EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5						R-1 ITEM NOMENCLATURE 0604215N, STANDARDS DEVELOPMENT	
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	71.239	107.114	71.920	41.046	35.132	35.480	33.269
0572 JT SERVICE/NV STD AVIONICS CP/SB	56.057	90.714	59.142	25.435	19.301	18.942	15.883
1857 CALIBRATION STANDARDS	1.432	1.442	1.518	2.051	1.491	1.529	2.068
2311 STORES PLANNING AND WEAPONEERING	10.606	10.851	10.297	12.583	13.342	13.989	14.278
2312 COMMON HELICOPTERS	.945	.927	.963	.977	.998	1.020	1.040
9999 CONGRESSIONAL ADD	2.200	3.180					

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 the C/KC-130T Avionics Modernization Program (AMP), and Navy chairmanship and participation in the Joint Services Review Committee (JSRC) for Avionics Standardization. The RDT&E Articles include Advanced Mission Computer & Display (AMC&D) Engineering Manufacturing Development (EMD) units for 8X10 High Resolution Recorder Interface, Image Processing Modules and Fiber Channel Network Switches with Processors, GPWS/TAWS test articles, Common Avionics Display and the KC-130T AMP test article.

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 Hull, Mechanical and Electrical (HM&E) systems as well as 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 Hull, Mechanical and Electrical (HM&E) as well as Navy Weapon Systems with calibration standards traceable to the National Institute of Standards and Technology. Includes FY07 Congressional Add - DOD Metrology Research 2.200. Includes FY08 Congressional Add - Advanced Measurement 3.180.

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 N88 as a permanent flight clearance system for the F/A-18 A, A+, B, C, D, E, F, and G (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 deployment of the Joint Mission Planning System (JMPS) Combat 1 OT&E for AV-8B JMPS framework; 1.4 OT&E for F/A-18 A-G. The WASP product encompasses a multitude of Government-Off-The-Shelf (GOTS) and Commerical-Off-The-Shelf (COTS) software components and tools (aircraft target maneuver simulations, weapon flyout models, target probability of damage calculators), which are delivered as new targets are identified as emergent requirements for new aircraft T/M/S, stores and weapons are approved by N88, and new flight clearances and flight restrictions are issued by NAVAIRSYSCOM.

Project 2312, Common Helicopters: Automated mission planning systems to date have focused on developing planning capabilities for fixed-wing aircraft, while the unique planning requirements for helicopters have not been fully 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), 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/Z, UH-1N/Y, H-46D/E, H-53D/E, H-60B/F/H/R/S, and V-22. Common helicopter functionality will be developed for implementation in the Joint Mission Planning System (JMPS) after JMPS initial fielding.

Project 9999, The principal functions of AVITS is to provide the military maintainer: the capability to configure multiple, programmable

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5	R-1 ITEM NOMENCLATURE 0604215N, STANDARDS DEVELOPMENT

B. PROGRAM CHANGE SUMMARY

Funding:	FY 2007	FY 2008	FY 2009
FY2008 President's Budget:	72.929	106.242	99.067
FY2009 President's Budget:	71.239	107.114	71.920
Total Adjustments	-1.690	0.872	-27.147

Summary of Adjustments			
Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions	-1.212	-0.741	
Congressional Increases		3.200	
Economic Assumptions			-0.618
Miscellaneous Adjustments	-0.478	-1.587	-26.529
Subtotal	-1.690	0.872	-27.147

1. FY2008 funding totals do not include $6.000 previously requested for current FY2008 GWOT requirements.

Schedule:

AMC&D - Removed the V2+ events from schedule due to the results of the trade study showing that no new capabilities were required.

AWICS - Product Development contract extended from 1Q/08 to 1Q/09 due to the technical design behind schedule.

CNS/ATM - AH-1Z and UH-1Y DT/OT extended from 1Q/08 to 2/Q08 to align with the H-1 schedule slip.

TAC COM - GEN 5 Crypto Algorithm Assess./Dev moved from 2Q/08 to 3Q/07 due to scheduling efforts with NSA in coordination with our design reviews. TAC COM schedule changed to reflect the refinement of SATCOM S/W development schedule to meet evolving Mil-Std waveform protocols. Test Readiness review (TRR) and associated first article test events were added for additional definition. The MUOS study was performed in twparts, an initial feasibility assessment and a follow-on technical approach.

GPWS/TAWS reflects a change in the H-60 schedule deleting the Forward Looking Capability and Functional Requirements System spec which can not be completed within existing profile. H-60 DT changed from 4Q/07 to 4Q/08 due to delay in P3I IT&E start. H-60 OT changed from 4Q/07 to 2Q/08 due to delay in P3I IT&E start. H-1 schedule changed due to alignment with SCS 6.0 for the following milestones: Integration Contracts changed from 2Q/08 to 1Q/09, WSSA Integration contract changed from 2Q/07 to 2Q/09, DT changed from 1Q/10 to 1Q/11, OT changed from 3Q/10 to 2Q/11 and IOC changed from 4Q/10 to 3Q/11. V-22 schedule slid one year due to change in OFP release cycle. V-22 reduced to one contract vehicle with Prime for integration. Deleted requirements definition contract (2Q/08) and integration contract (2Q/09). V-22 requirements definition extended to 1Q/08 through 4Q/09 to reflect minimal effort during first two years prior to start of Block C integration efforts in FY10. Software Development and integration moved from 3Q/09 to 1Q/10, deleted software development/integration test as a redundant task. DT moved from 1Q/11 to 4Q/12. OT moved from 1Q/12 to 1Q/13. IOC moved from 1Q/13 to 4Q/13.

MFOQA schedule reflects a change in program of record based on OPNAV requirements changes and added the EA-18G and MV-22 platforms. Added Product Development and COTS Contract Award dates. F/A-18 PDR changed from 3Q/07 to 1Q/08 due to late product development contract award. Added new milestones/SETR reviews for each platform. F/A-18 DT broken out by DT-B1 and DT-B2. Added a second TRR to accommodate DT events. F/A-18 Fielding verbiage changed from Installs to Fielding. COTS Procurement was moved from the 1Q/08 to 2Q/08 due to a protest that has now been settled.

Common Avionics Display schedule reflects a change in acquisition strategy as approved by the Milestone Decision Authority. All milestones have shifted to accommodate change. These schedules will change as a result of a V-22 Major Avionics Upgrade to Displays to align with Mission Systems. We are unable to definitize a schedule at this time.

CNS/ATM C/KC-130T - FY09 and FY10 funding has been moved to PE 0605430N, Project Unit 3199

CNS/ATM C/KC-130T - FY09 and FY10 funding has been moved to PE 0605430N, Project Unit 3199.

1857 - Not Applicable.

2311 - Extensive F/A-18 E/F requirements, late GFI delivery of Safe Escape Application Layer (SEAL), and a high defect discovery resulted in the delayed delivery of WASP V1.2 from 3Q FY06 to 3Q FY07 and fielding from 1Q FY07 to 4Q FY07. Delay in awarding the WASP 2.0 Mission Planning Enterprise Contract and the delay in the delivery of WASP V1.2 has forced the delay in the delivery of WASP V2.0 from 3Q FY07 to 1Q FY08. WASP V2.0 will integrate with the JMPS F/A18 OT for MPE 21X which is scheduled for DT/OT 3Q-4Q FY08.

