EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2006		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA 7						R-1 ITEM NOMENCLATURE 0205633N, AVIATION IMPROVEMENTS		
COST ($ in Millions)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	
Total PE Cost	75.417	94.928	71.612	66.503	67.900	67.889	69.446	
0601 COMMON GROUND EQUIPMENT	2.547	2.962	3.051	3.158	3.226	3.301	3.378	
0852 CONSOLIDATION AUTOM SPT SYS	5.226	6.674	6.880	7.134	7.315	7.367	7.480	
1041 ACFT EQ REL/MAINT PROG	2.509	2.909	2.997	2.278	2.757	2.789	2.844	
1355 A/C ENG COMP IMP (CIP)	50.431	67.778	58.684	53.933	54.602	54.432	55.744	
9109 A/C AGE EXPLORATION	2.887							
9426 AUTOMATED WIRE ANALYSIS	4.149							
9427 DIGITAL INTEGRATED COCKPIT DISPLAY *	.968							
9628 CORROSION INHIBITING COATINGS	1.361							
9629 NANO-COMPOSITE HARD-COAT FOR AIRCRAFT	2.227							
9630 CENTRER FOR DEFENSE SUSTAINMENT	.977							
9631 DEV. OF NEXT GENERATION TECH. FOR THE	2.136							
9999 CONGRESSIONAL ADDS		14.605						

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

Project 0601 - Common Ground Equipment is a Naval Aviation Project to apply new technology to common support equipment necessary to support multiple aircraft.

Project 0852 - Consolidated Automated Support System (CASS) is a standardized Automated Test Equipment (ATE) with computer assisted, multi-function capabilities to support the maintenance of aircraft subsystems and missiles.

Project 1041 - Aircraft Equipment Reliability/Maintainability Improvement Program (AERMIP) is the only Navy program that provides engineering support for in-service out-of-production aircraft equipment, and provides increased readiness at reduced operational and support cost.

Project 1355 - Aircraft Engine Component Improvement Program (CIP) develops reliability and maintainability (R&M) and safety enhancements for in-service Navy aircraft engines, transmissions, propellers, starters, auxiliary power units, electrical generating systems, fuel systems , fuels, and lubricants.

Project 9109 - Aircraft Age Exploration Model for Naval Aircraft platforms. The model will use existing Naval Aircraft data to establish connections between age and reliabilty, maintainability, and readiness and will provide the Navy with a valuable tool for understanding, predicting, and communicating impacts of decisions to extend aircraft service lives and for mitigating risks associated with these decisions. This is a continuation of efforts initiatied in FY02 to add enhanced functionallity to include automatic identification of reliability degredation items and automatic tracking of actuals against model generated predictions.

Project 9426 - Current practices have technicians perform electrical testing on aircraft using both manual and automated methods. Once a short or open is found using existing test equipment, the technician must then find the physical location of the fault, one wire at a time, using pin-to-pin tests with handheld multi-meters and visual inspection. This generally involves at least two individuals connecting leads to each end of a wire to be tested. This is a slow process and reactive in nature. New commercial technology that incorporates Standing Wave Reflectometry (SWR) can proactively identify all hard faults (e.g. shorts and opens) of wiring malfunctions from a single end wire test, verify system modifications, and localize aircraft wiring malfunctions to within inches. This capability does not exist in the U.S. Navy today. A single wiring analyzer can serially test up to 1,152 wires at a time and the system can be expanded to test up to a maximum of 128,000 test points. This effort is to develop, validate and qualify this capability for Naval Avaition applications.

Project 9427 - The TH-57 Helicopter is the Navy's only primary helicopter pilot training platform, and is expected to remain in that capacity until 2025. All Navy fleet helicopters will have digital cockpits by 2012. To remain viable as an effective training platform, which meets the training requirements of an all digital helicopter fleet, the TH-57 cockpit can best utilize a digital design to effect greater aircraft training utilization. Research and Development funds will be utilized to produce a product that keeps pace with the rapidly changing fleet helicopter pilot training requirements and provides increased hard landing/crash and exceedence warning system protection to aircrews. The following areas will be explored: Requirement Analysis, Cost Estimation, Crew Systems/Human System Integration, Logistics Support Analysis, and Aircraft Integration.

Project 9428 - The NAVAIR Technology Commercialization Initiative is an effort to transition commercial technology for Naval Avaition Applications.

Project 9628 - The Corrosion Inhibiting Coatings initiative is an effort to develop and test a conductive polymer coating for increased corrosion resistance.

Project 9629 - The Nano-Composite Hard-Coat for Aircraft Canopies initiative is an effort to develop and test improved canopy coating materials.

Project 9630 - The Center for Defense Sustainment Technology initiative is an effort to support the Joint Council on Aging Aircraft (JCAA) National Strategy efforts in the Cost of Aging, obsolescence management and rotorcraft dynamic component technologies.

Project 9631 - Development of Next Generation Technology for the Inspection of Aircraft Engines, Diagnostics and Repair will lead to the development of a next generation Common Video Borescope Set to support the fleet maintenance requirement to inspect internal components of aircraft engines and airframes for defects. The goals of this effort are to address deficiencies in the current inspection equipment by improving survivability, reducing proliferation/inventory, reducing maintenance costs, improving training and reliabilty, providing an upgradeable design, and maximizing commonality of inspection between the Organizational and Intermediate levels of maintenance.

Project 9999 Congressional Adds.

*The Department of the Navy has determined that funding is not required.

Totals may not add due to rounding.

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2006	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 7**		PROGRAM ELEMENT NUMBER AND NAME **0205633N, AVIATION IMPROVEMENTS**					PROJECT NUMBER AND NAME 0601, COMMON GROUND EQUIPMENT	
COST ($ in Millions)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	
W0601 COMMON GROUND EQUIPMENT	2.547	2.962	3.051	3.158	3.226	3.301	3.378	
RDT&E Articles Qty	1	1	1					

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Common Ground Equipment is a Naval Aviation Project to apply new technology to common support equipment necessary to support multiple systems/aircraft within the Navy. The common support equipment items developed with this budget is briefed to the Air Force, Army and Coast Guard for possible use in joint procurement in the production phase.

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The items procured with this budget are new technology items that are required to meet fleet aircraft requirements in both testing and loading of aircraft systems.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

TETI	FY 2005	FY 2006	FY 2007	
Accomplishments / Effort / Sub-total Cost		1.200	1.651	
RDT&E Articles Qty				

Turboprop Engine Test Instrumentation (TETI) - The Turboprop Engine Test Instrumentation (TETI) program objective is to provide an integrated computer based measurement and automation system for Intermediate Maintenance level testing of Navy/Marine Turboprop engines. The acquisition approach is to develop, acquire, validate, deploy and support production configurations of TETI and Test Program Sets (TPS), utilizing the existing Jet Engine Test Initiative (JETI) technology, and integrate this capability into existing land based engine test systems. This enhanced capability will allow for full performance engine testing of the T56 Series Turboprop engines. An ECP will be developed to upgrade the existing engine test systems.

NGMH	FY 2005	FY 2006	FY 2007	
Accomplishments / Effort / Sub-total Cost	2.453	1.762	1.400	
RDT&E Articles Qty	1	1	1	

Next Generation Munitions Handler (NGMH) - R&D program to develop robotic weapons loader for both ship and shore with primary focus on targeting future weapons and aircraft. Plan is to support CVNX initiatives and to back-fit current CVs and amphibious ships. Utilize technology features developed under NGMH program. One Lab prototype will upload/download munitions in support of sea-based aviation, specifically the CVN-21 environment. It will be a self-powered diesel/electric unit with human amplificaton technology. Newly developed high-torque electric actuator/motors will provide the robotics. Variable geometry IIonator wheels will provide the mobility for the vehicle. Self-diagnostics for mainteance analysis will be included for the design.

SETI	FY 2005	FY 2006	FY 2007	
Accomplishments / Effort / Sub-total Cost	.094			
RDT&E Articles Qty				

Shaft Engine Test Instrumentation (SETI) - Program objective is to provide an integrated computer based measurement and automation system for Intermediate Maintenance level testing of Navy/Marine Turbo shaft engines. The acquisition approach is to develop, acquire, validate, deploy and support production configurations of SETI and Test Program Sets (TPS), utilizing the existing Jet Engine Test Initiative (JETI) technology, and integrate this capability into existing land based (A/E372T-24) and (A/F37T-16) engine test systems. This enhanced capability will allow for full performance engine testing of the T58, T64, and T700 Turbo shaft engines. An ECP will be developed to upgrade the existing engine test systems.

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 /	**BA 7**	**0205633N, AVIATION IMPROVEMENTS**	0601, COMMON GROUND EQUIPMENT

C. PROGRAM CHANGE SUMMARY

Funding:	FY 2005	FY 2006	FY 2007
Previous President's Budget:	2.626	3.007	2.812
Current President's Budget:	2.547	2.962	3.051
Total Adjustments	-0.079	-0.045	0.239

Summary of Adjustments			
Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions	-0.009	-0.031	
Congressional Increases	0.001		
Economic Assumptions		-0.014	0.016
Miscellaneous Adjustments	-0.071		0.223
Subtotal	-0.079	-0.045	0.239

Schedule:

Acquisition, testing and production milestones adjusted for TETI program. The milestones were shifted to the right by approximately two quarters. After the early planning meetings for the TETI program, the original schedule was determined to unrealistic. The schedule change will allow the program to be executed much more effectively, including early obligation and expenditure of the program RDT&E funds. Milestone A was mistakenly included on the FY06/07 President's budget, and has been eliminated. As TETI is a spinoff of two other engine test system programs (JETI and SETI), there is no need to go through a Milestone A.

