test a molecular sieve based oxygen concentrator that has built in diagnostics and dilution control via external input.

9507		FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost			2.500	
RDT&E Articles Quantity				

Intellegent Autonomy Transition Program

A high level of autonomy is required to achieve manpower reduction goals, data-link bandwidth limitations, and covert operations. The challenge is integrating new technology into existing military unmanned craft and finding a Research and Development/Test and Integration Center to host developmental testing. Autonomous systems are non-deterministic which are very difficult to test/certify. The current effort attempts to break this cycle of cost increases for unmanned systems by developing control algorithms and low cost high bandwidth data links to connect the UAV's to the control system.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2006**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA4	0603216N, AVIATION SURVIVABILITY	9999, CONGRESSIONAL ADDS

B. Accomplishments/Planned Program

9508		FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost			3.700	
RDT&E Articles Quantity				

Intelligent Control Systems for SWARM UAVs

The ultimate goal is to develop an intelligent control system that will demonstrate autonomous operations and cooperative behavior for persistent surveillance. The objective is to identify, acquire, and integrate, available technologies to develop prototype SWARM UAVs for test and evaluation. Specific tasks include: 1) identifying available components such as airframes, avionics controls, communication software, and sensors suitable for SWARM applications, 2) evaluating existing technologies and determining required enhancements, 3) algorithm and software development to control several vehicles in the air simultaneously, 4) cooperative behavior such that the vehicles positions are simultaneously tracked on the mission plan map.

9510		FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost			2.800	
RDT&E Articles Quantity				

Silver Fox UAV

Support the assessment of Silver Fox's ability to provide surveillance during mine clearing operations. In particular, search and scan patterns will be assessed and optimized. Key areas of study include determining resolution and field of view of the sensor as function of altitude and mission profile.

9756		FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost			2.000	
RDT&E Articles Quantity				

Agile Laser Eye Protection

Funding will continue the development of the Unity Magnification Goggle, the first device within DoD tested and shown to provide protection against a frequency agile laser. Current transmittance limits usage to day only. The push will be to integrate night vision cameras using an innovative optical design to allow day / night usage that doesn't reduce day acuity and color perception.

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RDT&E, N / BA4	0603216N, AVIATION SURVIVABILITY	9999, CONGRESSIONAL ADDS

B. Accomplishments/Planned Program

9757		FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost			1.000	
RDT&E Articles Quantity				

Aviation Fire Suppression Production Alignment

Congressional Add

9758		FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost			1.750	
RDT&E Articles Quantity				

Ceramic Air-Deployed Sensor

The ceramic sensor is a highly sensitivity, air borne sensor designed to detect trace materials. Work will focus on optimizing the sensitivity and packaging of sensor / sensor suite.

9759		FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost			3.400	
RDT&E Articles Quantity				

Command Chair Active Isolation

The command Chair is the next generation of Human Machine Interface for Bridge and Tactical Computing. The concept is based on complete integration of isolation, computer, Multi-Layered Displays, controls and secure seating into one structure that will decrease the cost over conventional workstations significantly, while increasing reliability. This new form of operational workstation when combined with a Common Display Open Architecture and next generation visualization will ensure alignment of the technology to meet the emerging requirements of U.S. Navy new ship construction and modernization plans.

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EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2006**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA4	0603216N, AVIATION SURVIVABILITY	9999, CONGRESSIONAL ADDS

B. Accomplishments/Planned Program

9760		FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost			3.500	
RDT&E Articles Quantity				

Kingfisher II Hybrid UAV/USV

Funding will be used to equip the Kingfisher with the appropriate sensor suite to monitor and resolve real time activity in and around the littorals. Currently, Navy assets (sub and surface) move through restricted waterways without situational awareness of surrounding activity and potential threats. A properly equipped UAV (sensors with necessary resolution and field of view) could provide the required situational awareness to reduce likelihood of threat / injury.

9761		FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost			1.600	
RDT&E Articles Quantity				

Integrated Mission Helmet

The Integrated Mission Helmet is a two-part helmet designed to provide a common platform across platforms and services. The approach is based on an inner life support module (LSM) and a custom outer helmet specific to a particular mission. The LSM will be sized (2) and fit to the individual to accommodate the population and provide impact , penetration and hearing protection / communications. The common outer modules will be either a rotary wing, tactical or helmet mounted display variant. If successful the Integrated Mission Helmet will reduce the number of helmets in inventory from 26 to 2 inner and 5 -6 outer.

9762		FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost			2.100	
RDT&E Articles Quantity				

Operational Experimentation Environment at Pax

The "Operational Experimentation Environment" will enhance the Distributed Common Ground System-Navy (DCGS-N) Experimentation & Analysis Laboratory (DEAL). Funding will be used to conduct operational experimentation to enhance the interoperability of the DCGS-N system and Naval Aircraft and their associated integration facilities. The DCGS-N Experimentation & DEAL will address Maritime Littoral Intelligence, Surveillance, Reconnaissance & Targeting (ML-ISR&T), and Homeland Defense (HLD), Network Centric Warfare (NCW) mission areas by supporting virtual and live operational experiments to assess prototype technologies and evaluate interoperability requirements.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2006**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA4	0603216N, AVIATION SURVIVABILITY	9999, CONGRESSIONAL ADDS

B. Accomplishments/Planned Program

9763		FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost			1.000	
RDT&E Articles Quantity				

Smart Visor

The Smart Visor will integrate emerging liquid crystal and or thin film technologies into a visor substrate to improve laser eye protection. The approach is based on a polymeric stack that can be molded into the visor substrate. The second approach that could provide variable attenuation in real time is a spherical liquid crystal visor. Both approaches will provide cost effective broadband, variable density protection.

		FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				

		FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				

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APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-4	0603216N, AVIATION SURVIVABILITY	9999, CONGRESSIONAL ADDS

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 05	FY 06	FY 07
Previous President's Budget:			
Current BES/President's Budget		38.100	
Total Adjustments	0.000	38.100	0.000
Summary of Adjustments			
Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions			
Congressional Increases		38.100	
Economic Assumptions			
Miscellaneous Adjustments			
Subtotal	0.000	38.100	0.000

Schedule:

Not Applicable

Technical:

Not Applicable

R-1 SHOPPING LIST - Item No. 31