2312 - Not Applicable.

9999 - Not Applicable.

Technical:

0572 - Not Applicable.

1857 - Not Applicable.

2311 - Not Applicable.

2312 - Not Applicable.

9999 - Not Applicable.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604215N, STANDARDS DEVELOPMENT	PROJECT NUMBER AND NAME 0572, JT SERV/NV STD AVION CP/SB	

COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
0572 JT SERV/NV STD AVION CP/SB	56.057	90.714	59.142	25.435	19.301	18.942	15.883	
RDT&E Articles Qty	3	21	44					

Advanced Mission Computer & Displays (AMC&D), Aircrew Wireless Internal Communication Systems (AWICS), Tactical Communication (TAC COMM), Ground Proximity Warning System/Terrain Awareness Warning System (GPWS/TAWS) Collision Avoidance Systems, Military Flight Operational Quality Assurance (MFOQA), Common Avionics Displays (CAD), and C/KC-130T CNS/ATM AMP. C/KC-130T CNS/ATM AMP objectives will be achieved through a comprehensive cockpit redesign. Participation in Human Factors Quality Management Board (HFQMB) ensures Navy safety upgrades and mandatory safety improvements for naval aircraft.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

Mission Computer Upgrade	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	6.301	8.941	7.156
RDT&E Articles Qty		20	20

AMC&D - For F/A-18E/F system; added digital output to 8x10 display to interface with new aircraft recorder; evaluating integrating display processing capability in AV-8B mission computer; conducting studies and design efforts to facilitate netcentric warfare capability via modification of fibre channel network switches and mission computer Shop Replaceable Assemblies (SRAs) and software which will be incorporated into existing AMC WRAs; also conducting obsolescence research, development, integration,test and evaluation efforts to establish viable system baseline in support of new production requirements and perform platform integration studies and activities to expand user base.

Development of AWICS Encrypted Module	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.600	.200	.200
RDT&E Articles Qty			

AWICS – Safety: Continue development and conduct testing of the Joint, Cooperative Encrypted wireless Internal Communication System (ICS) system in cooperation with the U. S. Army led program.

Integration/Certification of F-18, H-60, H-1	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	10.178	2.575	
RDT&E Articles Qty			

CNS/ATM - Continued CNS/ATM integration of Mode S, and Required Navigation Performance (RNP RNAV) functional integration and certification efforts into naval aircraft. Perform naval aircraft platform functional integration for F/A-18E/F, MH-60S, MH-60R, AH-1Z, UH-1Y and follow-on platforms in the areas of communications, navigation, surveillance, processing and displays. Capabilities include Mode S, 8.33khz, and RNP/RNAV. Continue CNS/ATM requirements definition for follow-on functionalities and platforms.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604215N, STANDARDS DEVELOPMENT	PROJECT NUMBER AND NAME 0572, JT SERV/NV STD AVION CP/SB

Provide Support to Tri-Service/Joint Programs	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.921	1.077	1.159
RDT&E Articles Qty			

JSRC - Continue to provide leadership in support of the Navy interest to the JSRC tri-service committee promoting commonality and joint programs with focus on interoperability, communications, CNS/ATM, Joint Services obsolescence Management Plan and the update of the Core Avionics Master Plan (CAMP). Support and participate in Avionics Operational Advisory Group (OAG) panels and HFQMB.

Develop Evolutionary Communication Systems	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	18.683	19.308	24.413
RDT&E Articles Qty			

Tactical Communications – Awarded integration study contracts for Tactical Communication systems within E-2 AHE (Advanced Hawkeye), H-1 and AV-8B along with Link-16 and Mobile Users Objective System (MUOS). Support all necessary tasks to ensure evolution of legacy communications systems incorporating programmable Communication Security/Information Assurance (COMSEC), Variable Message Format (VMF), MUOS, Satellite Communication (SATCOM), and Joint Precision and Landing System (JPALS) data link into the ARC-210 system. Support for networking requirements development, Integrated Waveform (IW), Intelligence Broadcast System (IBS), JTRS and Link-16 integration across Naval Aviation.

Deliver GPWS H-60, Deliver TAWS H-1, V-22	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	7.843	5.852	8.058
RDT&E Articles Qty	3		

GPWS/TAWS - Continue development of GPWS/TAWS Collision Avoidance System (CAS) algorithm tailored to the platform performance and missions of the MH-60R, MH-60S, UH-1Y, AH-1Z and MV-22. Develop simulation models for UH-1Y and AH-1Z for use at manned flight simulator (MFS) and procure H-1 hardware for MFS. Evaluate MH-60R, MH-60S and MV-22 simulation models for suitability in GPWS/TAWS CAS development effort. Develop GPWS/TAWS CAS algorithms utilizing MFS as real-time hardware and pilot in the loop tool. Develop and evaluate algorithm interfaces necessary for integration of the algorithm within platform OFP. Award H-60 Integration Contract. Award H-1 Integration Contract Awards. Award V-22 Requirements Definition and Integration Contract. Initiate and complete H-60 DT and OT.

Develop MFOQA for Incremental 1 Platforms	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	9.155	13.975	10.481
RDT&E Articles Qty			

MFOQA - MFOQA will develop a baseline software integration framework using government procured software modules to perform functions such as flight data analysis, post mission aircrew debrief, aircraft maintenance and system troubleshooting, and mishap investigation. Increment 1 MFOQA efforts will focus on F/A-18, EA-18G, H-60, H-53, V-22, T-45 and follow-on DoN air platforms. Additional efforts will include software development and integration for fleetwide shore based and shipboard MFOQA implementation. Prepare and conduct MFOQA acquisition events for each aircraft TMS such as SRR, PDR, CDR, DT, Milestone C and follow-on Decision Reviews.

Develop family of common displays	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	2.376	7.481	7.675
RDT&E Articles Qty			24

COMMON AVIONICS DISPLAYS - Initial efforts wil 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 development contract. Conduct Initial Baseline Review (IBR), Systems Requirements Review (SRR), Preliminary Design Review (PDR), and Critical Design Review (CDR). 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.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604215N, STANDARDS DEVELOPMENT	PROJECT NUMBER AND NAME 0572, JT SERV/NV STD AVION CP/SB

Systems Development & Demonstration (SDD) Effort	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost		31.305	
RDT&E Articles Qty		1	

CNS/ATM C/KC-130T AMP - Award System Development & Demonstration (SDD) contract for kit procurement, installation, and integration; Conduct Systems Requirements Review (SRR) and Preliminary Design Review (PDR).

NOTE: FY09 AND FY10 FUNDING HAS BEEN MOVED TO PE 0605430N, PROJECT UNIT 3199.