Due to the anticipated complexity of the NGMH, and the potential for the production contract award going to a different contractor than the original developer (Foster Miller Corporation), additional time was incorporated into the schedule to require the production contractor to build and successfully performance test several LRIP units before Full Rate Production (FRP) is initiated. This additional schedule time lowers risk to the program and postpones the FRP by one quarter.

Technical:

Not Applicable

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 7**	PROGRAM ELEMENT NUMBER AND NAME **0205633N, AVIATION IMPROVEMENTS**	PROJECT NUMBER AND NAME 0601, COMMON GROUND EQUIPMENT	

D. OTHER PROGRAM FUNDING SUMMARY:

	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
APN 070500 Ground Support Equipment	221.065	191.086	176.362	172.941	162.476	165.849	169.639	Continuing	Continuing

Related RDT&E: Not Applicable

E. ACQUISITION STRATEGY:

This is a non-ACAT program. Field activities propose tentative RDT&E projects. Internal panel merits and selects projects. Field activities develop projects and submit results. Operational Advisory Group (OAG) process selects projects to transition to procurement.

Exhibit R-3 Cost Analysis (page 1)									DATE: February 2006			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 7		PROGRAM ELEMENT 0205633N, AVIATION IMPROVEMENTS				PROJECT NUMBER AND NAME 0601, COMMON GROUND EQUIPMENT						
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-NGMH	C-FFP	FOSTER-MILLER INC, WALTHAM, MA		1.712	3/31/2005	1.265	3/31/2006				2.977	2.977
Primary Hdw Development-NGMH	VARIOUS	TBD	17.112					.913	3/31/2007	Continuing	Continuing	
Primary Hdw Development-SETI	C-FFP	RACAL INSTRUMENTS INC, IRVINE, CA		.094	5/5/2005						.094	.094
Primary Hdw Development-TETI	VARIOUS	VARIOUS				.694	VARIOUS	.815	3/31/2007	Continuing	Continuing	
Systems Eng-NGMH	VARIOUS	VARIOUS	.466			.282	VARIOUS	.327	3/31/2007	Continuing	Continuing	
Systems Eng-TETI	VARIOUS	NAWCAD, LAKEHURST, NJ				.282	3/31/2006	.427	3/30/2007	Continuing	Continuing	
SUBTOTAL PRODUCT DEVELOPMEN			17.578	1.806		2.523		2.482		Continuing	Continuing	
Remarks:												
SUPPORT												
Develop Support Equip-NGMH	VARIOUS	VARIOUS	6.151	.741	VARIOUS	.015	VARIOUS	.015	VARIOUS	Continuing	Continuing	
Integrated Logistics Sup-NGMH	VARIOUS	VARIOUS	.060		12/31/2004	.030	12/31/2005	.030	12/31/2006	Continuing	Continuing	
Integrated Logistics Sup-TETI	VARIOUS	VARIOUS			VARIOUS	.030	VARIOUS	.030	VARIOUS	Continuing	Continuing	
Software Development-TETI	VARIOUS	NAWCAD, LAKEHURST, NJ				.015	12/30/2005	.015	12/29/2006	Continuing	Continuing	
Studies & Analyses-NGMH	VARIOUS	VARIOUS	.030		VARIOUS	.015	VARIOUS	.015	VARIOUS	Continuing	Continuing	
Studies & Analysis -TETI	VARIOUS	NAWCAD, LAKEHURST, NJ				.014	12/31/2005	.015	12/29/2006	Continuing	Continuing	
SUBTOTAL SUPPORT			6.241	.741		.119		.120		Continuing	Continuing	
Remarks:												
TEST & EVALUATION												
Dev Test & Eval-NGMH	VARIOUS	VARIOUS	.060			.155	VARIOUS	.100	VARIOUS	Continuing	Continuing	
Dev Test & Eval-TETI	TBD	TBD						.184	12/31/2006	Continuing	Continuing	
SUBTOTAL TEST & EVALUATION			.060			.155		.284		Continuing	Continuing	
Remarks:												
MANAGEMENT												
Contractor Eng Sup-TETI	VARIOUS	VARIOUS	.025			.025	VARIOUS	.025	VARIOUS	Continuing	Continuing	
Government Eng Sup-TETI	VARIOUS	VARIOUS	.060			.050	VARIOUS	.050	VARIOUS	Continuing	Continuing	
Program Mgmt Sup-TETI	TBD	TBD	.075			.075	12/15/2005	.075	12/15/2006	Continuing	Continuing	
Travel-TETI	TO	NAVAIRHQ, PAX RIVER, MD				.015	VARIOUS	.015	VARIOUS	Continuing	Continuing	
SUBTOTAL MANAGEMENT			.160			.165		.165		Continuing	Continuing	
Remarks:												
Total Cost			24.039	2.547		2.962		3.051		Continuing	Continuing	
Remarks:												

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																				DATE: **February 2006**								
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /**					PROGRAM ELEMENT NUMBER AND NAME 0205633N Aviation Improvements												PROJECT NUMBER AND NAME 0601 Common Ground Equipment												
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 TETI								MS B △											MS C △		FRP DECISION △							
Prototype Phase										Prototype Phase																		
Radar System Development																												
EDM Radar Delivery																												
Software 1XXSW Delivery 2XXSW Delivery																												
Test & Evaluation Milestones TETI Development Test											Developmental Testing																	
Operational Test															Operational Testing													
Production Milestones TETI																												
FRP FY 10																					FRP Start △							

CLASSIFICATION:

EXHIBIT R4, Schedule Profile

DATE: **February 2006**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /	0205633N Aviation Improvements	0601 Common Ground Equipment

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 NGMH								MS B △								MS C △						FRP DECISION △						
Prototype Phase			Prototype Phase																									
Radar System Development																												
EDM Radar Delivery																												
Software 1XXSW Delivery 2XXSW Delivery																												
Test & Evaluation Milestones NGMH																												
Development Test			Developmental Testing																									
Operational Test									Operational Testing																			
Production Milestones NGMH																△ LRIP(3)												
FRP FY 10																						△ FRP Start						
Deliveries NGMH																				△ LRIP (3)								

CLASSIFICATION:

Exhibit R-4a, Schedule Detail				DATE: **February 2006**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E BA-7**				PROJECT NUMBER AND NAME 0601 Common Ground Equipment			
Schedule Profile - TETI	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Prototype Phase			2Q-4Q	1Q-4Q	1Q-3Q		
Milestone B		4Q					
Developmental Testing			3Q-4Q	1Q-3Q			
Milestone C (MS C)					3Q		
Operational Testing				3Q-4Q	1Q-3Q		
Full Rate Production Decision						1Q	
Full Rate Production Start						1Q	

CLASSIFICATION:

Exhibit R-4a, Schedule Detail				DATE: **February 2006**			
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-7**				PROJECT NUMBER AND NAME 0601 Common Ground Equipment			
Schedule Profile - NGMH	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Prototype Phase	1Q-4Q	1Q-4Q					
Milestone B		4Q					
Developmental Testing	3Q-4Q	1Q-4Q	1Q-2Q				
Milestone C (MS C)				4Q			
Operational Testing			1Q-4Q	1Q-4Q			
Start Low-Rate Initial Production I (LRIP I)				4Q			
Low-Rate Initial Production I Delivery					4Q		
Full Rate Production Decision						2Q	
Full Rate Production Start						2Q	

R-1 SHOPPING LIST - Item No. 176

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 7**		PROGRAM ELEMENT NUMBER AND NAME **0205633N, AVIATION IMPROVEMENTS**					PROJECT NUMBER AND NAME 0852, CONSOLIDATED AUTOM SPT SYS	
COST ($ in Millions)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	
W0852 CONSOLIDATED AUTOM SPT SYS	5.226	6.674	6.880	7.134	7.315	7.367	7.480	
RDT&E Articles Qty	1	1	1					

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Consolidated Automated Support System (CASS) project designs and develops modular automated test equipment with computer-assisted, multi-function test capability, standardized hardware, and standard software elements. CASS responds to Fleet Commanders' expressed requirements to correct serious deficiencies in existing automatic test equipment. Program objectives are: (1) increase material readiness; (2) reduce life cycle costs; (3) improve tester sustainability at depot and intermediate maintenance levels; (4) reduce proliferation of unique test equipment, and (5) provide test capability for existing and emerging avionics/electronics systems.

Technologies being developed include synthetic instruments, new Advanced Targeting Forward Looking Infrared (ATFLIR) electro-optics capability, multi-analog test capability to enable functional testing, and CASS station modernization elements.

