

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5					R-1 ITEM NOMENCLATURE 0604215N, Standards Development			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	45.346	63.105	84.308	74.273	70.255	52.866	39.301	38.381
0572/Joint Services/Navy Standard Avionics	32.729	47.521	71.105	58.220	54.175	35.486	21.802	19.506
1857/Calibration Standards	4.213	5.476	1.365	1.658	1.711	1.744	1.787	1.831
2311/Stores Planning and Weaponerring Module	7.456	9.349	11.077	13.450	13.408	14.655	14.710	16.022
2312/Common Helicopters	0.948	0.759	0.761	0.945	0.961	0.981	1.002	1.022
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:								
<p>Project 0572, Joint Services/Navy Standard Avionics Components and Subsystems: This project provides for the identification, design, development, test, evaluation and qualification of standard avionics for Navy use, and wherever practicable, use across all Services and Foreign Military Sales. Such air combat electronics developments include communications, navigation, flight avionics, safety systems, and flight mission information systems for both forward fit and retrofit aircraft. These efforts continue to maintain federated systems while encouraging transition of procurements to support a modular system for enhanced performance and affordability. Consideration is given up front to reduce acquisition costs through larger procurement quantities that satisfy multi-aircraft customer requirements and that reduce life cycle costs in the areas of reliability, maintainability, and training. Several examples of past successful tasks under this project include the Standard Central Air Data Computer, Solid State Barometric Altimeter, and Downed Aircraft Location System, jointly developed with the Air Force and Army and currently installed on numerous Navy, Air Force and Army aircraft. This project also funds Navy chairmanship and participation in the Joint Services Review Committee (JSRC) for Avionics Standardization. The RDT&E Articles include Communication Navigation Surveillance/Air Traffic Management (CNS/ATM) Engineering Manufacturing Development (EMD) units, Joint Tactical Radio Systems (JTRS) EDM units, Aircrew Wireless Internal Communication Systems (AWICS) EMD units, and Vector Product Format (VPF) software units.</p> <p>Project 1857, Calibration Standards: This project is a Navy-wide program to develop required calibration standards (hardware) in all major measurement technology areas in support of Navy Weapons systems, ground and air, throughout the Fleet. It funds Navy lead-service responsibilities in the DOD and Joint Services Metrology Research and Development program. This project supports the military requirement to verify the performance of all test systems used to validate the operation of Navy Weapon Systems with calibration standards traceable to the National Institute of Standards and Technology.</p>								

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<p>Project 2311, Stores Planning and Weaponeering Module: The Naval Aircraft Weaponeering Components (NAWC) project, now referred to as the Weaponeering and Stores Planning (WASP) components, are integrated software products that allow pilots to determine the best combinations of weapons and delivery conditions to achieve the desired level of target damage, eliminate weapon delivery solutions that violate aircraft T/M/S specific safety-of-flight envelopes, and perform detailed weapons employment planning. WASP is approved by N78 as a permanent flight clearance system for the F/A-18 A, A+, B, C, D and D(RC) aircraft, and for all future aircraft T/M/S in the Joint Mission Planning System (JMPS). As a flight clearance system, WASP components will alert pilots if their planned weapon release conditions will result in bomb-to-bomb collisions, bomb-to-aircraft collisions, aircraft overstress, or excessive risk of aircraft loss/damage in the event of fuze early bursts. Weaponeering capabilities are fundamental requirements for Interdiction, Armed RECCE and Close Air Support mission planning, therefore WASP product availability is critical to successful Post-Joint Mission Planning System (JMPS) Combat 1 OT&E. The WASP product encompasses a multitude of GOTS/COTS software components and tools (aircraft target maneuver simulations, weapon flyout models, target probability of damage calculators, etc.), which are delivered as new targets are identified, emergent requirements for new aircraft T/M/S, stores and weapons are approved by N78, and new flight clearances and flight restrictions issued by NAVAIRSYSCOM. WASP components are being delivered on an annual basis starting with v1.0 in September FY03.</p> <p>Project 2312, Common Helicopters: Automated mission planning systems to date have been developing targeting planning requirements for fixed-wing aircraft, while the unique planning requirements for helicopters have not been addressed. The unique and enhanced automated mission planning requirements that must be developed and implemented for helicopters include: data loading, an enhanced route editor (serpentine routing, hover, etc.) manipulation of higher fidelity (smaller scale) maps and imagery, enhanced performance tools (performance in and out of ground effect, performance degradation due to atmospheric conditions & elevation), and enhanced fidelity of landing zone, target zone, and threat analyses. The following type/model/series aircraft are supported by this PE: AH-1W, UH-1N, H-46D/E, H-53D/E, H-60B/F/H/R/S, and V-22. The developed common helicopter functionality will initially be implemented in Naval Portable Flight Planning Software (N-PFPS) then migrated to JMPS. Subsequent common helicopter functionality will be developed for implementation in the Joint Mission Planning Segment (JMPS) after JMPS initial fielding.</p>			

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604215N, Standards Development			PROJECT NUMBER AND NAME 0572, Joint Services/Navy Standard Avionics Components and Subsystems			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	32.729	47.521	71.105	58.220	54.175	35.486	21.802	19.506
RDT&E Articles Qty	29	1	9	17				

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Joint Services/Navy Standard Avionics Components and Subsystems project provides for the identification, design, development, test, evaluation and qualification of standard avionics and mandatory safety improvements for Navy use, and wherever practicable, use across all services. Standard avionics systems under development include the Communication Navigation Surveillance Air Traffic Management (CNS/ATM), Advanced Mission Computer & Displays (AMC&D), Vector Product Format (VPF), Aircrew Wireless Internal Communication Systems (AWICS), Joint Tactical Radio System (JTRS), Ground Proximity Warning System/Terrain Awareness Warning System (GPWS/TAWS), Military Flight Operational Quality Assurance (MFOQA), Common Avionics Displays and the Avionics Component Improvement Program (AVCIP). GPWS/TAWS, MFOQA, Common Avionics Displays and AVCIP are new starts for FY 2006. Participation in Human Factors Quality Management Board (HFQMB) ensures Navy safety upgrades and mandatory safety improvements for naval aircraft. FY05 Congressional adds are for MFOQA and Screen Display.

The RDT&E Articles include Communication Navigation Surveillance/Air Traffic Management (CNS/ATM) Engineering Manufacturing Development (EMD) units, Joint Tactical Radio Systems (JTRS) EDM units, Aircrew Wireless Internal Communication Systems (AWICS) EMD units, and Vector Product Format (VPF) software units.