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
Common Avionics, APN Line Item 057700	178.515	147.779	148.940	143.388	138.172	141.679	145.495	Continuing	1,043.968
C-130 Series, APN Line Item 056000				1.533	39.731	51.652	51.252	458.262	602.430
C/KC-130T AMP, 0605430N			24.407	28.969					53.376

D. ACQUISITION STRATEGY:

Advanced Mission Computer & Display (AMC&D) is utilizing a cost plus contract to McDonnell Douglas Corp (MDC), a wholly owned susbidiary 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. Aircrew Wireless Internal Communication System (AWICS) acquisition strategy is aligned with the Army Wireless ICS developmental program resulting in a common system for use aboard multiple assault, logistics, Rotary Wing and Fixed Wing aircraft. 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. Tactical Communications is utilizing a firm fixed price contract to Rockwell Collins for research and development of the ARC-210 Gen 5 and other Navy contract vehicles for integration studies. The Navy will integrate systems and components to satisfy platform requirements to achieve tactical communication capability as determined by analyses. 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. MFOQA Government activities include integrating a combination of existing aircraft hardware, ground support equipment, commercial off the shelf/government off the shelf hardware and software products. MFOQA program interfaces will be created to share data captured by the automated maintenance systems (e.g., AME, HUMS) and existing databases. The Navy will conduct a full and open competition for both the MFOQA S/W development, integration and support contract as well as the commercial off the shelf S/W data analysis product and enterprise license contract.

Common Avionics Displays shall be developed on a open architecture framework that optimizes the use of open commerical standards and modularity. These modular displays shall be designed to maximize commonality across applications that span the Naval Aviation Enterprise. This includes both fixed and rotary wing aircraft cockpits and could be leveraged for use in other military vehicle applications. A full and open competitive contract will be awarded for the development of these displays. The USN/USMC CNS/ATM C-130 Avionics Modernization Program (AMP) will issue a Request for Proposal for full and open competition to modify its 48 C/KC-130T aircraft. The strategy is to utilize a single contract to perform both system integration and production. Market research has revealed several contractors with developed systems and experience in integration and installation providing significant competition to leverage off an existing commercial base. The requirements of the program can be met with COTS/NDI subsystems integrated into an AMP system. The program will enter the acquisition framework post MS-B for integration and test kit installation on one aircraft. Integrated testing will be utilized with a Full Rate Production Decision following successful test and MS-C decision.

Exhibit R-3 Cost Analysis (page 1)									DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5		PROGRAM ELEMENT 0604215N, STANDARDS DEVELOPMENT				PROJECT NUMBER AND NAME 0572, JT SERV/NV STD AVION CP/SB						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Aircraft Integration	TBD	TBD				12.311	Mar 2008				12.311	12.311
Aircraft Integration	SS-CPAF	BELL HELICOPTER TEXTRON INC, HURST, TX	4.294			1.171	Mar 2008	2.945	Jan 2009		8.410	8.410
Aircraft Integration	VARIOUS	MCDONNELL DOUGLAS CORP, SAINT LOUIS, MO	28.029	1.894	VARIOUS	1.050	VARIOUS	.250	VARIOUS	Continuing	Continuing	
Aircraft Integration	WX	NAWCWD, CHINA LAKE CA	4.184	.057	Nov 2006	1.032	Nov 2007	1.200	Nov 2008	Continuing	Continuing	
Aircraft Integration	VARIOUS	VARIOUS	24.373	.437	VARIOUS	3.795	VARIOUS	4.443	VARIOUS	Continuing	Continuing	
Aircraft Integration	SS-FFP	ROCKWELL COLLINS, INC., CEDAR RAPIDS, IA		10.963	Dec 2006	9.500	Nov 2007	14.234	Nov 2008	Continuing	Continuing	
Primary Hdw Development	TBD	TBD				4.213	Mar 2008				4.213	4.213
Primary Hdw Development	SS-T&M	GEN DYNAMICS ADV INFO SYS MINNEAPOLIS, MN		.700	Dec 2006	3.300	Feb 2008	3.800	Feb 2009	Continuing	Continuing	
Primary Hdw Development	SS-T&M	HARRIS CORPORATION, PALM BAY, FL		1.657	Feb 2007	.700	Feb 2008				2.357	2.357
Primary Hdw Development	SS-CPIF	MCDONNELL DOUGLAS CORP, SAINT LOUIS, MO	22.380	1.526	Jan 2007	1.755	Jan 2008	.600	Jan 2009	Continuing	Continuing	
Primary Hdw Development	SS-T&M	DCS CORPORATION, ALEXANDRIA, VA	1.006	1.814	Dec 2006	.454	Dec 2007	.971	Dec 2008	Continuing	Continuing	
Primary Hdw Development	VARIOUS	VARIOUS	14.010	6.088	VARIOUS	10.145	VARIOUS	9.564	VARIOUS	Continuing	Continuing	
Primary Hdw Development	TBD	MCDONNELL DOUGLAS CORP, SAINT LOUIS, MO				1.970	Dec 2007				1.970	1.970
Ancillary Hdw Development	TBD	TBD				1.961	Mar 2008				1.961	1.961
Systems Eng	WX	NAWCAD, PATUXENT RIVER MD	6.288	4.449	Nov 2006	3.702	Nov 2007	1.597	Nov 2008		Continuing	
Systems Eng	VARIOUS	VARIOUS	7.781	4.596	VARIOUS	2.577	VARIOUS	4.344	VARIOUS	Continuing	Continuing	
Training Development	VARIOUS	VARIOUS		.280	VARIOUS	6.365	VARIOUS	.535	VARIOUS	Continuing	Continuing	
		FROM FY94-02	277.703								277.703	
SUBTOTAL PRODUCT DEVELOPMENT			390.047	34.461		66.001		44.483		Continuing	Continuing	

Remarks: Dollars may not add due to rounding.

SUPPORT												
CONFIGURATION MGMT	SS-CPAF	NATIONAL TECH ASSOC INC, ALEXANDRIA, VA				.036	Nov 2007	.148	Nov 2008		.184	.184
Develop Support Equip	VARIOUS	VARIOUS	.953	.280	VARIOUS	.324	VARIOUS	.332	VARIOUS	Continuing	Continuing	
Integrated Logistics Sup	VARIOUS	VARIOUS	4.340	1.620	VARIOUS	1.371	VARIOUS	1.165	VARIOUS	Continuing	Continuing	
INTEGRATED LOGISTICS SUP	TBD	TBD				1.300	VARIOUS				1.300	1.300
Software Development	VARIOUS	VARIOUS	5.504	.600	Nov 2006	.843	Nov 2007	.200	Nov 2008	Continuing	Continuing	
Studies & Analyses	VARIOUS	VARIOUS	3.588	.275	VARIOUS	.250	VARIOUS	.255	VARIOUS	Continuing	Continuing	
TECHNICAL DATA	VARIOUS	VARIOUS	.140	.003		.592	VARIOUS	.148	VARIOUS	Continuing	Continuing	
		FROM FY94-02	24.636								24.636	
SUBTOTAL SUPPORT			39.160	2.778		4.716		2.248		Continuing	Continuing	

Remarks: Dollars may not add due to rounding.

TEST & EVALUATION												
Dev Test & Eval	WX	NAWCAD, PATUXENT RIVER MD	1.699	2.589	VARIOUS	.778	VARIOUS	.556	VARIOUS	Continuing	Continuing	
Dev Test & Eval	WX	NAWCWD, CHINA LAKE CA	.742	1.479	Oct 2006						2.222	2.222
Dev Test & Eval	VARIOUS	VARIOUS	5.851	.280	VARIOUS	.844	VARIOUS	.471	VARIOUS	Continuing	Continuing	
Oper Test & Eval	VARIOUS	VARIOUS	1.695	.278	Jan 2007						1.973	1.973
Test Assets	TBD	BELL HELICOPTER TEXTRON INC, HURST, TX		1.169	Jul 2007						1.169	1.169
Test Assets	VARIOUS	VARIOUS	.607								.607	.607
		FROM FY94-02	24.363								24.363	
SUBTOTAL TEST & EVALUATION			34.957	5.795		1.622		1.027		Continuing	Continuing	

Remarks: Dollars may not add due to rounding.