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 / BA 7	**0205633N, AVIATION IMPROVEMENTS**	0852, CONSOLIDATED AUTOM SPT SYS	

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

CASS Modernization Development	FY 2005	FY 2006	FY 2007	
Accomplishments / Effort / Sub-total Cost	4.368	2.364	4.458	
RDT&E Articles Qty				

CASS Modernization Development
Develops and integrates the technologies that will comprise the Modernization Program for the early lots of CASS stations which will be modernized and updated to current testing technologies while maintaining full compatibility with the legacy test program sets. Technologies include: downsized and scalable packaging techniques, multi-lingal runtime capability, interoperability framework and architectures, diagnostics data handling, virtual/synthetic/next-generation instrument concepts and the Agile Rapid Global Combat Support (ARGCS) Advanced Concept Technology Demonstration (ACTD).

Electro-Optic Capability	FY 2005	FY 2006	FY 2007	
Accomplishments / Effort / Sub-total Cost	.830	2.190	.320	
RDT&E Articles Qty				

Electro-Optic Capability
Develops a downsized electro-optic support system to enable Reconfigurable Transportable CASS (RTCASS) to provide support for Marine Air FLIR and LASER Targeting systems.

CASS Station Upgrades	FY 2005	FY 2006	FY 2007	
Accomplishments / Effort / Sub-total Cost	.028	2.120	2.102	
RDT&E Articles Qty				

CASS Station Upgrades
Provides technologies for upgrading CASS station test capability to test emerging weapon system requirements. Includes development of new test capability and extending existing test range accuracies in the time and frequency domain. Specifically to support low-frequency analog/digital, electro-optic, and radio frequency (RF) emerging weapon systems.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 7**	PROGRAM ELEMENT NUMBER AND NAME **0205633N, AVIATION IMPROVEMENTS**	PROJECT NUMBER AND NAME 0852, CONSOLIDATED AUTOM SPT SYS	

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 /	**BA 7**	**0205633N, AVIATION IMPROVEMENTS**	0852, CONSOLIDATED AUTOM SPT SYS

C. PROGRAM CHANGE SUMMARY

Funding:	FY 2005	FY 2006	FY 2007
Previous President's Budget:	5.406	6.776	6.356
Current President's Budget:	5.226	6.674	6.880
Total Adjustments	-0.180	-0.102	0.524
Summary of Adjustments			
Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions	-0.103	-0.071	
Congressional Increases	0.001		
Economic Assumptions		-0.031	0.036
Miscellaneous Adjustments	-0.078		0.488
Subtotal	-0.180	-0.102	0.524

Schedule: The schedule was amended to add eCASS which is the name of the new modernized CASS stations. The point of ARGCS is to demonstrate the test technologies that will be used in eCASS.

Technical:

Not Applicable

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 7**	PROGRAM ELEMENT NUMBER AND NAME **0205633N, AVIATION IMPROVEMENTS**	PROJECT NUMBER AND NAME 0852, CONSOLIDATED AUTOM SPT SYS	

D. OTHER PROGRAM FUNDING SUMMARY:	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
APN 070500 CASS	76.617	75.059	79.720	82.250	83.935	85.675	97.630	Continuing	Continuing

Related RDT&E: Not Applicable

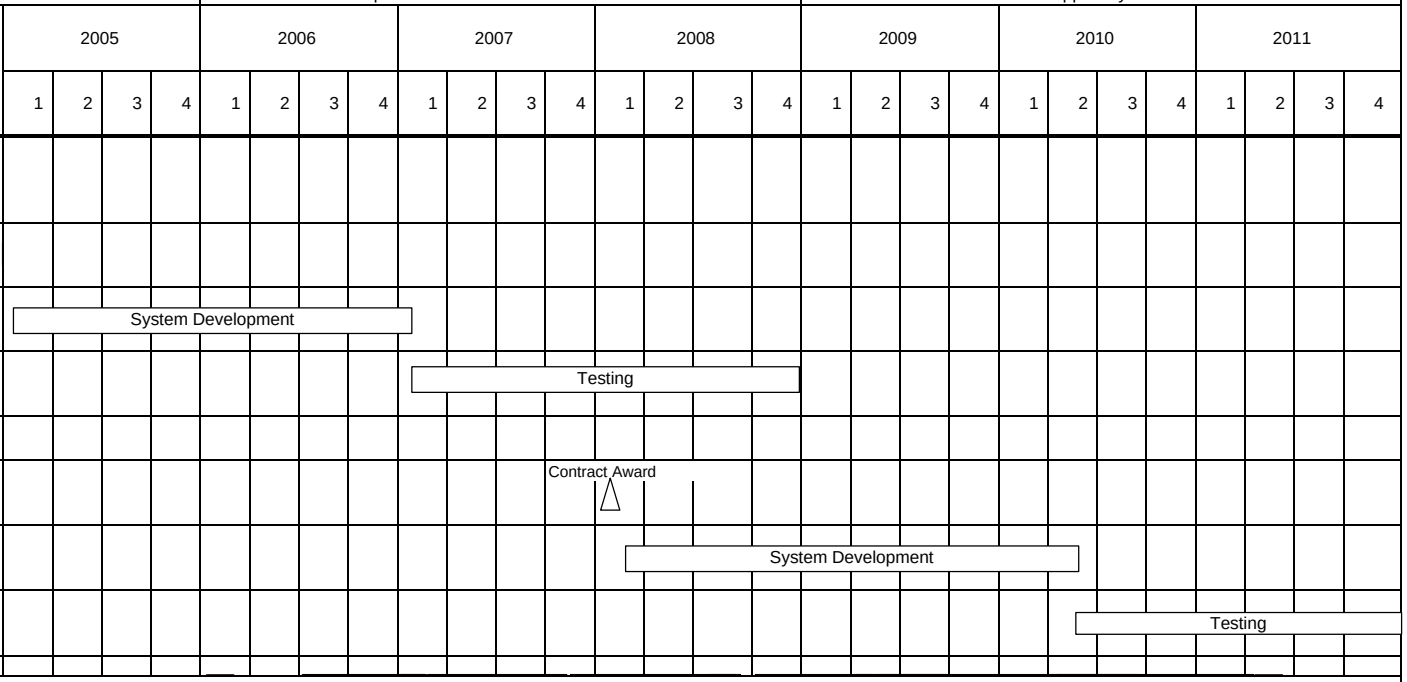
E. ACQUISITION STRATEGY:

Formal test technology reviews with industry are conducted annually (cooperative Joint Services initiative) to define maturity of needed technologies. Further studies are conducted as needed. Procurement strategy is determined by market survey and cooperative opportunities.

Exhibit R-3 Cost Analysis (page 1)									DATE: February 2006			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 7		PROGRAM ELEMENT 0205633N, AVIATION IMPROVEMENTS				PROJECT NUMBER AND NAME 0852, CONSOLIDATED AUTOM SPT SYS						
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 Dev CASS EO	VARIOUS	VARIOUS	2.400	.830	VARIOUS	2.190	VARIOUS	.320	VARIOUS	Continuing	Continuing	
Primary Hdw Dev CASS Mod	C-CPFF	NORTHROP GRUMMAN SYSTEMS CORP, SYKESVILLE, MD		3.112	11/4/2004						3.112	3.112
Primary Hdw Dev CASS Mod	C-CPFF	BOEING, ST LOUIS, MO				1.314	11/4/2005	3.096	11/4/2006	Continuing	Continuing	
Primary Hdw Development CASS Upgra	VARIOUS	VARIOUS	23.111			1.522	11/1/2005	1.283	11/1/2006	Continuing	Continuing	
SUBTOTAL PRODUCT DEVELOPMEN			25.511	3.942		5.026		4.699		Continuing	Continuing	
Remarks:												
SUPPORT												
Develop Support Equip CASS Mod	VARIOUS	NAWCAD, LAKEHURST NJ		.571	11/2/2004	1.050	11/4/2005	1.052	11/4/2006	Continuing	Continuing	
Develop Support Equip CASS Upgrades	VARIOUS	VARIOUS	.250	.026	VARIOUS	.248	VARIOUS	.469	VARIOUS	Continuing	Continuing	
ETS (NON-FFRDC) CASS Mod	VARIOUS	VARIOUS		.389	VARIOUS			.310	VARIOUS	Continuing	Continuing	
SUBTOTAL SUPPORT			.250	.986		1.298		1.831		Continuing	Continuing	
Remarks:												
TEST & EVALUATION												
SUBTOTAL TEST & EVALUATION												
Remarks:												
MANAGEMENT												
Travel CASS Mod	TO	NAVAIRHQ, PATUXENT RIVER MD	.974	.279	VARIOUS					Continuing	Continuing	
Travel CASS Mod (NATEC)	TO	NAVAL TECHNICAL REPRESENTATIVE, HURST, TX		.017	VARIOUS					Continuing	Continuing	
Travel CASS Upgrades (HQ)	TO	NAVAIRHQ, PATUXENT RIVER MD		.002	VARIOUS	.350	VARIOUS	.350	VARIOUS	Continuing	Continuing	
SUBTOTAL MANAGEMENT			.974	.298		.350		.350		Continuing	Continuing	
Remarks:												
Total Cost			26.735	5.226		6.674		6.880		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 /	0205633N Aviation Improvements		0852 Consolidated Automated Support System	



CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2006**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E BA-7**	PROGRAM ELEMENT 0205633N Aviation Improvements				PROJECT NUMBER AND NAME 0852 Consolidated Automated Support System		
Schedule Profile - ARGCS	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Contract Award							
System Development	1Q-4Q	1Q-4Q	1Q				
Testing			1Q-4Q	1Q-4Q			
Schedule Profile - eCASS							
Contract Award				1Q			
System Development				1Q-4Q	1Q-4Q	1Q-2Q	
Testing						2Q-4Q	1Q-4Q