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B. Accomplishments/Planned Program (Cont.)				
COMMON AVIONICS DISPLAYS (CAD)	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	1.000	1.000	4.250
RDT&E Articles Quantity				
<p>Conduct Tech Demo to develop and test a projection display as a form-fit-function demonstration replacement for the IP-1318A/A, a 5x5 CRT display currently used on F/A-18C/D/E/F aircraft. The Tech Demo is maturing this technology as an option for the CAD program. Efforts include laboratory, ground and flight testing for optical and performance testing in addition to ground and flight hours for integration and performance testing. Initial efforts will focus on acquisition planning and display prioritization in conjunction with a Trade Study resulting in development of independent cost estimates, request for proposals, and award of a common display contract. Conduct Initial Baseline Review (IBR), Systems Requirements Review (SRR) and Preliminary Design Reveiw (PDR). Begin development of the first of a family of common displays for Naval Aviation which provides performance enhancements over current LCD and CRT technology for tactical cockpit and mission console displays. Planned enhancements include high brightness, high contrast, and custom viewing angle capabilities.</p>				
AVCIP	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	1.000	1.500
RDT&E Articles Quantity				
<p>Investigate High Value Return on Investment Candidates, addressing emergent avionics component critical readiness degraders and transformantional upgrade opportunities. Prioritize critical avionics performance, capability and obsolescence problems that require immediate attention. Pursue solutions to these problems based upon urgency, warfighting contribution and return on investment. Develop and test system solutions based on priority. Resources will cover program management, engineering, contracting and logistics efforts; design and development, logistics elements such as technical data, support equipment, provisioning, and training; prototypes; platform integration; and developmental/ operational testing. Critical avionics performance, capability and obsolescence problems are currently addressed by disrupting current programs of record or are delayed with negative fleet impact.</p>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000
RDT&E Articles Quantity				

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C. PROGRAM CHANGE SUMMARY:

	FY 04	FY 05	FY 06	FY 07
Funding:				
Previous President's Budget:	39.739	46.096	61.838	34.166
Current BES/President's Budget	32.729	47.521	71.105	58.220
Total Adjustments	-7.010	1.425	9.267	24.054
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions		-0.485		
Congressional rescissions				
SBIR/STTR Transfer	-0.603			
Other adjustments		-0.090	8.597	23.365
Economic Assumptions	-0.037		0.670	0.689
Reprogrammings	-6.370			
Congressional increases		2.000		
Subtotal	-7.010	1.425	9.267	24.054

Schedule:

JTRS schedule reflects the acquisition plan for E-2 AHE as the Lead Platform and includes JTRS Integration Studies/Analyses. AV-8B and MH-60 milestone schedules were removed and are now provided within the Ref Def & Integration Analysis profile.

AWICS schedule changed due to delay in receipt of Requirements Documentation from OPNAV and redesignation of program to ACAT IVM.

AMC&D schedule reflects a delay in F/A-18 E/F and AV-8B MS III decision from 3Q/04 to 4Q/04 due to delay in receipt of OT results.

CNS/ATM schedule reflects a removal of KC-130J and E-2 platforms because they moved from forward fit to retrofit.

JMPS schedule reflects change in OT from 4Q/04 to 2Q/05 due to JMPS schedule slipping for F/A-18. JMPS developmental testing was added for version 1.2.3 , framework required

TAMMAC UPC software changes to support F/A-18.

VPF schedule slipped due to funding on hold at FY04 Midyear resulting in contract awarding later than anticipated.

Technical:

Not Applicable.

R-1 SHOPPING LIST - Item No. 86

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:		February 2005	
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME					
RDT&E, N / BA-5			0604215N, Standards Development			0572, Joint Services/Navy Standard Avionics Components and Subsystems					
D. OTHER PROGRAM FUNDING SUMMARY:											
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>	
Common Avionics, APN	137.566	166.857	214.202	192.488	170.068	165.501	168.039	171.067	Continuing	Continuing	
PE 0702239A (Avionics Component Improvement Program Army)											
PE 0702239F (Avionics Component Improvement Program Air Force)											
E. ACQUISITION STRATEGY:											
<p>Advanced Mission Computer & Display (AMC&D) is utilizing a cost plus contract to McDonnell Douglas Corp (MDC), a wholly owned subsidiary of the Boeing Company, for EMD. MDC conducted a competition to potential suppliers and selected General Dynamics Information Systems for the AMC, Honeywell for Displays, and Harris for Fibre Channel Network Switch. The Communication, Navigation, Surveillance/Air Traffic Management (CNS/ATM) program is a systems of systems. The program will encompass the integration of various systems that are currently post-MS III. Systems will be procured utilizing existing contracts for integration on forward-fit and retrofit platforms to provide CNS/ATM functionality. Joint Tactical Radio System (JTRS) development is lead by the Air Force for the Airborne, Maritime and Fixed Site (AMF) program and by SPAWAR for the Multi-mode Information Distribution Systems (MIDS) JTRS and Common Link Integration Processing (CLIP) programs. The Navy is utilizing an Air Force contract vehicle for research and development of navy unique requirements and a Navy contract vehicle for integration studies and efforts on the lead platforms. TAMMAC Vector Product Format (VPF) is utilizing a sole source to Harris Corporation, to incorporate the VPF/Symbology data into the the existing TAMMAC FRP Hardware. Aircrew Wireless Internal Communication System (AWICS) is employing a sole source Phase III SBIR contract to procure a common system for use aboard multiple assault, logistics, Rotary Wing and Fixed Wing aircraft. GPWS/TAWS software modules will be developed by the existing PMA209 government software product team. The software modules will be integrated into the platform host computer by the platform's prime integrator. The Avionics Component Improvement Program (AvCIP) will annually compete candidate solutions according to criticality of operational contribution, technical risk, return on investment, and breadth of application. OPNAV N78 & N43, NAVAIR, NAVICP and the Fleet will participate in project selection for execution year allocation. The AvCIP IPT will monitor project execution and track return on investment using N43 Flying Hour Program metrics. Modification solutions include modular hardware, software and material upgrades. MFOQA will integrate a combination of existing aircraft hardware, ground support equipment, commercial off the shelf/government of the shelf hardware and software products. MFOQA program interfaces will be created to share data captured by the F-18 automated maintenance environment. H-60 health and usage monitoring system and existing data bases. A competitive contracting strategy will be used for procurement as needed. System integration efforts will be accomplished with prime vendors using existing contract vehicles for technical engineering services as much as possible. The Common Display program will be an AAP program with developmental efforts competitively awarded in FY07. Acquisition Decision Milestone will occur prior to award, and will be based upon results of acquisition planning and display prioritization for tactical cockpit displays and mission consoles.</p>											