Exhibit R-3 Cost Analysis (page 1)									DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5		PROGRAM ELEMENT 0604215N, STANDARDS DEVELOPMENT				PROJECT NUMBER AND NAME 0572, JT SERV/NV STD AVION CP/SB						
MANAGEMENT												
Contractor Eng Sup	VARIOUS	VARIOUS	13.094	8.086	VARIOUS	7.756	VARIOUS	6.571	VARIOUS	Continuing	Continuing	
Government Eng Sup	VARIOUS	VARIOUS	5.000	1.014	VARIOUS	5.556	VARIOUS	1.195	VARIOUS	Continuing	Continuing	
Government Eng Sup	WX	NAWCAD, PATUXENT RIVER MD	4.467	.690	VARIOUS	1.469	VARIOUS	.686	VARIOUS	Continuing	Continuing	
Program Mgmt Sup	WX	NAWCAD, PATUXENT RIVER MD	4.873	1.101	VARIOUS	1.186	VARIOUS	1.140	VARIOUS	Continuing	Continuing	
Program Mgmt Sup	VARIOUS	VARIOUS	3.680	2.004	VARIOUS	2.259	VARIOUS	1.651	VARIOUS	Continuing	Continuing	
Travel	TO	NAVAIR, PAXTUXENT RIVER MD	.326	.127	VARIOUS	.150	VARIOUS	.142	VARIOUS	Continuing	Continuing	
SUBTOTAL MANAGEMENT			31.440	13.022		18.375		11.384		Continuing	Continuing	

Remarks: Dollars may not add due to rounding.

Total Cost			495.605	56.057		90.714		59.142		Continuing	Continuing	

Remarks: Dollars my not add due to rounding.

EXHIBIT R4, Schedule Profile

AMC&D

DATE: February 2008

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604215N, Standards Development	0572, JT SERV/NV STD AVION CP/SB

Fiscal Year	2007				2008				2009				2010				2011				2012				2013			
	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																												
8x10 HRRI Redesign	▼																											
8x10 HRRI Redesign Lab Test		▼																										
8x10 HRRI Redesign Flight Test		▲	▼																									
FCNS Trade Study	▲				▽																							
FCNS Redesign/Lab Test				▲		▽																						
FCNS Redesign Flight Test								△				▽																
FCNS Redesign Fleet Release															△													
OSP Obs Redesign					▲						▽																	
OSP Obs Redesign/Lab Test									△			▽																
OSP Obs Redesign Flight Test												△				▽												
OSP Obs Redesign Fleet Release																		△										

Exhibit R-4a, Schedule Detail

AMC&D

DATE: February 2008

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604215N, Standards Development	0572, JT SERV/NV STD AVION CP/SB

Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
8x10 HRRI Redesign	1Q							
8x10 HRRI Redesign Lab Test	1Q-2Q							
8x10 HRRI Redesign Flight Test	1Q-3Q							
FCNS Trade Study	1Q-4Q	1Q-2Q						
FCNS Redesign/Lab Test	4Q	1Q-4Q						
FCNS Redesign Flight Test		4Q	1Q-4Q					
FCNS Redesign Fleet Release				3Q				
OSP Obs Redesign		1Q-4Q	1Q-2Q					
OSP Obs Redesign/Lab Test			1Q-4Q					
OSP Obs Redesign Flight Test			4Q	1Q-4Q				
OSP Obs Redesign Fleet Release					2Q			

EXHIBIT R4, Schedule Profile																												
AWICS																											DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5					PROGRAM ELEMENT NUMBER AND NAME 0604215N, STANDARDS DEVELOPMENT												PROJECT NUMBER AND NAME 0572, JT SERV/NV STD AVION CP/SB											
Fiscal Year	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	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																												
Product Development																												
Test & Evaluation Milestones																												
Production Milestones																												
Deliveries																												

Exhibit R-4a, Schedule Detail **AWICS**					DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT 0604215N, STANDARDS DEVELOPMENT				PROJECT NUMBER AND NAME 0572, JT SERV/NV STD AVION CP/SB			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
Product Development	1Q-4Q	1Q-4Q	1Q					

EXHIBIT R4, Schedule Profile

CNS/ATM

DATE: February 2008

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E,N / BA-5	0604215N, STANDARDS DEVELOPMENT	0572, JT SERV/NV STD AVION CP/SB

Fiscal Year	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	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					Systems Integration																							
					DT/OT																							
RNP/RNAV									Requirements Analysis																			
MH-60S Integration Mode S					Systems Integration																							
					DT/OT																							
MH-60R Integration Mode S					Systems Integration																							
					DT/OT																							
AH-1Z Integration Mode S					Systems Integration																							
					DT/OT																							
UH-1Y Integration Mode S					Systems Integration																							
					DT/OT																							
Production Milestones																												
Platform Procurements (S/W upgrades ONLY)																												
Deliveries (S/W upgrades)																												

Exhibit R-4a, Schedule Detail						DATE:		
CNS/ATM						February 2008		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
RDT&E,N / BA-5	0604215N, STANDARDS DEVELOPMENT				0572, JT SERV/NV STD AVION CP/SB			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
F/A-18E/F Integration	1Q-4Q							
MH-60S Integration	1Q-3Q							
MH-60R Integration	1Q-3Q							
AH-1Z Integration	1Q-3Q							
UH-1Y Integration	1Q-3Q							
F/A-18E/F DT/OT Mode S	1Q-4Q	1Q						
MH-60S DT/OT Mode S	1Q-4Q	1Q						
MH-60R DT/OT Mode S	1Q-4Q	1Q						
AH-1Z DT/OT Mode S	2Q-4Q	1Q-2Q						
UH-1Y DT/OT Mode S	2Q-4Q	1Q-2Q						
Platform Procurements (SW Upgrades ONLY)		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	
Deliveries (SW Upgrades)		3Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	
F/A-18E/F RNP/RNAV Requirements Analysis			1Q-4Q					

EXHIBIT R4, Schedule Profile
TACTICAL COMMUNICATIONS

DATE: February 2008

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604215N, Standards Development	0572, JT SERV/NV STD AVION CP/SB