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 7**	PROGRAM ELEMENT NUMBER AND NAME **0205633N, AVIATION IMPROVEMENTS**	PROJECT NUMBER AND NAME 1041, ACFT EQ REL/MAINT PROG	

COST ($ in Millions)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
1041 ACFT EQ REL/MAINT PROG	2.509	2.909	2.997	2.278	2.757	2.789	2.844
RDT&E Articles Qty							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

AERMIP is the only Navy program which provides Research, Development, Test & Evaluation (RDT&E) engineering support specifically for in-service, out-of-production aircraft equipment. AERMIP increases readiness through Reliability and Maintainability (R&M) and safety improvements to existing systems and equipment installed in Naval aircraft. It also provides a transition vehicle to deploy Total Ownership Cost (TOC) reduction initiatives through flight-test support and Fleet Test & Evaluation. It meets affordable readiness objectives by providing a cost-effective solution to obsolescence problems encountered when service lives are extended. AERMIP promotes commonality and standardization across aircraft platform lines and among the services through extension of application and use of non-developmental items. AERMIP also decreases life cycle costs through reduced operational and support costs. AERMIP facilitates the Operational, Safety and Improvement Program by applying proven low-risk solutions to current fleet problems. AERMIP also funds high priority flight testing which is not associated with any acquisition or development program under the Flight Test General (FTG) task.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

	FY 2005	FY 2006	FY 2007
Accomplishments / Effort / Sub-total Cost		1.290	1.390
RDT&E Articles Qty			

AIR VEHICLE (B):

Qualify new commercially available state-of-the-art fire and thermal barrier materials. Qualification and implementation of advanced non-chrome primers with adequate corrosion protection properties. Perform field-testing and validation of the Office of Naval Research developed topcoat with enhanced durability so that it can last 8 years between repainting for approval for all Naval Aviation. Apply the latest sensor technology to develop an “after market” add-on fire bottle-monitoring device that affords immediate visible indication of bottle condition (go / no go). Incorporation of improved corrosion protection schemes while maintaining electrical and EMI performance will dramatically extend seal and surface life, reduce EMI degradation, and reduce corrosion maintenance cost. Field test and qualify for usage for all Naval Aviation an Office of Naval Research developed long-life CPC that can be effectively employed on a 308-day maintenance cycle. Opportunities and issues arise yearly that demand immediate attention to provide significant benefit or to avert an unanticipated problem. AERMIP actively pursues these issues and opportunities and responds quickly to implement a solution. Products are a qualified material or piece of equipment and the procedures/process required for its implementation.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /** **BA 7**		PROGRAM ELEMENT NUMBER AND NAME **0205633N, AVIATION IMPROVEMENTS**	PROJECT NUMBER AND NAME 1041, ACFT EQ REL/MAINT PROG

	FY 2005	FY 2006	FY 2007
Accomplishments / Effort / Sub-total Cost	2.509	1.619	1.607
RDT&E Articles Qty			

AVIONICS AND WIRING (A):
Validate and transition Office of Naval Research (ONR) funded Smart Wire technology by conducting full aircraft flight test. Verify and validate a replacement Advanced Data Collection System that remotely downloads memory unit information for the AN/ASH-37(v) Structural Data Recording Set (SDRS). Test and perform the required changes to validate the ASW-27 as a replacement to the ASW-25. Perform the required testing to validate that the miniature version Arc Fault Circuit Breaker designed for fighter/attack aircraft and helicopters will work through system level Electro Magnetic Compatibility (EMC) and lighting events. Advance the Processor Maintainability efforts beyond the initial prototype stage to validate that accuracy of the developed common processes to ensure that reliability and maintainability issues caused by obsolescence components are identified and solutions options developed before the issues become critical. Replace ASQ-208 to reduce maintenance cost and inrease system readiness. Test and perform the required changes to validate a replacement APN-202 system. Opportunities and issues arise yearly that demand immediate attention to provide significant benefit or to avert an unanticipated problem. AERMIP actively pursues these issues and opportunities and responds quickly to implement a solution. Products are a qualified material or piece of equipment and the procedures/process required for its implementation.

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 /	**BA 7**	**0205633N, AVIATION IMPROVEMENTS**	1041, ACFT EQ REL/MAINT PROG

C. PROGRAM CHANGE SUMMARY

Funding:	FY 2005	FY 2006	FY 2007
Previous President's Budget:	2.057	2.953	3.013
Current BES / President's Budget:	2.509	2.909	2.997
Total Adjustments	0.452	-0.044	-0.016
Summary of Adjustments			
Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions	-0.014	-0.031	
Congressional Increases	0.001		
Economic Assumptions		-0.013	0.015
Miscellaneous Adjustments	0.465		-0.031
Subtotal	0.452	-0.044	-0.016

Schedule: N/A

Technical: N/A

D. OTHER PROGRAM FUNDING SUMMARY:	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
0205633N, Aircraft Exploration Model Development, 9109									
0205633N, Automated Wire Analysis, 9426									
0205633N, Corrosion Inhibiting Coatings, 9628									
0205633N, Nano-Composite Hard-Coat for Aircraft Canopies, 9629									

E. ACQUISITION STRATEGY: N/A

Exhibit R-3 Cost Analysis (page 1)									DATE: February 2006			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 7		PROGRAM ELEMENT 0205633N, AVIATION IMPROVEMENTS				PROJECT NUMBER AND NAME 1041, ACFT EQ REL/MAINT PROG						
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 Engineering	WX	NAWCAD, PATUXENT RIVER MD				1.165	3/1/2006	1.388	11/1/2006	4.916	7.469	
Systems Engineering	WX	NAWCAD, PATUXENT RIVER MD				.989	3/1/2006	1.229	11/1/2006	3.037	5.255	
Systems Engineering	SSFFP	RAYTHEON				.300	3/1/2006	.250	1/1/2007	2.105	2.655	2.655
Systems Engineering	SSFFP	EAGAN MCALLISTER ASSOC INC				.200	3/1/2006				.200	.200
SUBTOTAL PRODUCT DEVELOPMENT						2.654		2.867		10.058	15.579	
Remarks: Systems Engineering Accomplishment A - Avionice & Wiring, Systems Engineering Accomplishment B - Air Vehicle												
SUPPORT												
Studies & Analyses	WX	NADEP, SAN DIEGO CA		.068	10/31/2004	.125	3/1/2006				.193	
Studies & Analyses	WX	NAWCAD, PATUXENT RIVER MD	10.754	1.417	10/31/2004						12.171	
SUBTOTAL SUPPORT			10.754	1.485		.125					12.364	
Remarks: Studies and Analyses costs have been realigned to Systems Engineering												
TEST & EVALUATION												
SUBTOTAL TEST & EVALUATION												
Remarks:												
MANAGEMENT												
Contractor Eng Sup - Direct Cite	SSFFP	RAYTHEON, IN	.900	.839	VARIOUS	.120	VARIOUS	.120	VARIOUS	.570	2.549	2.549
Program Mgmt Sup	WX	NAWCAD, PATUXENT RIVER MD	.120	.175	10/31/2004						.295	
Travel	WX	NAWCAD, PATUXENT RIVER MD	.020	.010	10/31/2004	.010	11/30/2005	.010	11/30/2006	.040	.090	
SUBTOTAL MANAGEMENT			1.040	1.024		.130		.130		.610	2.934	
Remarks: Program management support costs are no longer required, as PM has been converted to EOB billet.												
Total Cost			11.794	2.509		2.909		2.997		10.668	30.877	
Remarks:												

CLASSIFICATION:

EXHIBIT R4, Schedule Profile			DATE: FEBRUARY 2006
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0205633N, Aviation Improvements	PROJECT NUMBER AND NAME 1041, Aircraft Equipment Reliability/Maintainability Improvement Program (AERMIP)	

Fiscal Year	FY 2005				FY 2006				FY 2007				FY 2008				FY 2009				FY 2010				FY 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
Avionics and Wiring:																												
Smart Wire																												
Arc Fault Circuit Breaker																												
ASQ-208																												
APN-202 Improvement Program																												
AN/ASH-37(V) Structural Data Recording Set (SDRS)																												
Processor Maintainability Program																												
ASW-25 Replacement																												
Investigate High Value Return on Investment																												
Air Vehicle:																												
Corrosion Barriers Tapes and Films																												
Thermal Barrier Coating Improvement																												
Improved Firewall Materials																												
Advanced Non-Chrome Primers																												
Advanced Performance Topcoat																												
Imbedded Fire Bottle Condition Sensor																												
EMI Sealants and Coatings																												
Improved Corrosion Preventative Compounds																												
Investigate High Value Return on Investment																												

CLASSIFICATION:

Exhibit R-4a, Schedule Detail

DATE: **FEBRUARY 2006**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E BA-7	0205633N, AVIATION IMPROVEMENTS	1041, ACFT EQ REL/MAINT PROG