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Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, page 9 of 50)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			0604215N, Standards Development			0572, Joint Services/Navy Standard Avionics Components and Subsystems						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Prime Hdw Develop, AMC&D OTA84	SS/845	Boeing, St. Louis, MO	54.516								54.516	54.516
Prime Hdw Develop, AMC&D EMD	SS/CP	Boeing, St. Louis, MO	134.956	4.858	11/04						139.814	139.814
Prime Hdw Develop, LPIA EMD	C/CS	BAE Systems, Wayne, NJ	7.264								7.264	7.264
Prime Hdw Develop, TAMMAC EMD	SS/CPIF	Boeing, St. Louis, MO	26.332								26.332	26.332
Prime Hdw Develop, CNS/ATM EMD	SS/BOA	Litton, Woodland Hills, CA	2.032								2.032	2.032
Prime Hdw Develop, CNS/ATM EMD	SS/CPIF	Rockwell, Cedar Rapids, IA	3.064								3.064	3.064
Prime Hdw Develop, CNS/ATM EMD	C/FPIF	BAE Systems, Greenlawn, NY	2.157								2.157	2.157
Prime Hdw Develop, MCAS EMD	SS/CPFF	BAE Systems, Greenlawn, NY	1.969								1.969	1.969
Prime Hdw Develop, VPF	SS/TBD	Harris, Melbourne, FL	2.995	0.671	12/04						3.666	3.666
Prime Hdw Develop, JMPS	SS/CPFF	Boeing, St. Louis, MO	0.341	0.340	01/05						0.681	0.681
Prime Hdw Develop, AWICS	SS/CPFF	MSSI, Germantown, MD	2.932	0.427	01/05						3.359	3.359
Prime Hdw Develop	TBD	TBD		0.474	01/05	3.623	12/05	5.850	12/06		9.947	9.947
Prime Hdw Develop, DISPLAYS	TBD	TBD						2.760	12/06		2.760	
Prime Hdw Develop, AMC&D	TBD	TBD				2.760	12/05	4.291	12/06	Continuing	Continuing	
											0.000	
Aircraft/Ship Integration	WX	Various	0.534	0.200	04/05	1.484	12/05	4.292	12/06	Continuing	Continuing	
Aircraft/Ship Integration, CNS/ATM	SS/FFP	MDC, St. Louis, MO		9.647	04/05	11.926	12/05	1.607	12/06	Continuing	Continuing	
Aircraft/Ship Integration, CNS/ATM	WX	NAWCAD Pax River, MD	6.980			3.356	12/05	1.279	12/06	Continuing	Continuing	
Aircraft/Ship Integration, JTRS	TBD	Northrup Grumman, Bethpage, NY		17.360	02/05	12.530	11/05	7.601	11/06	Continuing	Continuing	
Aircraft/Ship Integration, JTRS	WX	Various	0.677	1.699	11/04	12.390	11/05	8.051	11/06	Continuing	Continuing	
Systems Engineering	WX	Various	6.578	2.646	12/04	3.848	11/05	4.654	11/06	Continuing	Continuing	
Misc			62.527								62.527	
											0.000	
Subtotal Product Development			315.854	38.322		51.917		40.385		Continuing	Continuing	
Remarks:												

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Exhibit R-2, RDTE Budget Item Justification
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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDTE&E, N / BA-5			0604215N, Standards Development			0572, Joint Services/Navy Standard Avionics Components and Subsystems						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation, AN	WX	NAWCAD Pax River, MD	4.783	0.226	01/05	0.093	11/05	0.664	11/06	Continuing	Continuing	
Developmental Test & Evaluation, AN	WX	NAWCWD CHINA LAKE, CA		0.100		0.192		0.998			1.290	
Developmental Test & Evaluation, VF	WX	Various		1.216	01/05						1.216	
Developmental Test & Evaluation	WX	Various	0.222	0.050	02/05	1.811	02/06	0.092	02/07	Continuing	Continuing	
Operational Test & Evaluation	WX	OPTEVFOR	1.695	0.450	01/05	0.131	02/06				2.276	
Test Assets	WX	Various	0.273			0.041	02/06				0.314	
Misc	WX	Various	22.162								22.162	
Subtotal T&E			29.135	2.042		2.268		1.754		Continuing	Continuing	
Remarks:												
Contractor Engineering Support	WX	Various	5.306	2.931	02/05	8.225	12/05	5.992	12/06	Continuing	Continuing	
Government Engineering Support	WX	Various	2.097	1.180	12/04	1.737	12/05	1.856	12/06	Continuing	Continuing	
Program Management Support	WX	Various	3.126	2.091	11/04	3.404	12/05	3.881	12/06	Continuing	Continuing	
Travel	WX	NAWCAD Pax River, MD	0.178	0.050	11/04	0.100	03/06	0.124	03/07	Continuing	Continuing	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			10.707	6.252		13.466		11.853		Continuing	Continuing	
Remarks:												
Total Cost			382.710	47.521		71.105		58.220		Continuing	Continuing	
Remarks:												

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Exhibit R-2, RDTE Budget Item Justification
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UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:								
AMC&D																								February 2005								
APPROPRIATION/BUDGET ACTIVITY									PROGRAM ELEMENT NUMBER AND NAME									PROJECT NUMBER AND NAME														
RDT&E, N / BA-5									0604215N, Standards Development									0572, Joint Services/Navy Standard Avionics Components and Subsystems														
Fiscal Year	2004				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	1	2	3	4
Acquisition Milestones			Baseline System	▲	MS III (F/A-18) & AV-8B																											
Obsolescence Redesign Phase 1						△			MS III 8x10 AMPD																							
Obso. Redesign Phase 1 Lab Testing										△						▽																
Obso. Redesign Phase 1 Flight Test															△				▽													
Obso. Phase 1 Fleet Release																			△													
Obsolescence Redesign Phase 2																	△						▽									
Obso. Redesign Phase 2 Lab Testing																					△			▽								
Obso. Redesign Phase 2 Flight Test																						△					▽					
Obso. Phase 2 Fleet Release																													△			
Test & Evaluation Milestones			DT-IIA-4																													
Development Test																																
Operational Test																																
Production Milestones																																
FRP FY04				◆				◇	8x10 AMPD																							

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[illegible]

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:								
JMPS																								February 2005								
APPROPRIATION/BUDGET ACTIVITY									PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-5									0604215N, Standards Development												0572, Joint Services/Navy Standard Avionics Components and Subsystems											
Fiscal Year	2004				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																																
Test & Evaluation Milestones																																
Development Test JMPS 1.1	DT																															
Development Test JMPS 1.2.3							DT																									
Operational Test							OT																									
Production Milestones																																
Deliveries																																