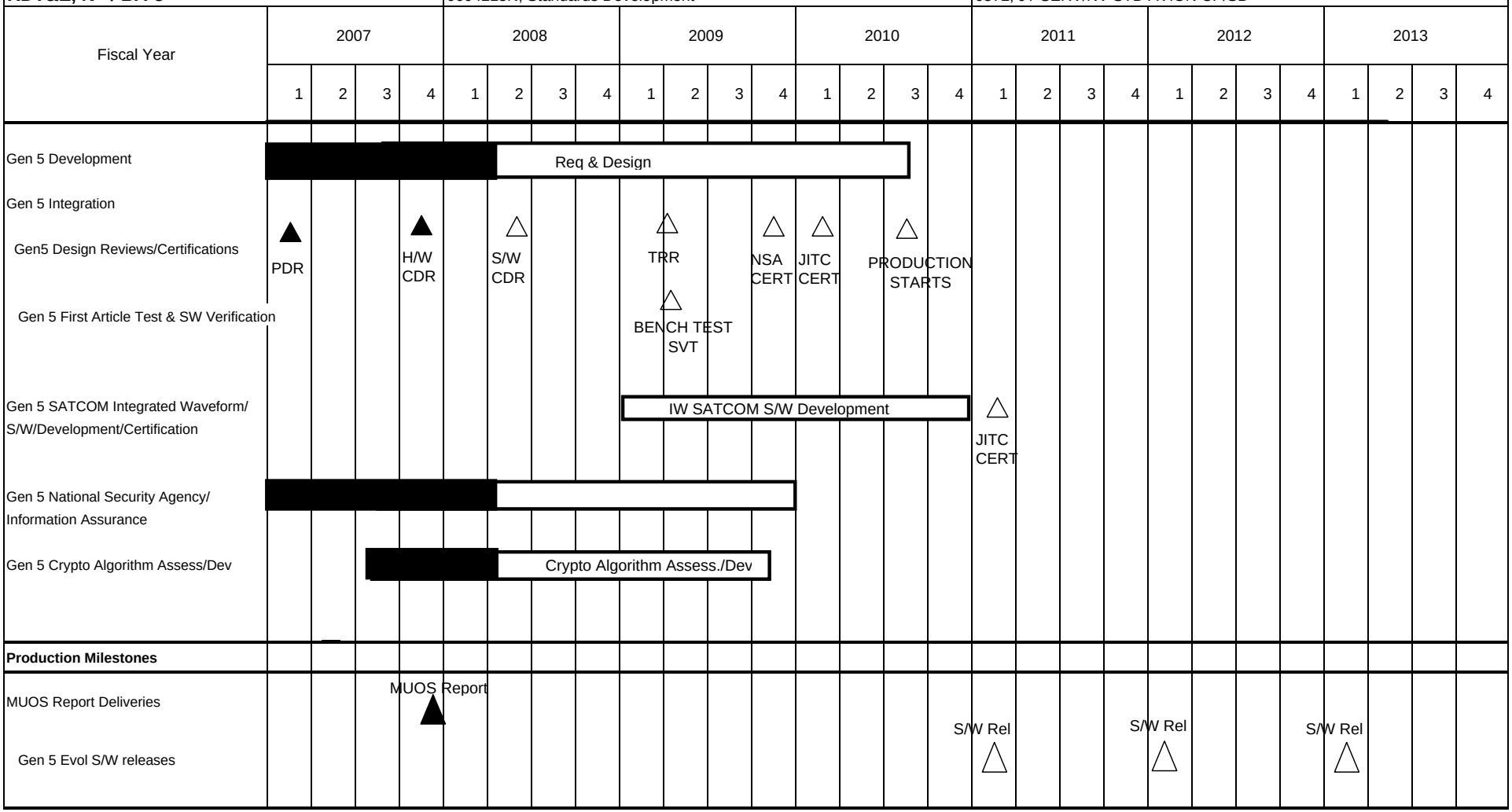


Exhibit R-4a, Schedule Detail

TACTICAL COMMUNICATIONS

DATE: February 2008

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604215N, Standards Development	0572, JT SERV/NV STD AVION CP/SB

Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
GEN 5 Development	1Q-4Q	1Q-4Q	1Q-4Q	1Q-3Q			
GEN 5 Preliminary Design Review (PDR)	1Q						
GEN 5 Hardware Critical Design Review (H/W CDR)	4Q						
GEN 5 Software Critical Design Review (CDR)		2Q					
GEN 5 Test Readiness Review (TRR)			1Q-2Q				
GEN 5 National Security Agency Certification			4Q				
GEN 5 Joint Interoperability Test Command Certification				1Q			
GEN 5 Production Starts				3Q			
GEN 5 First Article Test & SW Verification			2Q				
GEN 5 IW SATCOM S/W Development			1Q-4Q	1Q-4Q			
GEN 5 Joint Interoperability Test Command Certification					1Q		
GEN 5 National Security Agency/Information Assurance	1Q-4Q	1Q-4Q	1Q-4Q				
GEN 5 Crypto Algorithm Assess/Dev	3Q-4Q	1Q-4Q	1Q-4Q				
Mobile User Objective System (MUOS) Report	4Q						
GEN 5 Evol S/W Releases					1Q	1Q	1Q

EXHIBIT R4, Schedule Profile

GPWS/TAWS

DATE: February 2008

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604215N, Standards Development	0572, JT SERV/NV STD AVION CP/SB