Schedule Profile	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Avionics and Wiring:							
Smart Wire	1Q-4Q	1Q-4Q					
Arc Fault Circuit Breaker		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q		
ASQ-208	1Q-4Q						
APN-202 Improvement Program	1Q-4Q						
AN/ASH-37(V) Structural Data Recording Set (SDRS)		1Q-4Q	1Q-4Q	1Q-4Q			
Processor Maintainability Program		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
ASW-25 Replacement		1Q-4Q	1Q-4Q	1Q-4Q			
Investigate High Value Return on Investment	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Air Vehicle:							
Corrosion Barriers Tapes and Films	1Q-4Q						
Thermal Barrier Coating Improvement		1Q-4Q	1Q-4Q	1Q-4Q			
Improved Firewall Materials		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q		
Advanced Non-Chrome Primers		1Q-4Q	1Q-4Q	1Q-4Q			
Advanced Performance Topcoat		1Q-4Q	1Q-4Q				
Imbedded Fire Bottle Condition Sensor		1Q-4Q	1Q-4Q				
EMI Sealants and Coatings		1Q-4Q	1Q-4Q	1Q-4Q			
Improved Corrosion Preventative Compounds		1Q-4Q	1Q-4Q	1Q-4Q			
Investigate High Value Return on Investment	1Q-4Q	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 7**	PROGRAM ELEMENT NUMBER AND NAME **0205633N, AVIATION IMPROVEMENTS**	PROJECT NUMBER AND NAME 1355, A/C ENG COMP IMP (CIP)	

COST ($ in Millions)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
1355 A/C ENG COMP IMP (CIP)	50.431	67.778	58.684	53.933	54.602	54.432	55.744
RDT&E Articles Qty							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:The Aircraft Engine Component Improvement Program (CIP) provides the only source of critical design and development engineering support to resolve safety, reliability and maintainability deficiencies of in-service Navy aircraft propulsion systems. The highest priority issues CIP addresses concern safety-of-flight deficiencies which account for approximately 80% of CIP efforts. The program also corrects service-revealed deficiencies, improves Operational Readiness (OR) and Reliability and Maintainability (R&M), and reduces platform Life Cycle Cost (LCC). Budgets are allocated across platform-specific teams and multi-platform product support teams based upon long term strategies to achieve safety and affordable readiness goals; the R-3 exhibit details annual portions of those long-term plans. CIP tasks have reduced the rate of in-flight aborts, safety incidents, non-mission capable rates, scheduled and unscheduled engine removals, maintenance work hours, and overall cost of ownership. This is accomplished through the maintenance and validation of specification performance, testing to qualify engineering changes, verifying life limits, and improving the inherent reliability of the propulsion system as an integral part of Reliability Centered Maintenance (RCM) initiatives. Historically, the missions, tactics, and environmental exposure of military aircraft systems change to meet new threats or operational demands, and often result in unforeseen problems, which if not corrected, can cause critical safety/readiness degradation, such as those experienced during DESERT SHIELD/DESERT STORM operations due to sand erosion. In addition, new problems arise through actual use during deployment of the aircraft. Development programs, while geared to resolve as many problems as possible before deployment, cannot duplicate actual operations or account for the vast array of environmental and usage variables, particularly when aircraft missions vary from those the aircraft was designed to perform. Therefore, it has been found that CIP can provide an immediate engineering response to these flight-critical problems and accelerated engine testing can avoid potential problems. CIP starts after development and Navy acceptance of the first production article and addresses usage and life problems not covered by warranties. CIP addresses engines, transmissions, propellers, starters, auxiliary power units, electrical generating systems, and fuel and lubricant systems. CIP efforts continue over the system's life, gradually decreasing to a minimum level sufficient to maintain the reliability, and decrease the operating costs, of older inventory. CIP is a highly leveraged and cooperative tri-service program with Foreign Military Sales participation.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /** **BA 7**		PROGRAM ELEMENT NUMBER AND NAME **0205633N, AVIATION IMPROVEMENTS**	PROJECT NUMBER AND NAME 1355, A/C ENG COMP IMP (CIP)

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

	FY 2005	FY 2006	FY 2007
Accomplishments / Effort / Sub-total Cost	7.866	7.953	8.696
RDT&E Articles Qty			

Multi-Platform Product Support Teams
Projects designed to provide common support to multiple platforms in the areas of improved drive systems, secondary power and mechanical systems; improved tools for performance analysis, modeling and simulation, diagnostics, engine reliability assessment, and structural integrity; improve products and processes for fuels, lubricants, and refueling equipment; improve blade and vane repair processes and life cycle support; and improve electrical system product support, wiring, and battery systems.

	FY 2005	FY 2006	FY 2007	
Accomplishments / Effort / Sub-total Cost		.100	.100	
RDT&E Articles Qty				

F-16 (F100)
Review safety ECP's and support incorpation safety requirements.

	FY 2005	FY 2006	FY 2007	
Accomplishments / Effort / Sub-total Cost		.200	.200	
RDT&E Articles Qty				

V-22 (T406)
Review safety ECP's and support incorpation safety requirements.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 7**	PROGRAM ELEMENT NUMBER AND NAME **0205633N, AVIATION IMPROVEMENTS**	PROJECT NUMBER AND NAME 1355, A/C ENG COMP IMP (CIP)	

	FY 2005	FY 2006	FY 2007	
Accomplishments / Effort / Sub-total Cost	1.862	4.003	2.877	
RDT&E Articles Qty				

T-45 (F405)
Address top safety issues reported from fleet. Analysis and redesign components with service revealed deficiencies.

	FY 2005	FY 2006	FY 2007	
Accomplishments / Effort / Sub-total Cost	8.244	14.924	12.398	
RDT&E Articles Qty				

F-18 C/D/E/F (F414/F404)
Address top safety issues, readiness degraders, and AVDLR costs; safety of flight issues; engine removal and mission failure drivers; assess life management program issues for engine components. Analysis and redesign of fuel nozzles and control system to resolve sub idle flameout issues. Analysis of combustion linear to determine cause for durability problems. Analysis and redesign of components with service revealed deficiencies.

	FY 2005	FY 2006	FY 2007	
Accomplishments / Effort / Sub-total Cost	.124			
RDT&E Articles Qty				

F-14B/D (F110)
Address obsolescence of electrical components. High pressure turbine redesign efforts. Address extension of component life and the reduction of maintenance hours. Improvements to propulsion system safety through an active life management program for critical rotating components. Efforts to reduce the engine non-recoverable in-flight shutdown Rate and propulsion system related mission abort rate.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /** **BA 7**	PROGRAM ELEMENT NUMBER AND NAME **0205633N, AVIATION IMPROVEMENTS**	PROJECT NUMBER AND NAME 1355, A/C ENG COMP IMP (CIP)	

	FY 2005	FY 2006	FY 2007	
Accomplishments / Effort / Sub-total Cost	8.584	14.507	9.068	
RDT&E Articles Qty				

H-53/H-46/H-3 (T58/T64)
Bleed valve redesign. Efforts on the top cause for engine removals; improve on wing times; addressed top safety concerns as ranked by the Operational Advisory Group (OAG); reliability-centered maintenance program; improve compressor blade retention design; and develop corrosion resistant bearing designs. Improve the mean time between engine removal based upon continued implementation of reliability center maintenance initiatives. Conduct life management analysis to resolve critical rotating component issues based upon engine structural integrity assessments and the master life management plan.

	FY 2005	FY 2006	FY 2007	
Accomplishments / Effort / Sub-total Cost	3.936	3.988	3.892	
RDT&E Articles Qty				

AV-8B (F402)
Address top readiness degraders and AVDLR costs; safety of flight issues, engine removal and mission failure drivers, assess life management program issues for engine components. Project included but not be limited to: ASMET testing, support of a Fleet Leader Program, Analytical Condition Insepction (ACI), Engine Life Management Program (ELMP) execution and design fixes for any service revealed deficiencies. LPC 1 vane cracking problems and FMU mod problems. Analysis of ASMET engine test.

	FY 2005	FY 2006	FY 2007	
Accomplishments / Effort / Sub-total Cost	.399	.523	.615	
RDT&E Articles Qty				

UH1N (T400)
Address top safety concerns as ranked by the OAG and System Safety Working Group, continue to update Navy maintenance manuals, continue to improve time-between-overhaul and reduced impact of high-time parts; T400 Improved Compressor Turbine Stub Shaft, T400 Improved Gas Generator Case Diffuser Inlet, T400 Improved Compressor Coating, T400 Life Management, Study T400 Parts Obsolescence.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 7**	PROGRAM ELEMENT NUMBER AND NAME **0205633N, AVIATION IMPROVEMENTS**	PROJECT NUMBER AND NAME 1355, A/C ENG COMP IMP (CIP)	

	FY 2005	FY 2006	FY 2007	
Accomplishments / Effort / Sub-total Cost	4.131	4.308	4.205	
RDT&E Articles Qty				

H2/H60 (T700)
Advanced Helicopter Transmission Lubricant Program, extended transmission component lives, increased readiness by reducing corrosion, Mission Profile Data Collection and Dynamic Component Life Limit efforts. Time on wing and Mean Time Between Removals (MTBR) cost drivers initiatives including compressor durability, Titanium Nitrates (TiN) coating and three-stage turbine. Efforts in the area of engine power loss, secondary power and wiring issues.