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CLASSIFICATION:

[illegible]

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Exhibit R-2, RD TEN Budget Item Justification
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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:								
CNS/ATM																								February 2005								
APPROPRIATION/BUDGET ACTIVITY										PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME												
RDT&E, N / BA-5										0604215N, Standards Development										0572, Joint Services/Navy Standard Avionics Components and Subsystems												
Fiscal Year	2004				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				
F/A-18E/F Integration																																
Mode S																																
RNP/RNAV																																
MH-60S Integration																																
Mode S																																
MH-60R Integration																																
Mode S																																
AH-1Z Integration																																
Mode S																																
UH-1Y Integration																																
Mode S																																
Production Milestones																																
Platform Procurements (S/W upgrades ONLY)																																
Deliveries																																

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UNCLASSIFIED

CLASSIFICATION:

[illegible]

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Exhibit R-2, RD TEN Budget Item Justification
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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:								
VPF																								February 2005								
APPROPRIATION/BUDGET ACTIVITY										PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME												
RDT&E, N / BA-5										0604215N, Standards Development										0572, Joint Services/Navy Standard Avionics Components and Subsystems												
Fiscal Year	2004				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													Fleet Introduction △																			
VPF Integration Study																																
Vector Product Development						SDR △	SRR △	PDR △	CDR △																							
Software VPF S/W to H/W Integration																																
Test & Evaluation Milestones																																
Development Test/ Operational Testing													DT/OT ▬																			
Production Milestones																																
Deliveries																																

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Exhibit R-2, RD TEN Budget Item Justification
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UNCLASSIFIED

CLASSIFICATION:

[illegible]

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UNCLASSIFIED

Exhibit R-2, RD TEN Budget Item Justification
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UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE: February 2005								
APPROPRIATION/BUDGET ACTIVITY										PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME												
RDT&E, N / BA-5										0604215N, Standards Development										0572, Joint Services/Navy Standard Avionics Components and Subsystems												
Fiscal Year	2004				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							MS C △																									
Contract Award			SBIR PHASE II ▲					LRIP I △																								
Test & Evaluation Milestones																																
Developmental Test (DT-B)																																
Developmental Test (DT-C)																																
DT Report																																
Production Milestones																																
DT-B																																
LRIP 1 FY04																																
Procurements																																
Deliveries																																

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** EDM units will support DT-B/C efforts.
LRIP units will support IOC and fielding schedule.

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UNCLASSIFIED

CLASSIFICATION:

[illegible]

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								
JTRS																								
APPROPRIATION/BUDGET ACTIVITY										PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME				
RDT&E, N / BA-5										0604215N, Standards Development										0572, Joint Services/Navy Standard Avionics Components and Subsystems				
Fiscal Year	2004				2005				2006				2007				2008				2009			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Navy Unique JTRS Sys Design & Dev (AMF)	Req & Design Analysis																							
					Pre-SDD				SDD															
Req Def & Integration Analysis (F/A-18, AV-8B, MH-60) Navy Ancilliary H/W Development					Spiral 1								Spiral 2 / 3											
									H/W Dev				Lab/SIL/DT											
Navy Milestone																								
E2 AHE Spiral 1																								
Config 1: MIDS JTRS TACAIR JTRS					SDD - Platform NRE/DT/OA (Lot 1 & Lot 2)												Platform Integration							
Production Milestones																								
Deliveries																								

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Exhibit R-2, RD TEN Budget Item Justification
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UNCLASSIFIED

CLASSIFICATION:

[illegible]

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Exhibit R-2, RD TEN Budget Item Justification
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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:								
GPWS/TAWS																								February 2005								
APPROPRIATION/BUDGET ACTIVITY										PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME												
RDT&E, N / BA-5										0604215N, Standards Development										0572, Joint Services/Navy Standard Avionics Components and Subsystems												
Fiscal Year	2004				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																																
Government Software Development																																
Test & Evaluation Milestones																																
Developmental Test																																
Operational Test																																
Production Milestones																																
H-60 IOC																																
H-1 IOC																																
Deliveries																																

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Exhibit R-2, RDTE Budget Item Justification
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UNCLASSIFIED

CLASSIFICATION:

[illegible]

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Exhibit R-2, RD TEN Budget Item Justification
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UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:														
MFOQA																								February 2005														
APPROPRIATION/BUDGET ACTIVITY										PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME																		
RDT&E, N / BA-5										0604215N, Standards Development										0572, Joint Services/Navy Standard Avionics Components and Subsystems																		
Fiscal Year	2004				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												PDR △		CDR △				H-60 TIM △	T-45 TIM △	H-60 TIM △	V-22 TIM △			V-22 TIM △														
Core Capability									Development/Deficiency Correction																													
F/A-18E/F Integration								Development				Integration				DT				OT																		
MH-60R/S Integration														Development				Integration				DT				FOT&E												
V-22B Integration																	Development				Integration				DT				FOT&E									
T-45C Integration																		Dev	Integ	DT				FOT&E														
Test & Evaluation Milestones																																						
Developmental Test																																						
Operational Test																																						
Production Milestones																																						
Deliveries																																						

R-1 SHOPPING LIST - Item No. 86

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Exhibit R-2, RDTE Budget Item Justification
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UNCLASSIFIED

CLASSIFICATION:

[illegible]

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Exhibit R-2, RD TEN Budget Item Justification
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UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:								
COMMON DISPLAYS																								February 2005								
APPROPRIATION/BUDGET ACTIVITY								PROGRAM ELEMENT NUMBER AND NAME								PROJECT NUMBER AND NAME																
RDT&E, N / BA-5								0604215N, Standards Development								0572, Joint Services/Navy Standard Avionics Components and Subsystems																
Fiscal Year	2004				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													ADR											ADR								
Tech Demo																																
Contract Events																																
Engineering Events																																
ILS Events																																
Test & Evaluation Milestones																																
Test Activities																																
Production Milestones																																
Deliveries																																

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Exhibit R-2, RD TEN Budget Item Justification
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CLASSIFICATION:

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Exhibit R-2, RD TEN Budget Item Justification
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UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604215N, Standards Development			PROJECT NUMBER AND NAME 1857, Calibration Standards			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	4.213	5.476	1.365	1.658	1.711	1.744	1.787	1.831
RDT&E Articles Qty								
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>Project 1857, Calibration Standards: This project is a Navy-wide program to develop required calibration standards (hardware) in all major measurement technology areas in support of Navy Weapons systems, ground and air, throughout the Fleet. It funds Navy lead-service responsibilities in the DOD and Joint Services Metrology Research and Development program. This project supports the military requirement to verify the performance of all test systems used to validate the operation of Navy Weapon Systems with calibration standards traceable to the National Institute of Standards and Technology.</p>								

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604215N Standards Development	PROJECT NUMBER AND NAME 1857, Calibration Standards		

B. Accomplishments/Planned Program

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	4.213			
RDT&E Articles Quantity				

FY-2004 Accomplishments: (\$ 2.300) Completed 8 calibration standards (hardware) in support of chemical biological standards, common metrology calibration, modeling and simulation projects, and new technology for reduced crew size initiatives. (\$.373) Continuing development of 2 standards to support missile guidance systems and radar cross section measurements. (\$ 1.540) Started development of 5 new standards to support chemical biological detectors, laser target designators and rangefinders (1.5 µm), reduce shipboard crew size and calibration costs, and increasing shipboard calibration support.