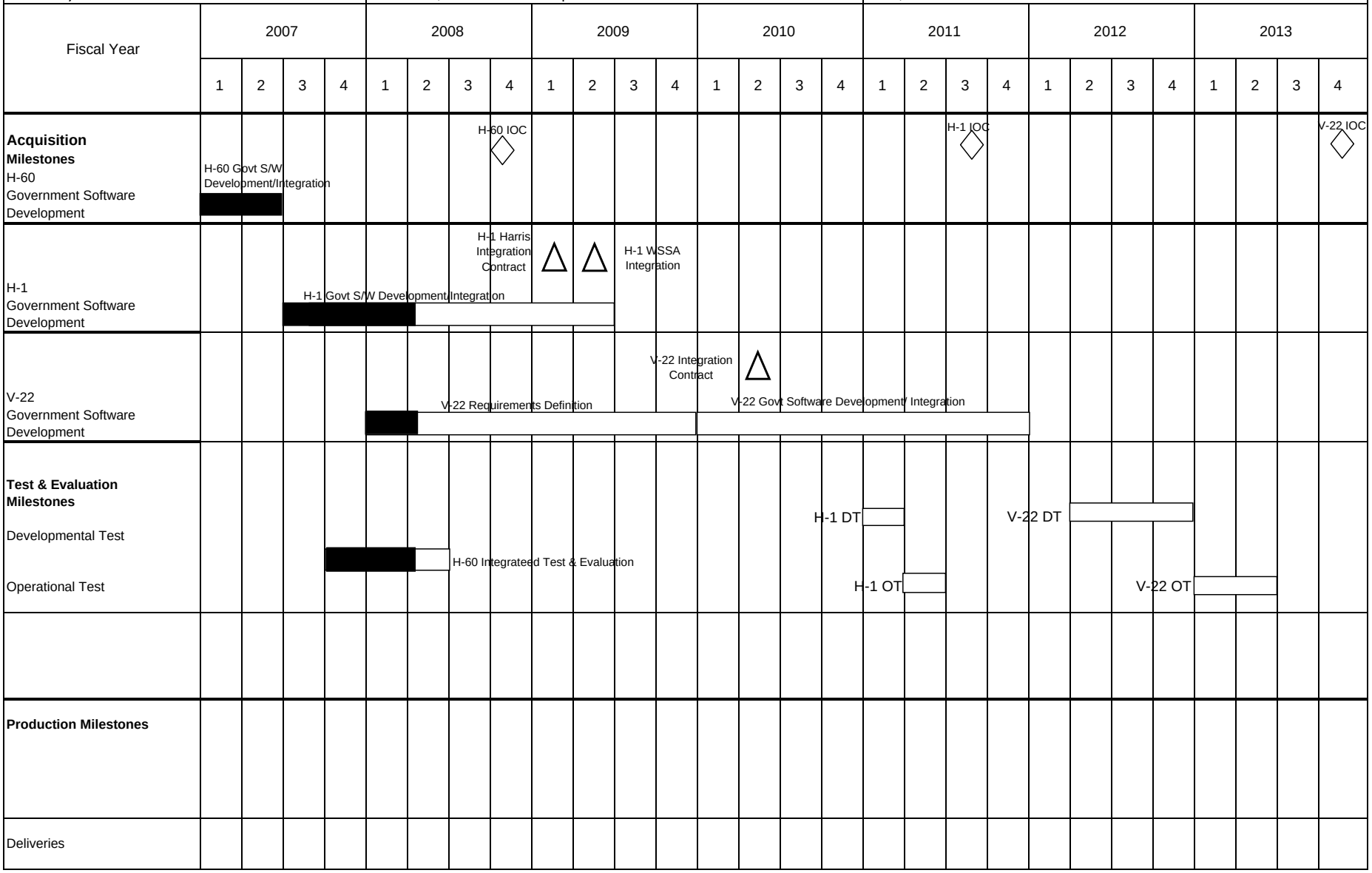


Exhibit R-4a, Schedule Detail

GPWS/TAWS

DATE: February 2008

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604215N, Standards Development	0572, JT SERV/NV STD AVION CP/SB

Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
H-60 Government Software Development/Integration	1Q-2Q						
H-60 Integrated Test & Evaluation	4Q	1Q-2Q					
H-60 Initial Operational Capability (IOC)		4Q					
H-1 Government Software Development/Integration	3Q-4Q	1Q-4Q	1Q-2Q				
H-1 Harris Integration Contract			1Q				
H-1 WSSA Integration Contract			2Q				
H-1 Developmental Testing					1Q		
H-1 Operational Testing					2Q		
H-1 Initial Operational Capability (IOC)					3Q		
V-22 Requirements Definition		1Q-4Q	1Q-4Q				
V-22 Integration Contract				2Q			
V-22 Government Software Development/Integration				1Q-4Q	1Q-4Q		
V-22 Developmental Testing						2Q-4Q	
V-22 Operational Testing							1Q-2Q
V-22 Initial Operational Capability (IOC)							4Q

EXHIBIT R4, Schedule Profile

MFOQA

DATE: February 2008

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E,N / BA-5	0604215N, STANDARDS DEVELOPMENT	0572, JT SERV/NV STD AVION CP/SB