	FY 2005	FY 2006	FY 2007	
Accomplishments / Effort / Sub-total Cost	.781	.831	.811	
RDT&E Articles Qty				

Mature Aircraft (J85)
Address the top readiness degraders and AVDLR costs; implement efforts on the J85 engine (F-5) ASMET test, perform annual maintenance awareness brief and annual P-408A major engine inspection program. Study and implement solutions to aging aircraft issues and future obsolescence problems.

	FY 2005	FY 2006	FY 2007	
Accomplishments / Effort / Sub-total Cost	5.945	6.258	6.919	
RDT&E Articles Qty				

Mature Aircraft (J52)
Address the top readiness degraders and AVDLR costs; implement efforts on the J52 engine (EA-6B) ASMET test, perform annual maintenance awareness brief and annual P-408A major engine inspection program. Study and implement solutions to aging aircraft issues and future obsolescence problems. Redesign of diffuser case for increased life. Design and analysis efforts on 4.5 bearing problem on J52 engine (EA-6B). Efforts on life analysis and mission verification for critical components. Evaluate new coatings and seals for turbine areas. Begin ASMET of Pratt Wittney Associates.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 7**	PROGRAM ELEMENT NUMBER AND NAME **0205633N, AVIATION IMPROVEMENTS**	PROJECT NUMBER AND NAME 1355, A/C ENG COMP IMP (CIP)	

	FY 2005	FY 2006	FY 2007	
Accomplishments / Effort / Sub-total Cost	.618			
RDT&E Articles Qty				

S3 (TF34)
High Pressure Compressor (HPC) life limit implementation. Validation and implementation of High Pressure Turbine (HPT), Low Pressure Turbine (LPT), and Fan critical part life limit changes. Develop Combustion Chamber Frame (CCF) and HPT physics based thermal models. Develop LPT physics based thermal models. Collect engine parameter flight data required to perform updated engine mission analysis. Initiate the development of improved Eddy Current (EC) inspection techniques for small holes and specific features. Analyze and correlate HPC EC inspection requirements to critical part Fracture Mechanics (FM) capabilities. Investigate propulsion and power system obsolescence. Conduct engine component and propulsion and power electrical system reliability/maintainability analysis. Conduct commercial critical part hardware commonality analysis.

	FY 2005	FY 2006	FY 2007	
Accomplishments / Effort / Sub-total Cost	.440	.452	.441	
RDT&E Articles Qty				

E2/C2/C130 (Props)
Incorporate improved blade heaters. Develop improved propeller control system.

	FY 2005	FY 2006	FY 2007	
Accomplishments / Effort / Sub-total Cost	7.501	9.731	8.462	
RDT&E Articles Qty				

P3, E2, C2, C130 (T56)
Implement the Engine Monitory System version 7.0 upgrade. Maintain safety margins by investigating turbine coatings and develop new designs, propeller integration efforts with potential propeller designs, perform engine hot section corrosion and fatigue analysis, and bearing improvements. Analysis of redesign for first stage turbine blades on T56-A-427 engines. Qualification and verification testing of redesigned first stage turbine blades. Resolve service revealed problem. Work on resolving fuel nozzle choking issue. Resolve design problems in the areas of safety coupling, compressor leakage, generator problems, and electrical wiring problems. Mission updates and life analysis of critical components.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /** **BA 7**	PROGRAM ELEMENT NUMBER AND NAME **0205633N, AVIATION IMPROVEMENTS**	PROJECT NUMBER AND NAME 1355, A/C ENG COMP IMP (CIP)	

C. PROGRAM CHANGE SUMMARY

Funding:	FY 2005	FY 2006	FY 2007
Previous President's Budget:	51.962	68.810	58.095
Current President's Budget:	50.431	67.778	58.684
Total Adjustments	-1.531	-1.032	0.589
Summary of Adjustments			
Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions	-0.870	-0.719	
Congressional Increases			
Economic Assumptions		-0.313	0.642
Miscellaneous Adjustments	-0.661		-0.053
Subtotal	-1.531	-1.032	0.589

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		PROGRAM ELEMENT				PROJECT NUMBER AND NAME						
RDT&E, N /	BA 7	0205633N, AVIATION IMPROVEMENTS				1355, A/C ENG COMP IMP (CIP)						
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 F110 Engine Program	SS-CPAF	GE - OHIO	17.868	.124	12/04						17.992	17.992
Systems Eng F402 Engine Program	VARIOUS	NAWCAD, PATUXENT RIVER MD		1.380	12/04	1.398	12/05	1.365	12/06		4.143	
Systems Eng F402 Engine Program	SS-CPFF	ROLLS ROYCE - UK	33.094	2.556	12/04	2.590	12/05	2.527	12/06		40.767	40.767
Systems Eng T58/T64 Engine Program	SS-CPFF	GE - MASS	37.342	4.769	10/04	8.373	10/05	6.350	12/06		56.834	56.834
Systems Eng T58/T64 Engine Program	VARIOUS	NAWCAD, PATUXENT RIVER MD		3.815	10/04	6.134	10/05	2.718	10/06		12.667	
Systems Eng J52 Engine Program	SS-CPFF	P&W - FLORIDA	15.046	4.261	12/04	4.321	12/05	4.777	10/06		28.405	28.405
Systems Eng J52 Engine Program	VARIOUS	NAWCAD, PATUXENT RIVER MD		1.684	12/04	1.938	12/05	2.142	12/06		5.764	
Systems Eng T56 Engine Program	SS-CPFF	ROLLS ROYCE - IN	11.838	5.099	02/05	3.557	02/06	3.091	02/07		23.585	23.585
Systems Eng T56 Engine Program	VARIOUS	NAWCAD, PATUXENT RIVER MD		2.402	02/05	6.174	02/06	5.371	02/07		13.947	
Systems Eng F405 Engine Program	SS-CPFF	ROLLS ROYCE - UK	11.260	1.862	12/04	4.003	12/05	2.877	12/06		20.002	20.002
Systems Eng F414 /F404 Eng Prog	SS-CPFF	GE - MASS	11.628	8.244	12/04	14.924	12/05	12.398	12/06		47.194	47.194
Systems Eng T700 Engine Program	SS-CPFF	GE - MASS	8.115	2.411	01/05	2.570	01/06	2.490	01/07		15.586	15.586
Systems Eng T700 Engine Program	VARIOUS	NAWCAD, PATUXENT RIVER MD		1.720	01/05	1.738	01/06	1.715	01/07		5.173	
Systems Eng TF34 Engine Program	VARIOUS	NAWCAD, PATUXENT RIVER MD		.338	11/04						.338	
Systems Eng TF34 Engine Program	SS-CPFF	G.E. - OHIO	7.565	.280	11/04						7.845	
Systems Eng T406 Engine Program	WX	NAWCAD, PATUXENT RIVER MD	1.000			.200	12/05	.200	12/06	Continuing	Continuing	
Systems Eng T400 Engine Program	SS-CPFF	P&W - FLORIDA	2.167	.399	12/04	.523	12/05	.615	12/06		3.704	3.704
Systems Eng J85 Engine Program	SS-CPFF	GE - OK	1.045	.781	11/04	.831	11/05	.811	11/06		3.468	3.468
Systems Eng F100 Engine Program	WX	NAWCAD, PATUXENT RIVER MD			11/04	.100	10/05	.100	10/06	Continuing	Continuing	
Systems Eng Props Program	SS-CPFF	HAM SUNSTRAND - CON	7.420	.440	12/04	.452	12/05	.441	12/06		8.753	8.753
Systems Eng Contracts under 1.0M	VARIOUS	VARIOUS	15.782	.004	10/04	.106	10/05	.109	10/06	Continuing	Continuing	
Systems Eng Lab Fld Act-1.0 or more	WX	NAWCAD, PATUXENT RIVER MD	133.474	6.376	10/04	6.304	10/05	7.112	10/06	Continuing	Continuing	
Systems Eng Other In-House Spt	VARIOUS	VARIOUS	17.300	.310	10/04	.374	10/05	.316	10/06	Continuing	Continuing	
GFE-GFP Fuel Improvement	MILSTRIP	DES/DLA	4.706	.663	10/04	.663	10/05	.663	10/06	Continuing	Continuing	
Award Fees	SS-CPFF		1.305								1.305	1.305
SUBTOTAL PRODUCT DEV			337.955	49.918		67.272		58.188		Continuing	Continuing	

Totals may not add due to rounding.