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost		5.476		
RDT&E Articles Quantity				

FY 2005 Plan: (\$.374 Complete 3 calibration standards (hardware) in support of chemical biological sensors, radar cross section measurements, and reduced crew size initiatives. (\$.903) Continue development of 4 standards to support missile guidance systems, common metrology calibration, eye safe laser target designators and rangefinders (1.5 µm), and reduce crew size. (\$4.199) Congressional Add Navy/Marine Corps advanced measurement standards R&D (note: only for the development of advanced measurement standards and meteorology systems to support the Navy and Marine Corps testing needs.

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost			1.365	
RDT&E Articles Quantity				

FY 2006 Plan: (\$ 1.365) Complete 4 calibration standards (hardware) in support of missile guidance systems, reduce crew size initiatives, and laser target designators systems, and increasing shipboard calibration support.

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604215N Standards Development	PROJECT NUMBER AND NAME 1857, Calibration Standards		
B. Accomplishments/Planned Program (Cont.)				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost				1.658
RDT&E Articles Quantity				
<p>FY 2007 Plan: (U) (\$.234) Complete 1 calibration standard (hardware) in support of electrical calibration standards. (U) (\$ 0) No Continued standards development. (U) (\$ 1.424) Begin development of 6 new calibration standards (hardware) in support of chemical biological detection systems, reduce crew size initiatives, and shipboard communication systems.</p>				

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Exhibit R-2, RDTEN Budget Item Justification
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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604215N Standards Development	PROJECT NUMBER AND NAME 1857, Calibration Standards		

C. PROGRAM CHANGE SUMMARY:

	FY 2004	FY 2005	FY 2006	FY 2007
Funding:				
Previous President's Budget: (FY 05 Pres Controls)	4,219.000	1,359.000	1,366.000	1,652.000
Current BES/: (FY06/07 President's Budget Controls)	4,213.000	5,476.000	1,365.000	1,658.000
Total Adjustments	-6.000	4,117.000	-1.000	6.000
Summary of Adjustments				
Section 8094 Mgmt Impr Issue 68041	0.000	0.000	0.000	0.000
Sec 8126 Efficiencies/Revisions Issue 68066	0.000	0.000	0.000	0.000
Navy Metrology	0.000	0.000	0.000	0.000
Congressional Add	0.000	4,199.000	0.000	0.000
WCF - R&D - NSWC PBD 430	0.000	0.000	0.000	0.000
PBD 426 Rates - NSWC	0.000	0.000	0.000	0.000
PBD 604 Inflation/Recession	0.000	-82.000	-1.000	6.000
PBD 604 non purchase inflation	-3.000	0.000	0.000	0.000
Cancelled Account	-3.000	0.000	0.000	0.000
Offset for CIVPERs FY04 Payraise	0.000	0.000	0.000	0.000
FY05 ITR RDTEN Balancing	0.000	0.000	0.000	0.000
Subtotal	-6.000	4117.000	-1.000	6.000

Schedule:

Not applicable

Technical:

Not applicable

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604215N Standards Development			PROJECT NUMBER AND NAME 1857, Calibration Standards					
D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
Not Applicable										
E. ACQUISITION STRATEGY: *										
Not Applicable										

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604215N, Standards Development			PROJECT NUMBER AND NAME 1857, Calibration Standards						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	WX	NSWC, Corona Division	3.499	5.200		0.985		1.348			9.684	
Ancillary Hardware Development											0.000	
Component Development											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering											0.000	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			3.499	5.200		0.985		1.348		0.000	11.032	
Remarks:												
Development Support											0.000	
Software Development											0.000	
Training Development											0.000	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												

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Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-5			PROGRAM ELEMENT 0604215N, Standards Development			PROJECT NUMBER AND NAME 1857, Calibration Standards						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation											0.000	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Contractor Engineering Support			0.200	0.120		0.125		0.130			0.575	
Government Engineering Support			0.462	0.126		0.220		0.150			0.958	
Program Management Support											0.000	
Travel			0.052	0.030		0.035		0.030			0.147	
Labor (Research Personnel)											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.714	0.276		0.380		0.310		0.000	1.680	
Remarks:												
Total Cost			4.213	5.476		1.365		1.658		0.000	12.712	
Remarks:												

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Exhibit R-2, RDTE Budget Item Justification
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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604215N Standard Development			PROJECT NUMBER AND NAME 2311 Navy Stores Planning and Weaponneering Module			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	7.456	9.349	11.077	13.450	13.408	14.655	14.710	16.022
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Project 2311, Stores Planning and Weaponneering Module: The Naval Aircraft Weaponneering Components (NAWC) project, now referred to as the Weaponneering and Stores Planning (WASP) components, are integrated software products that allow pilots to determine the best combinations of weapons and delivery conditions to achieve the desired level of target damage, eliminate weapon delivery solutions that violate aircraft T/M/S specific safety-of-flight envelopes, and perform detailed weapons employment planning. WASP is approved by N78 as a permanent flight clearance system for the F/A-18 A, A+, B, C, D and D(RC) aircraft, and for all future aircraft T/M/S in the Joint Mission Planning System (JMPS). As a flight clearance system, WASP components will alert pilots if their planned weapon release conditions will result in bomb-to-bomb collisions, bomb-to-aircraft collisions, aircraft overstress, or excessive risk of aircraft loss/damage in the event of fuze early bursts. Weaponneering capabilities are fundamental requirements for Interdiction, Armed RECCE and Close Air Support mission planning, therefore WASP product availability is critical to successful Post-Joint Mission Planning System (JMPS) Combat 1 OT&E. The WASP product encompasses a multitude of GOTS/COTS software components and tools (aircraft target maneuver simulations, weapon flyout models, target probability of damage calculators, etc.), which are delivered as new targets are identified, emergent requirements for new aircraft T/M/S, stores and weapons are approved by N78, and new flight clearances and flight restrictions issued by NAVAIRSYSCOM. WASP components are being delivered on an annual basis starting with v1.0 in December CY03.