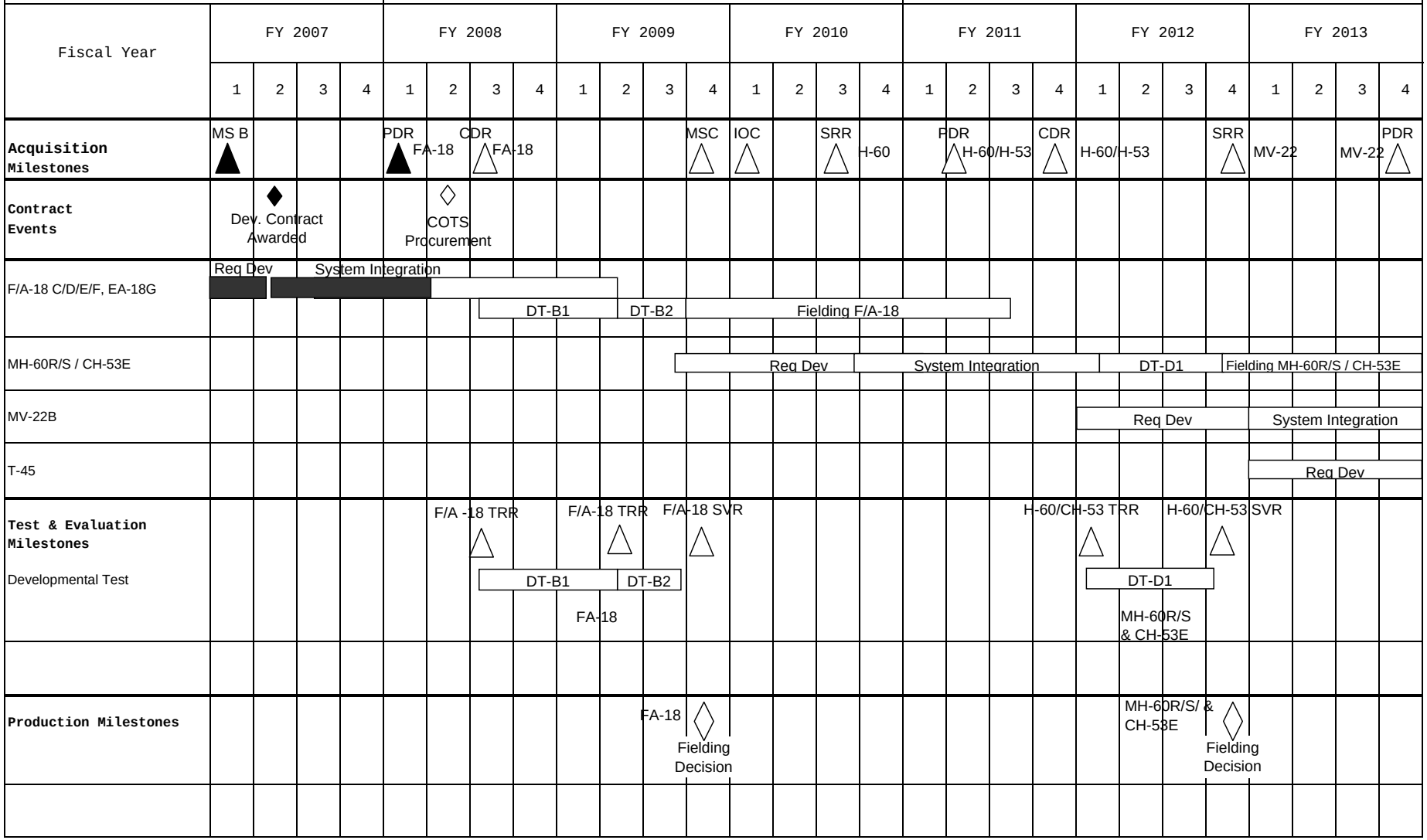


Exhibit R-4a, Schedule Detail						DATE:		
	MFOQA					February 2008		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
RDT&E,N / BA-5	0604215N, STANDARDS DEVELOPMENT				0572, JT SERV/NV STD AVION CP/SB			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
MS B	1Q							
MS C			4Q					
Initial Operational Capability (IOC)				1Q				
Development Contract Award	2Q							
COTS Procurement		2Q						
F/A-18 Requirements Development	1Q-2Q							
F/A-18 Systems Integration	2Q-4Q	1Q-4Q	1Q-2Q					
F/A-18 Preliminary Design Review (PDR)		1Q						
F/A-18 Critical Design Review (CDR)		3Q						
F/A-18 Test Readiness Review (TRR)		3Q						
F/A-18 DT-B1		3Q-4Q	1Q-2Q					
F/A-18 Test Readiness Review (TRR)			2Q					
F/A-18 DT - B2			2Q-3Q					
F/A-18 System Verification Review (SVR)			4Q					
F/A-18 Fielding Decision			4Q					
F/A-18 Fielding			4Q	1Q-4Q	1Q-3Q			
MH-60R/S & CH-53E Requirements Development			3Q-4Q	1Q-3Q				
MH-60R/S & CH-53E System Readiness Review (SRR)				3Q				
MH-60R/S & CH-53E Systems Integration				3Q-4Q	1Q-4Q	1Q		
MH-60R/S & CH-53E Preliminary Design Review (PDR)					2Q			
MH-60R/S & CH-53E Critical Design Review (CDR)					4Q			
MH-60R/S & CH-53E Test Readiness Review (TRR)						1Q		
MH-60R/S & CH-53E DT-D1						1Q-4Q		
MH-60R/S & CH-53E System Verification Review (SVR)						4Q		
MH-60R/S & CH-53E Fielding Decision						4Q		
MH-60R/S & CH-53E Fielding						4Q	1Q-4Q	
MV-22B Requirements Development						1Q-4Q		
MV-22B System Readiness Review (SRR)						4Q		
MV-22B System Integration							1Q-4Q	
MV-22B Preliminary Design Review (PDR)							4Q	
T-45 Requirements Development							1Q-4Q	

EXHIBIT R4, Schedule Profile

COMMON AVIONICS DISPLAYS (CAD)

DATE: February 2008

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E,N / BA-5	0604215N, STANDARDS DEVELOPMENT	0572, JT SERV/NV STD AVION CP/SB

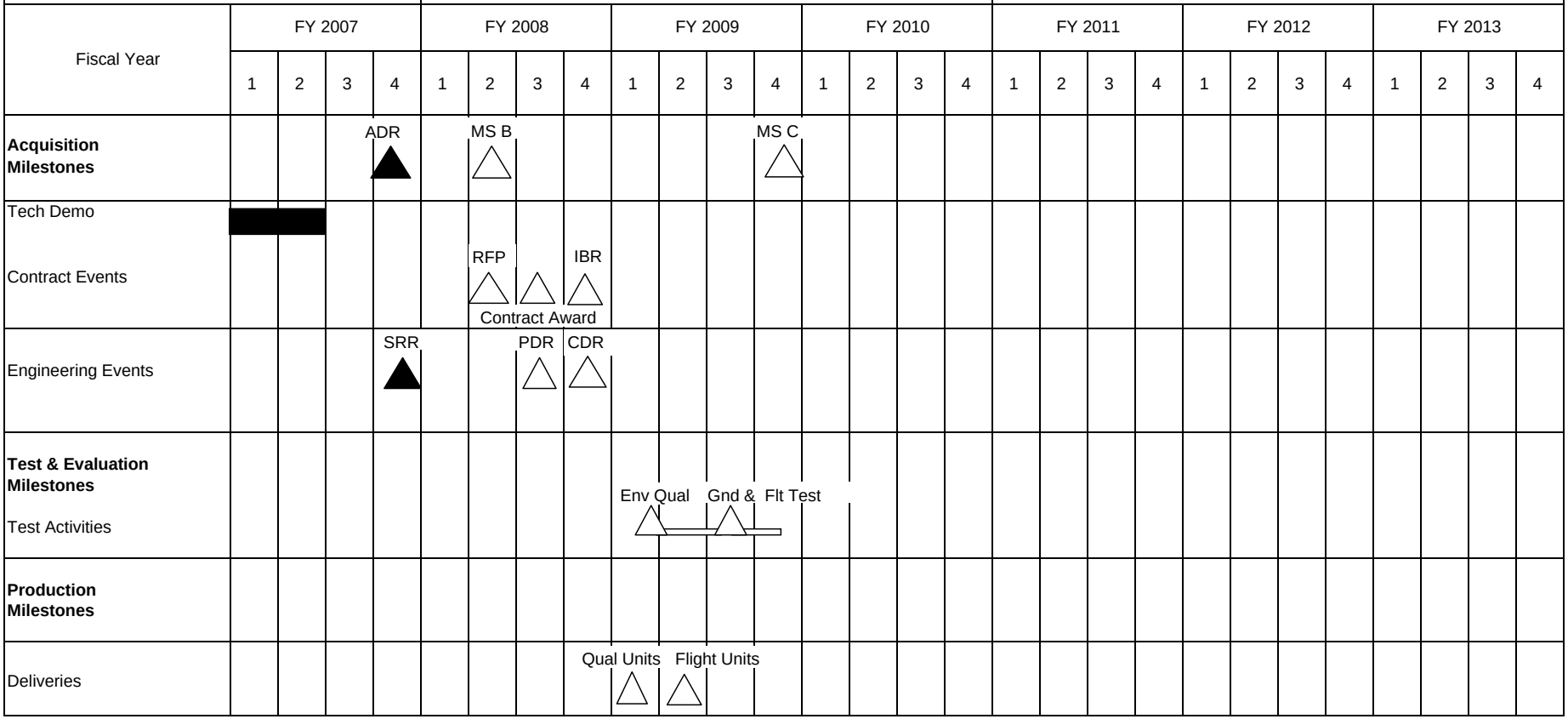


Exhibit R-4a, Schedule Detail **COMMON AVIONICS DISPLAYS (CAD)**					DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT 0604215N, STANDARDS DEVELOPMENT				PROJECT NUMBER AND NAME 0572, JT SERV/NV STD AVION CP/SB			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
Tech Demos	1Q-2Q							
RFP Issued	4Q							
Acquisition Decision Review (ADR)	4Q							
Milestone B		2Q						
Contract Award		2Q						
System Requirements Review (SRR)	4Q							
Preliminary Design Review (PDR)		3Q						
Integrated Baseline Review (IBR)		4Q						
Critical Design Review (CDR)		4Q						
Deliver Qual Units			1Q					
Environmental Qual			1Q-3Q					
Deliver Flight Units			2Q					
Ground and Flight Test			3Q-4Q					
Milestone C			4Q					

EXHIBIT R4, Schedule Profile	CNS/ATM C/KC-130T AVIONICS MODERNIZATION PROGRAM (AMP)	DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /**	PROGRAM ELEMENT NUMBER AND NAME 0604215N, STANDARDS DEVELOPMENT	PROJECT NUMBER AND NAME 0572, JT SERV/NV STD AVION CP/SB

Fiscal Year	2007				2008				2009				2010				2011				2012				2013			
	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																												
Contract Events RFP/SDD Contract Award Test Kit Procurement Test Kit Installation			▲ RFP			△ SDD Contract Award	△ Test Kit Procurement																					
Engineering Events SRR/PDR/CDR/TRR/OTRR						△ SRR		△ PDR																				
Test & Evaluation Milestones																												
Deliveries																												
Production Deliveries																												

NOTE: FY09 AND FY10 FUNDING HAS BEEN MOVED TO PE 0605430N, PROJECT UNIT 3199.

Exhibit R-4a, Schedule Detail **CNS/ATM C/KC-130T AVIONICS MODERNIZATION PROGRAM (AMP)**						DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDT&E BA-5**	PROGRAM ELEMENT 0604215N, STANDARDS DEVELOPMENT					PROJECT NUMBER AND NAME 0572, JT SERV/NV STD AVION CP/SB		
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
Release of RFP	3Q							
SDD Contract Award		2Q						
Systems Requirements Review (SRR)		2Q						
Test Kit Procurement		3Q						
Preliminary Design Review (PDR)		4Q						

NOTE: FY09 AND FY10 FUNDING HAS BEEN MOVED TO PE 0605430N, PROJECT UNIT 3199.