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2006		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME						
RDT&E, N / BA 7		0205633N, AVIATION IMPROVEMENTS				1355, A/C ENG COMP IMP (CIP)						
Accomplishments / Effort / Sub-total Cost												
SUPPORT												
Develop Support Equip	VARIOUS	VARIOUS	5.483	.281	VARIOUS	.318	VARIOUS	.310	VARIOUS	Continuing	Continuing	
SUBTOTAL SUPPORT			5.483	.281		.318		.310		Continuing	Continuing	
TEST & EVALUATION												
Dev Test & Eval	VARIOUS	VARIOUS	2.907	.053	VARIOUS	.054	VARIOUS	.053	VARIOUS	Continuing	Continuing	
SUBTOTAL TEST & EVALUATION			2.907	.053		.054		.053		Continuing	Continuing	
MANAGEMENT												
Program Mgmt Sup	VARIOUS	VARIOUS	1.188	.099	VARIOUS	.054	VARIOUS	.053	VARIOUS	Continuing	Continuing	
Travel - Acquisition Planning	VARIOUS	VARIOUS	.093	.080	VARIOUS	.080	VARIOUS	.080	VARIOUS	Continuing	Continuing	
SUBTOTAL MANAGEMENT			1.281	.179		.134		.133		Continuing	Continuing	
Total Cost			347.626	50.431		67.778		58.684		Continuing	Continuing	

Totals may not add due to rounding.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 7**	PROGRAM ELEMENT NUMBER AND NAME **0205633N, AVIATION IMPROVEMENTS**	PROJECT NUMBER AND NAME 9109, A/C AGE EXPLORATION	

COST ($ in Millions)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
9109 A/C AGE EXPLORATION	2.887						
RDT&E Articles Qty							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Aircraft Age Exploration Model Development is for Naval Aircraft platforms. The model will use existing Naval Aircraft data to establish connections between age and reliabilty, maintainability, and readiness and will provide the Navy with a valuable tool for understanding, predicting, and communicating impacts of decisions to extend aircraft service lives and for mitigating risks associated with these decisions. This is a continuation of efforts initiatied in FY02 to add enhanced functionallity to include automatic identification of reliability degredation items and automatic tracking of actuals against model generated predictions.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

	FY 2005	FY 2006	FY 2007
Accomplishments / Effort / Sub-total Cost	2.887		
RDT&E Articles Qty			

AIRCRAFT AGE EXPLORATION

Develop enhancements to computer model that integrates existing maintenance data with predictive computations to determine future reliability and maintianability conditions for aircraft and components.
Enhancements include automated generation of reliability and maintainabilty opportunity triggers and also real time tracking of actual results against predicted performance.
Develop technical data to include user manuals and other training materials. Conduct user training sessions as required for model validation.
Using a combination of historical and current maintenance data perform model verification and validation studies to demonstrate acceptable level of confidence in outputs produced by the model.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /** **BA 7**	PROGRAM ELEMENT NUMBER AND NAME **0205633N, AVIATION IMPROVEMENTS**	PROJECT NUMBER AND NAME 9109, A/C AGE EXPLORATION	

C. PROGRAM CHANGE SUMMARY

Funding:	FY 2005	FY 2006	FY 2007
Previous President's Budget:	2.938	0.000	0.000
Current A2President's Budget:	2.887	0.000	0.000
Total Adjustments	-0.051	0.000	0.000
Summary of Adjustments			
Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions	-0.052		
Congressional Increases	0.001		
Economic Assumptions			
Miscellaneous Adjustments			
Subtotal	-0.051	0.000	0.000

Schedule: N/A

Technical: N/A

D. OTHER PROGRAM FUNDING SUMMARY:	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
0205633N, Aircraft Equipment Reliability & Maintainability Improvement Program (AERMIP), 1041									
0205633N, Automated Wire Analysis, 9426									
0205633N, NAVAIR Technology Commercialization, 9428									
0205633N, Corrosion Inhibiting Coatings, 9628									
0205633N, Nano-Composite Hard-Coat for Aircraft Canopies, 9629									

E. ACQUISITION STRATEGY: N/A

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 7**	PROGRAM ELEMENT NUMBER AND NAME **0205633N, AVIATION IMPROVEMENTS**	PROJECT NUMBER AND NAME 9426, AUTOMATED WIRE ANALYSIS	

COST ($ in Millions)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
9426 AUTOMATED WIRE ANALYSIS	4.149						
RDT&E Articles Qty							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Current practices have technicians perform electrical testing on aircraft using both manual and automated methods. Once a short or open is found using existing test equipment, the technician must then find the physical location of the fault, one wire at a time, using pin-to-pin tests with handheld multi-meters and visual inspection. This generally involves at least two individuals connecting leads to each end of a wire to be tested. This is a slow process and reactive in nature. New commercial technology that incorporates Standing Wave Reflectometry (SWR) can proactively identify all hard faults (e.g. shorts and opens) of wiring malfunctions from a single end wire test, verify system modifications, and localize aircraft wiring malfunctions to within inches. This capability does not exist in the U.S. Navy today. A single wiring analyzer can serially test up to 1,152 wires at a time and the system can be expanded to test up to a maximum of 128,000 test points. This effort is to develop, validate and qualify this capability for Naval Avaition applications.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

	FY 2005	FY 2006	FY 2007
Accomplishments / Effort / Sub-total Cost	4.149		
RDT&E Articles Qty			

AUTOMATED WIRE ANALYSIS

Develop the software required to utilize the new technology that incorporates Standing Wave Reflectometry (SWR) that can proactively identify all hard faults (e.g. shorts and opens) of wiring malfunctions from a single end wire test, verify system modifications, and localize aircraft wiring malfunctions to within inches.

Testing to ensure that the product works in a true fleet environment. Aircraft to be studied are the EA-6B, C-2, S-3, E-6, H-46, and H-53.

User training and the development of the materials required for training and after training reference.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /** **BA 7**	PROGRAM ELEMENT NUMBER AND NAME **0205633N, AVIATION IMPROVEMENTS**	PROJECT NUMBER AND NAME 9426, AUTOMATED WIRE ANALYSIS	

C. PROGRAM CHANGE SUMMARY

Funding:	FY 2005	FY 2006	FY 2007
Previous President's Budget:	4.259	0.000	0.000
Current President's Budget:	4.149	0.000	0.000
Total Adjustments	-0.110	0.000	0.000
Summary of Adjustments			
Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions	-0.011		
Congressional Increases	0.001		
Economic Assumptions			
Miscellaneous Adjustments			
Subtotal	-0.010	0.000	0.000

Schedule: N/A

Technical: N/A

D. OTHER PROGRAM FUNDING SUMMARY:

	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
0205633N, Aircraft Equipment Reliability & Maintainability Improvement Program (AERMIP), 1041									
0205633N, Age Exploration Model Development, 9109									
0205633N, NAVAIR Technology Commercialization, 9428									
0205633N, Corrosion Inhibiting Coatings, 9628									
0205633N, Nano-Composite Hard-Coat for Aircraft Canopies, 9629									

E. ACQUISITION STRATEGY: N/A

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 7**	PROGRAM ELEMENT NUMBER AND NAME **0205633N, AVIATION IMPROVEMENTS**	PROJECT NUMBER AND NAME 9628, CORROSION INHIBITING COATINGS	

COST ($ in Millions)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
9628 CORROSION INHIBITING COATINGS	1.361						
RDT&E Articles Qty							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:
The Corrosion Inhibiting Coatings initiative ia an effort to develop and test a conductive polymer coating for increased corrosion resistance. This effort will optimize and scale up a coating system that will provide improved corrosion protection for Navy aircraft and be compatible with all environmental regulations.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

	FY 2005	FY 2006	FY 2007
Accomplishments / Effort / Sub-total Cost	1.361		
RDT&E Articles Qty			

CORROSION INHIBITING COATINGS
Develop a commercially available, environmentally and worker friendly primer capable of replacing primers containing hexavalent chromium for protection of aluminum alloys in aerospace applications.

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 /	**BA 7**	**0205633N, AVIATION IMPROVEMENTS**	9628, CORROSION INHIBITING COATINGS

C. PROGRAM CHANGE SUMMARY

Funding:	FY 2005	FY 2006	FY 2007
Previous President's Budget:	1.388	0.000	0.000
Current President's Budget:	1.361	0.000	0.000
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: N/A

Technical: N/A

D. OTHER PROGRAM FUNDING SUMMARY:	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
0205633N, Aircraft Equipment Reliability & Maintainability Improvement Program (AERMIP), 1041									
0205633N, Age Exploration Model Development, 9109									
0205633N, NAVAIR Technology Commercialization, 9428									
0205633N, Automated Wire Analysis, 9426									
0205633N, Nano-Composite Hard-Coat for Aircraft Canopies, 9629									

E. ACQUISITION STRATEGY: N/A

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 7**	PROGRAM ELEMENT NUMBER AND NAME **0205633N, AVIATION IMPROVEMENTS**	PROJECT NUMBER AND NAME 9629, NANO-COMPOSITE HARD-COAT FOR AIRCRAFT CANOPIES	

COST ($ in Millions)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
9629 NANO-COMPOSITE HARD-COAT FOR AIRCRAFT	2.227						
RDT&E Articles Qty							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Nano-Composite Hard-Coat for Aircraft Canopies initiative is an effort to develop and test improved canopy coating materials. This effort will optimize and scale up a coating system that will provide improved chemical and abrasion protection for aircraft canopies and windscreens.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

	FY 2005	FY 2006	FY 2007
Accomplishments / Effort / Sub-total Cost	2.227		
RDT&E Articles Qty			

NANO-COMPOSITE HARD COAT FOR AIRCRAFT CANOPIES

Develop and transition an optically transparent coating for aircraft wind screens and canopies that is resistant to abrasion and chemical attack.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /** **BA 7**	PROGRAM ELEMENT NUMBER AND NAME **0205633N, AVIATION IMPROVEMENTS**	PROJECT NUMBER AND NAME 9629, NANO-COMPOSITE HARD-COAT FOR AIRCRAFT CANOPIES	