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Exhibit R-2, RDTEN Budget Item Justification
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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	PROGRAM ELEMENT NUMBER AND NAME 0604215N Standards Development	PROJECT NUMBER AND NAME 2311 Navy Stores Planning and Weaponneering Module		
B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.523	0.716	0.896	0.976
RDT&E Articles Quantity				
<div style="border: 1px solid black; padding: 5px;"> Program Management - In FY04 Performed Weaponneering and Stores Planning (WASP) project management, which includes contracting support (providing contract administration, preparing contract packages for award.) and providing financial support (accept, obligate, commit, and track funding). Provided travel for WASP Government personnel. Provided on-site contractor occupancy fees, fee for service/direct contract processing fees, SBIR. Continue performing project management support for this program throughout the FYDP. </div>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	5.453	4.082	4.786	4.914
RDT&E Articles Quantity				
<div style="border: 1px solid black; padding: 5px;"> Software Development - Develop new software for WASP components V1.1, V2.0, V2.1 and V3.0 to support addition of F/A-18EF, AV-8B and JSF. Integrate WASP components into the Joint Mission Planning System (JMPS). Develop new aircraft configuration, aircraft loading, weapon optimization, store release and delivery planning components for F/A-18 A-F, AV-8B and JSF. Provide NMCI seats and software licenses for development. Provide CM, Sys Admin, QA, documentation, metrics and Risk Management for WASP. Integrate new JMEM methodologies into WASP; Bridge Analysis System (BAS), Building Analysis Module (BAM). Integrate new guided weapon (GBU) penetration and flyout models into WASP. Integrate WASP with JSOW/JDAM/SLAM-ER mission planning systems. </div>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.101	0.232	0.243	0.256
RDT&E Articles Quantity				
<div style="border: 1px solid black; padding: 5px;"> Compliance with external directives - Provide Weaponneering and Stores Planning (WASP) components with the means to ensure all software (to include internally developed software, externally developed GOTS components and COTS products) complies with DoN and DoD software mandates and directives. These include ISNS (IT-21), DITSCAP C&A, NMCI, DII COE, D-30 and FAM. All Fleet released software must comply with DoN and DoD software directives or will not be allowed to run on ship LANs or NMCI. </div>				

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Exhibit R-2, RD TEN Budget Item Justification
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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	PROGRAM ELEMENT NUMBER AND NAME 0604215N Standards Development	PROJECT NUMBER AND NAME 2311 Navy Stores Planning and Weaponengineering Module		
B. Accomplishments/Planned Program (Cont.)				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.178	0.807	0.889	0.889
RDT&E Articles Quantity				
Systems Engineering - Provide Systems Engineering support to the Weaponengineering and Stores Planning (WASP) development effort. Provide domain engineering support for weapons separation, aircraft loads, flutter, fuzing, safe escape for application to WASP. Provide for WASP Help Desk support at SPAWAR. Provide government Joint Munitions Effectiveness Manual (JMEM) engineering support (JMEM Subject Matter Experts) for integration of new JMEM capabilities into WASP. Provide analysis of new requirements, allocation of requirements, design oversight, and life cycle management of the WASP program.				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	1.099	2.570	3.273	3.436
RDT&E Articles Quantity				
Test and Evaluation - Provide test and evaluation for unit and system level testing; functional qualification testing; safety of flight certification testing; integration and standards compliance testing for WASP versions (WASP V1.1, V2.0, V2.1 and WASP V3.0). Provide T&E support for guided weapons and Joint Munitions Effectiveness Manual (JMEM) accreditation.				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.102	0.942	0.990	1.039
RDT&E Articles Quantity				
WASP Modeling and Simulation Support - Acquire GFI safe escape and guided weapon components for integration into WASP. Acquire aircraft performance models and unguided weapon flyout models for integration into WASP. Develop updates to the NAVAIR Aircraft Target Area Maneuvers Simulation (ATAMS), Common Unguided Weapons Computational Engine (CUWCE), Safe Escape Automation Layer (SEAL), and the Probability of Aircraft Tactical Hazard (PATH) models. Develop updates to the joint owned Guided Weapons Trajectory Software (GWTS).				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost				1.940
RDT&E Articles Quantity				
JATDI/ Information Technology Development/ NAVAIR IT - Additional funding was erroneously entered in the Stores Planning and Weaponengineering Module for the OSD 06 Budget Cycle. The correct Program Element is 0605013N and the correct Project Unit is 2903. Per sponsor, the funds will be properly placed under this program during PR07.				

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EXHIBIT R-2a, RDT&E Project Justification			DATE:	
			February 2005	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N / BA-5	0604215N Standard Development	2311 Navy Stores Planning and Weaponing Module		
C. PROGRAM CHANGE SUMMARY:				
Funding:	FY 2004	FY 2005	FY 2006	FY 2007
Previous President's Budget:	4.960	9.448	7.423	7.863
Current BES/President's Budget	7.456	9.349	11.077	13.450
Total Adjustments	2.496	-0.099	3.654	5.587
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions		-0.086		
Congressional rescissions				
SBIR/STTR Transfer				
Other adjustments		-0.013	3.543	5.44
Economic Assumptions			0.111	0.147
Reprogrammings	2.496			
Congressional increases				
Subtotal	2.496	-0.099	3.654	5.587
Schedule: Slip in WASP V1 release from 2Q 2003 to 4Q 2003:				
As a CNO approved alternative permanent flight clearance system for the F/A-18 A-D, the WASP application mirrors the release and update cycle of Volume IV of the F/A-18A_D Tactical Manuals (TACMAN). Signature and release of Urgent Interim Change 2 (UIC 2) to Vol IV of the TACMAN was expected to happen such that WASP would be able to implement changes in the software prior to release of Version 1.0. The OPNAV sponsor concurred that WASP should implement UIC 2 if possible. However, delays in the release of UIC 2 resulted in a corresponding delay of the release of WASP V1.0 from 2Q 2003 to 4Q 2003 with only minimal incorporation of UIC 2.				
Insertion of V1.1 into schedule with delivery in 1Q 2005:				
WASP V1.1 was inserted in the schedule to implement full Change 5 functionality in addition to requirements that were deferred from WASP V1.0.				
6 month delay in IOC of WASP V1.0 due to UIC 2 have impacted schedule for V1.1 and V2.0. V1.1 to field in 1Q FY05 and V2.0 to field in 1Q FY06.				
Technical: Not applicable				