C. PROGRAM CHANGE SUMMARY

Funding:	FY 2005	FY 2006	FY 2007
Previous President's Budget:	2.279		
Current President's Budget:	2.227	0.000	0.000
Total Adjustments	-0.052	0.000	0.000
Summary of Adjustments			
Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions	-0.053		
Congressional Increases	0.001		
Economic Assumptions			
Miscellaneous Adjustments			
Subtotal	-0.052	0.000	0.000

Schedule: N/A

Technical: N/A

D. OTHER PROGRAM FUNDING SUMMARY:	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
0205633N, Aircraft Equipment Reliability & Maintainability Improvement Program (AERMIP), 1041									
0205633N, Age Exploration Model Development, 9109									
0205633N, NAVAIR Technology Commercialization, 9428									
0205633N, Automated Wire Analysis, 9426									
0205633N, Corrosion Inhibiting Coatings, 9628									

E. ACQUISITION STRATEGY: N/A

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 7**	PROGRAM ELEMENT NUMBER AND NAME **0205633N, AVIATION IMPROVEMENTS**	PROJECT NUMBER AND NAME 9630, CENTER FOR DEFENSE SUSTAINMENT TECHNOLOGY	

COST ($ in Millions)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
9630 CENTRER FOR DEFENSE SUSTAINMENT	.977						
RDT&E Articles Qty							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This effort will fund a Center for Defense Sustainment Technology that will conduct studies and analysis support for Aging Aircraft issues. It will also conduct aircraft obsolescence requirements analysis, focused research and development, and implementation and deployment of solutions and best practice identification and dissemination. The overall goal of these activities is to safely extend the service life of legacy aircraft that we currently cannot afford to replace, to intelligently invest in solutions that reduce the operating costs of these fleets, and to reduce redundancy of efforts in development and fielding of these solutions. This center is a public-private partnership including not for profit consortia, small business, Government activities, and academia.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

	FY 2005	FY 2006	FY 2007
Accomplishments / Effort / Sub-total Cost	.977		
RDT&E Articles Qty			

Center for Defense Sustainment Technology
To support the establishment of Center for Defense Sustainment Technology, which will conduct studies and analysis support for Aging Aircraft issues. This center is a public-private partnership including not for profit consortia, small business, Government activities and academia. FY05 funding has specifically been targeted to support the Joint Council on Aging Aircraft (JCAA) National Strategy efforts in the Cost of Aging, obsolescence management and rotorcraft dynamic component technologies.

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 /	**BA 7**	**0205633N, AVIATION IMPROVEMENTS**	9630, CENTER FOR DEFENSE SUSTAINMENT TECHNOLOGY

C. PROGRAM CHANGE SUMMARY

Funding:	FY 2005	FY 2006	FY 2007
Previous President's Budget:	0.990		
Current President's Budget:	0.977	0.000	0.000
Total Adjustments	-0.013	0.000	0.000
Summary of Adjustments			
Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions	-0.013		
Congressional Increases			
Economic Assumptions			
Miscellaneous Adjustments			
Subtotal	-0.013	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 7**		PROGRAM ELEMENT NUMBER AND NAME **0205633N, AVIATION IMPROVEMENTS**					PROJECT NUMBER AND NAME 9631, DEV. OF NEXT GEN. TECH. FOR THE INSPECT OF ACRFT ENG	
COST ($ in Millions)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	
W9631 DEV. NEXT GEN. TECH. FOR INSPECT OF A/C	2.136							
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Project 9631 - Development of Next Generation Technology for the Inspection of Aircraft Engines, Diagnostics and Repair will lead to the development of a next generation Common Video Borescope Set to support the fleet maintenance requirement to inspect internal components of aircraft engines and airframes for defects. The goals of this effort are to address deficiencies in the current inspection equipment by improving survivability, reducing proliferation/inventory, reducing maintenance costs, improving training and reliabilty, providing an upgradeable design, and maximizing commonality of inspection between the Organizational and Intermediate levels of maintenance.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 7**	PROGRAM ELEMENT NUMBER AND NAME **0205633N, AVIATION IMPROVEMENTS**	PROJECT NUMBER AND NAME 9631, DEV. OF NEXT GEN. TECH. FOR THE INSPECT OF ACRFT ENG	

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

	FY 2005	FY 2006	FY 2007	
Accomplishments / Effort / Sub-total Cost	2.136			
RDT&E Articles Qty				

Development of Next Generation Technology for the Inspection of Aircraft Engines, Diagnostics and Repair - Program objective is to develop next generation Common Video Borescope Set to enhance the visual inspection of internal components of Navy/Marine aircraft primary and secondary powerplants and airframes for defects by improving survivablity, reducing inventory, reducing maintenance cost, improving training and reliability, and maximizing commonality of the inspection equipment.

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 /	**BA 7**	**0205633N, AVIATION IMPROVEMENTS**	9631, DEV. OF NEXT GEN. TECH. FOR THE INSPECT OF ACRFT ENG

C. PROGRAM CHANGE SUMMARY

Funding:	FY 2005	FY 2006	FY 2007
Previous President's Budget:	3.270	0.000	0.000
Current President's Budget:	2.136	0.000	0.000
Total Adjustments	-1.134	0.000	0.000
Summary of Adjustments			
Congressional Reductions			
Congressional Rescissions	-1.055		
Congressional Undistributed Reductions	-0.080		
Congressional Increases	0.001		
Economic Assumptions			
Miscellaneous Adjustments			
Subtotal	-1.134	0.000	0.000

E. ACQUISITION STRATEGY: This is a non-ACAT program. NAVAIR Lakehurst initiated a solicitation for a Broad Agency Announcement (BAA) in Novemeber 2004 with proposals due by February 2005. Source selection panel evaluated proposals and selected awardee(s). Follow-on contract may be awarded for a prototype and/or production units.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2006**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	PROGRAM ELEMENT NUMBER AND NAME 02056533N, AVIATION IMPROVEMENTS				PROJECT NUMBER AND NAME 9999 CONGRESSIONAL ADDS			
COST ($ in Millions)		FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
9999 Congressional Adds		**0.000**	**14.605**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Congressional Adds

R-1 SHOPPING LIST - Item No. 183

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2006**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RD BA7	**0205633N, AVIATION IMPROVEMENTS**	**CONGRESSIONAL ADDS**

B. Accomplishments/Planned Program

9747		FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost			0.500	
RDT&E Articles Quantity				

Advanced very lightweight avionics system for airborne platforms - This effort is to study and evaluate advanced cooling technologies for integration into existing avionics systems.

9748		FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost			5.100	
RDT&E Articles Quantity				

Automated Wire Analysis - Navy - To incorporate new technology to increase the accuracy while decreasing the time required when performing wiring inspection.

9749		FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost			0.750	
RDT&E Articles Quantity				

DMS Aviation Improvements - To support the Center for Defense Sustainment Technology, which will conduct studies and analysis support for Aging Aircraft issues.

R-1 SHOPPING LIST - Item No. 183

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 / BA7	**0205633N, AVIATION IMPROVEMENTS**	**CONGRESSIONAL ADDS**

B. Accomplishments/Planned Program (Cont.)

9750		FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost			1.055	
RDT&E Articles Quantity				

F404/F414 Borescope Equipment Service Life Extension Program - This program will include design, develop and conduct the test and evaluation of a more durable/reliable F404/F414 engine borescope for use in engine inspections. The borescopes are utilized for engine inspections to locate defects in the engine and increase time on wing. This system will be equipped with interchangeable video probes, increased illumination, high technology articulation system, increase monitor resolution, built in battery capability and deliver increased reliability and accuracy of inspections.

9751		FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost			4.200	
RDT&E Articles Quantity				

NAVAIR Depot Maintenance Operations Unique ID - This effort is to evaluate and modify as required Automatic Identification Technology (AIT) for operation and application in the harsh environments of Naval Aviation Organic Depots. This system and business process improvements must be designed and deployed to integrate this required capability into Naval Aviation Depots.

9752		FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost			2.000	
RDT&E Articles Quantity				

Realtime Weight and Balance System - This effort is to develop and qualify a real-time measurement weight and balance system for the C-130 to improve safety and speed of dispatch and to reduce costs associated with man-hours and delays.

R-1 SHOPPING LIST - Item No. 183

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2006**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RD BA7	**0205633N, AVIATION IMPROVEMENTS**	**CONGRESSIONAL ADDS**

B. Accomplishments/Planned Program

9753		FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost			1.000	
RDT&E Articles Quantity				

Smart Multi-functional Corrosion Inhibiting Coatings - The Corrosion Inhibiting Coatings initiative is an effort to develop and test a conductive polymer coating for increased corrosion resistance.

		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				

R-1 SHOPPING LIST - Item No. 183

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 / BA-7	**0205633N, AVIATION IMPROVEMENTS**	**CONGRESSIONAL ADDS**

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 05	FY 06	FY 07
Previous President's Budget:		0.000	
Current President's Budget		14.605	
Total Adjustments		14.605	
Summary of Adjustments			
Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions			
Congressional Increases		14.605	
Economic Assumptions			
Miscellaneous Adjustments			
Subtotal		14.605	

Schedule:

Not Applicable

Technical:

Not Applicable

R-1 SHOPPING LIST - Item No. 183

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 / BA-7	**0205633N, AVIATION IMPROVEMENTS**	**CONGRESSIONAL ADDS**

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

R-1 SHOPPING LIST - Item No. 183