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Exhibit R-2, RDTEN Budget Item Justification
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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME 0604215N Standards Development			PROJECT NUMBER AND NAME 2311 Navy Stores Planning and Weaponneering Module				

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
BLI 287600 TAC A/C Mission Planning System (OPN)	8.539	9.042	7.857	8.338	8.668	8.916	9.100	9.290	Continuing	
PE2806F Air Force Mission Support System Related RDT&E:	51.645	136.701	143.154	196.749	148.541	96.314	Continuing	Continuing	Continuing	
P.E. 0604231N (Mission Planning)										

E. ACQUISITION STRATEGY:

Weaponeering and Stores Planning (WASP) products, delivered annually, are developed in-house by NAVAIR (NAWCAD and NAWCWD) engineers. NAWCAD provides expertise in areas of management, systems engineering, software engineering and aircraft safety-of-flight (air-vehicle stores compatibility, weapons separation, aircraft aerodynamic flutter, ground/flight loads, authorized fuze arm times, aircraft safe escape). NAWCAD also provides weapons separation test pilots as WASP operational advisors. NAWCWD provides expertise in areas of guided weapons employment and weapons effects against targets. The various government teams (software development, functional qualification testing and certification/accreditation test) are supplemented with contract labor procured predominately through fixed-price GSA or BPA contracts.

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604215N Standard Development			PROJECT NUMBER AND NAME 2311 Navy Stores Planning and Weaponneering Module						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Software Development	WX	NAWCAD, PAX RIVER, MD	13.476	1.301	11/04	1.532	11/05	1.596	11/06	Continuing	Continuing	
Primary Software Development	GSA/FP	Various	15.314	2.782	11/04	3.254	11/05	3.318	11/06	Continuing	Continuing	
Aircraft Integration												
Ship Integration												
Ship Suitability												
Systems Engineering	WX	NAWCAD, PAX RIVER, MD	5.484	0.807	11/04	0.889	11/05	0.889	11/06	Continuing	Continuing	
Training Development												
Licenses												
Tooling												
GFE												
Award Fees												
Subtotal Product Development			34.274	4.890		5.675		5.803		Continuing	Continuing	
Remarks:												
Development Support											0.000	
Software Development	TBD	TBD	0.000	0.000		0.000		1.290	12/06	6.450	7.740	7.740
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			0.000	0.000		0.000		1.290		6.450	7.740	
Remarks: JATDI/ Information Technology Development/ NAVAIR IT - Additional funding was erroneously entered in the Stores Planning and Weaponneering Module for the OSD 06 Budget Cycle. The correct Program Element is 0605013N and the correct Project Unit is 2903. Per sponsor, the funds will be properly placed under this program during PR07.												

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Exhibit R-2, RD TEN Budget Item Justification
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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604215N Standard Development			PROJECT NUMBER AND NAME 2311 Navy Stores Planning and Weaponengineering Module						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	NAWCAD, PAX RIVER, MD	7.034	2.570	11/04	3.273	11/05	3.436	11/06	Continuing	Continuing	
Developmental Test & Evaluation	WR	TBD						0.650	11/06	1.300	1.950	
Operational Test & Evaluation												
Live Fire Test & Evaluation												
Test Assets												
Tooling												
GFE												
Award Fees												
Subtotal T&E			7.034	2.570		3.273		4.086		Continuing	Continuing	
<p>Remarks: JATDI/ Information Technology Development/ NAVAIR IT - Additional funding was erroneously entered in the Stores Planning and Weaponengineering Module for the OSD 06 Budget Cycle. The correct Program Element is 0605013N and the correct Project Unit is 2903. Per sponsor, the funds will be properly placed under this program during PR07.</p>												
Government Engineering Support	WX	NAWCWD, CHLKE, CA	0.627	0.333	11/04	0.386	11/05	0.412	11/06	Continuing	Continuing	
Government Engineering Support	WR	NAWCAD, PAX RIVER, MD	1.167	0.801	11/04	0.847	11/05	0.883	11/06	Continuing	Continuing	
Program Management Support	WX	NAWCAD, PAX RIVER, MD	2.561	0.735	11/04	0.856	11/05	0.936	11/06	Continuing	Continuing	
Travel	WX	NAWCAD, PAX RIVER, MD	1.028	0.020	11/04	0.040	11/05	0.040	11/06	Continuing	Continuing	
Transportation												
SBIR Assessment												
Subtotal Management			5.383	1.889		2.129		2.271		Continuing	Continuing	
<p>Remarks:</p>												
Total Cost			46.691	9.349		11.077		13.450		Continuing	Continuing	
<p>Remarks:</p>												

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Exhibit R-2, RD TEN Budget Item Justification
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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:				February 2005				
APPROPRIATION/BUDGET ACTIVITY										PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME												
RDT&E, N / BA-5										0604215N Standards Development										2311 Navy Stores Planning and Weaponneering Module												
Fiscal Year	2004				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																																
WASP V.1 Release (F/A-18A/B/C/D)	△																															
WASP V.1.1 Release (F/A-18A/B/C/D)					△																											
WASP V.2 Release (F/A-18A/B/C/D/E/F)/JMPS Integration									△																							
WASP V2.1 Release (F/A18A/B/C/D/E/F)													△																			
WASP V3 Release (F/A18A/B/C/D/E/F & AV-8B)																△																
WASP V3.1 Release (F/A18A/B/C/D/E/F & AV-8B)																				△												
WASP V4 Release (F/A18A/B/C/D/E/F, AV-8B, JSF)																										△						
Test & Evaluation Milestones																																
WASP V.1.1 Cert Test (F/A-18A/B/C/D)																																
WASP V.2 FQT & Cert Test (F/A-18A/B/C/D/E/F)																																
WASP V2.1 FQT & Cert Test (F/A-18A/B/C/D/E/F)																																
WASP V3 FQT & Cert Test (F/A-18A/B/C/D/E/F)																																
WASP V3.1 FQT & Cert Test (F/A-18A/B/C/D/E/F & AV-8B)																																
WASP V4 FQT & Cert Test (F/A-18A/B/C/D/E/F, AV-8B, JSF)																																
Production Milestones																																
WASP V.1.1 Dev (F/A-18A/B/C/D)																																
WASP V.2 Development (F/A-18A/B/C/D/E/F)																																
WASP V2.1 Development (F/A-18A/B/C/D/E/F)																																
WASP V3 Development (F/A-18A/B/C/D/E/F)																																
WASP V3.1 Development (F/A-18A/B/C/D/E/F & AV-8B)																																
WASP V4 Development (F/A-18A/B/C/D/E/F, AV-8B, JSF)																																
Deliveries																																

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Exhibit R-4a, Schedule Detail						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-5	PROGRAM ELEMENT 0604215N Standard Development				PROJECT NUMBER AND NAME 2311 Navy Stores Planning and Weaponeering Module			
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Acquisition Milestones								
WASP V.1 Release (F/A-18A/B/C/D)	1Q							
WASP V.1.1 Release (F/A-18A/B/C/D)		1Q						
WASP V.2 Release (F/A-18A/B/C/D/E/F)JMPS Integration			1Q					
WASP V2.1 Release (F/A-18A/B/C/D/E/F)				2Q				
WASP V3 Release (F/A-18A/B/C/D/E/F & AV-8B)								
WASP V3.1 Release (F/A-18A/B/C/D/E/F & AV-8B)								
WASP V4 Release (F/A-18A/B/C/D/E/F,AV-8B, JSF)								
Technical Evaluation (TECHEVAL)								
WASP V.1.1 Cert Test (F/A-18A/B/C/D)	3Q-4Q							
WASP V.2 FQT & Cert Test(F/A-18A/B/C/D/E/F)		3Q-4Q						
WASP V2.1 FQT & Cert Test(F/A-18A/B/C/D/E/F)			4Q	1Q				
WASP V3 FQT & Cert Test(F/A-18A/B/C/D/E/F & AV-8B))				4Q				
WASP V3.1 FQT & Cert Test(F/A-18A/B/C/D/E/F & AV-8B)								
WASP V4 FQT & Cert Test(F/A-18A/B/C/D/E/F,AV-8B, JSF)								
Production Milestones								
WASP v1.1 Dev (F/A-18A/B/C/D)	1Q-3Q							
WASP V.2 Dev (F/A-18A/B/C/D/E/F)	2Q-4Q	1Q-2Q						
WASP V2.1 Dev (F/A-18A/B/C/D/E/F)		3Q-4Q	1Q-3Q					
WASP V3 Dev (F/A-18A/B/C/D/E/F & AV-8B)			2Q-4Q	1Q-4Q				
WASP V3.1 Dev (F/A-18A/B/C/D/E/F & AV-8B)								
WASP V4 Dev (F/A-18A/B/C/D/E/F & AV-8B)								

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 46 of 50)

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604215N Standard Development				PROJECT NUMBER AND NAME 2312 Common Helicopters			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	0.948	0.759	0.761	0.945	0.961	0.981	1.002	1.022
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Project 2312, Common Helicopters: Automated mission planning systems to date have been developing targeting planning requirements for fixed-wing aircraft, while the unique planning requirements for helicopters have not been addressed. The unique and enhanced automated mission planning requirements that must be developed and implemented for helicopters include: data loading, an enhanced route editor (serpentine routing, hover, etc.) manipulation of higher fidelity (smaller scale) maps and imagery, enhanced performance tools (performance in and out of ground effect, performance degradation due to atmospheric conditions & elevation), and enhanced fidelity of landing zone, and threat analyses. The following type/model/series aircraft are supported by PE: AH-1W, UH-1N, H-46D/E, H-53D/E, H-60B/F/H/R/S, and V-22. The developed common helicopter functionality will initially be implemented in Naval Portable Flight Planning Software (N-PFPS) then migrated to JMPS. Subsequent common helicopter functionality will be developed for implementation in the Joint Mission Planning Segment (JMPS) after JMPS initial fielding.

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 47 of 50)

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604215N Standard Development	PROJECT NUMBER AND NAME 2312 Common Helicopters																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.948</td><td style="text-align: center;">0.759</td><td style="text-align: center;">0.761</td><td style="text-align: center;">0.945</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.948	0.759	0.761	0.945	RDT&E Articles Quantity				
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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																																												
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<p>C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 40%;"></th> <th style="text-align: right; width: 10%;">FY 2004</th> <th style="text-align: right; width: 10%;">FY 2005</th> <th style="text-align: right; width: 10%;">FY 2006</th> <th style="text-align: right; width: 10%;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>Funding:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Previous President's Budget:</td> <td style="text-align: right;">0.949</td> <td style="text-align: right;">0.772</td> <td style="text-align: right;">0.795</td> <td style="text-align: right;">0.981</td> </tr> <tr> <td>Current BES/President's Budget</td> <td style="text-align: right;">0.948</td> <td style="text-align: right;">0.759</td> <td style="text-align: right;">0.761</td> <td style="text-align: right;">0.945</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">-0.001</td> <td style="text-align: right; border-top: 1px solid black;">-0.013</td> <td style="text-align: right; border-top: 1px solid black;">-0.034</td> <td style="text-align: right; border-top: 1px solid black;">-0.036</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td> Congressional program reductions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional undistributed reductions</td> <td></td> <td style="text-align: right;">-0.012</td> <td></td> <td></td> </tr> <tr> <td> Congressional rescissions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> SBIR/STTR Transfer</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Other adjustments</td> <td></td> <td style="text-align: right;">-0.001</td> <td style="text-align: right;">-0.041</td> <td style="text-align: right;">-0.048</td> </tr> <tr> <td> Economic Assumptions</td> <td></td> <td></td> <td style="text-align: right;">0.007</td> <td style="text-align: right;">0.012</td> </tr> <tr> <td> Reprogrammings</td> <td style="text-align: right;">-0.001</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional increases</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Subtotal</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-0.001</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-0.013</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-0.034</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-0.036</td> </tr> </tbody> </table> <p style="margin-top: 20px;">Schedule: Not Applicable</p> <p style="margin-top: 20px;">Technical: Not Applicable</p>						FY 2004	FY 2005	FY 2006	FY 2007	Funding:					Previous President's Budget:	0.949	0.772	0.795	0.981	Current BES/President's Budget	0.948	0.759	0.761	0.945	Total Adjustments	-0.001	-0.013	-0.034	-0.036	Summary of Adjustments					Congressional program reductions					Congressional undistributed reductions		-0.012			Congressional rescissions					SBIR/STTR Transfer					Other adjustments		-0.001	-0.041	-0.048	Economic Assumptions			0.007	0.012	Reprogrammings	-0.001				Congressional increases					Subtotal	-0.001	-0.013	-0.034	-0.036
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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604215N Standard Development			PROJECT NUMBER AND NAME 2312 Common Helicopters					
D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
BLI 287600 TAC A/C Mission Planning System (OPN)	8.539	9.042	7.857	8.338	8.668	8.916	9.100	9.290	Continuing	Continuing
 E. ACQUISITION STRATEGY: N/A										

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