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2008	
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 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
Project Cost	1.432	1.442	1.518	2.051	1.491	1.529	2.068	
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Project S1857, 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 Hull, Mechanical and Electrical (HM&E) systems as well as 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 Hull, Mechanical and Electrical (HM&E) as well as Navy Weapon Systems with calibration standards traceable to the National Institute of Standards and Technology.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost S1857	1.432	1.442	1.518
RDT&E Articles Quantity			

FY 2007 Plan: (U) ($.232) Complete 1 Calibration standard (Hardware) in support of electrical calibration standards
(U) ($ .900) Begin development of 2 new calibration standards (hardware) in support of chemical biological detection systems, reduce crew size initiatives, and shipboard communication systems.
(U) ($.300) Commence development of standards for wireless micro electrical mechanical systems (MEMS) sensors

FY 2008 Plan: (U) ($1.142) Continue development of 2 new calibration standards (hardware) in support of chemical biological detection systems, reduce crew size initiatives, and shipboard communication systems.
(U) ($.300) Continue development of standards for wireless micro electrical mechanical systems (MEMS) sensors.

FY 2009 Plan: (U) ($1.218) Complete 1 calibration standard (hardware) in support of chemical biological detection systems, reduce crew size initiatives, and shipboard communication systems and continue to development of 1 additional standard.
(U) ($.300) Continue development of standards for wireless micro electrical mechanical systems (MEMS) sensors and analytical metrology

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604215N, STANDARDS DEVELOPMENT	PROJECT NUMBER AND NAME 1857, CALIBRATION STANDARDS

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY2013	To Complete	Total Cost
Not Applicable									

D. ACQUISITION STRATEGY: *

Not Applicable

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2008**				
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 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	WX	NSWC, Corona Division	0.145	0.880		0.847		0.916			2.788	
Ancillary Hardware Development												
Component Development												
Ship Integration												
Ship Suitability												
Systems Engineering												
Training Development												
Licenses												
Tooling												
GFE												
Award Fees												
Subtotal Product Development			0.145	0.880		0.847		0.916			2.788	
Remarks:												
Development Support												
Software Development												
Training Development												
Integrated Logistics Support												
Configuration Management												
Technical Data												
GFE												
Award Fees												
Subtotal Support												
Remarks:												

Exhibit R-3 Cost Analysis (page 2)								DATE: February 2008				
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 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation												
Operational Test & Evaluation												
Live Fire Test & Evaluation												
Test Assets												
Tooling												
GFE												
Award Fees												
Subtotal T&E												
Remarks:												
Contractor Eng Supt (Metcal Stds)			0.250	0.222		0.248		0.295			1.015	
Government Eng Supt (MetCal Stds)			0.950	0.312		0.327		0.287			1.876	
Contractor Eng Supt (AVITS)												
Government Eng Supt (AVITS)												
Program Management Support												
Travel				0.018		0.020		0.020			0.058	
Labor (Research Personnel)												
SBIR Assessment												
Subtotal Management			1.200	0.552		0.595		0.602			2.949	
Remarks:												
Total S1857 Cost			1.345	1.432		1.442		1.518			5.737	
Remarks:												

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604215N, STANDARDS DEVELOPMENT	PROJECT NUMBER AND NAME 2311, WASP	

COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
2311 Stores Planning and Weaponeering	10.606	10.851	10.297	12.583	13.342	13.989	14.278	
RDT&E Articles Qty Not Applicable								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:
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 weapons delivery solutions that violate aircraft T/M/S specific safety-of-flight envelopes, and perform detailed weapons employment planning. WASP is approved by N88 as a permanent flight clearance system for the F/A-18 A, A+, B, C, D, D(RC), E, F, and G 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 deployment of the Joint Mission Planning System (JMPS) Combat 1 OT&E for AV-8B and JMPS framework, 1.4 OT&E for F/A-18 A-G. The WASP product encompasses a multitude of Government-Off-The-Shelf (GOTS) and Commercial-Off-The Shelf (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 as emergent requirements for new aircraft T/M/S, stores and weapons are approved by N88, and new flight clearances and flight restrictions are issued by NAVAIRSYSCOM.

Product Development	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	7.305	7.730	7.319
RDT&E Articles Qty			

Product Development - Includes associated system engineering design, development, installation, integration and software development for WASP components V1.2, V2.0, V2.1 and V3.0 to support F/A-18 A-G, AV-8B and helicopters. Define requirements to integrate WASP components into the Joint Mission Planning System (JMPS). Provide domain engineering support for weapons separation, aircraft loads, flutter, fuzing, safe escape for application to WASP. Provide government Joint Munitions Effectiveness Manual (JMEM) engineering support (JMEM Subject Matter Experts) for integration of new JMEM capabilites into WASP. Provide analysis of new requirements, allocation of requirements, design oversight, and life cycle management of the WASP program. Develop new aircraft configuration, aircraft loading, weapon optimization, store release and delivery planning components for F/A-18 A-G, AV-8B and helicopters as new flight clearances and flight restrictions issued by NAVAIRSYSCOM. Provide configuration management, system administration, quality assurance, documentation, metrics and software risk management for WASP. Acquire, integrate and modify numerous GOTS/COTS software components and tools (aircraft target maneuver simulations, weapon flyout models, target probability of damage calculators, etc.) that are used as GFI for the WASP software development. Integrate WASP with JSOW/JDAM/SLAM-ER and other weapons mission planning systems as required.

Test and Evaluation	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	1.625	1.728	1.770
RDT&E Articles Qty			

Test and Evaluation (T&E) - 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 V1.2, V2.0, V2.1 and WASP V3.0). Provide T&E support for guided weapons and Joint Munitions Effectiveness Manual (JMEM) accreditation. Provide JMPS Mission Planning Environment (MPE) Integration test support. Provide testing and test support to ensure all (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, 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.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604215N, STANDARDS DEVELOPMENT	PROJECT NUMBER AND NAME 2311, WASP

Program Management	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	1.676	1.393	1.208
RDT&E Articles Qty			

Program Management - Provide program management, which includes WASP acquisition documentation development and support, cost, schedule and performmance management, contracting support (providing contract administration, preparing contract packages for award.), compliance with external directives and providing financial support (accept, obligate, commit, and track funding). Provide travel for WASP Government personnel. Continue performing project management support for this program throughout the FYDP.

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
PE2806F Air Force Mission Support System	129.259	105.371	99.028	99.213	99.964	101.896	103.967	Continuing	Continuing

D. ACQUISITION STRATEGY: Weaponeering and Stores Planning (WASP) products, delivered annually, were developed in-house by NAVAIR (NAWCAD and NAWCWD) engineers and support contractors. The team has now migrated to a smaller government team that provides functional expertise in aircraft safety-of-flight (air-vehicle stores compatibility, weapons separation, aircraft aerodynamic flutter, ground/flight loads, authorized fuze arm times, aircraft safe escape), guided weapons employment and weapons effects against targets. With the majority of the software development conducted by the various contractors. WASP utilizes the Mission Planning Enterprise Contract (MPEC). The various government, engineering, test, and support teams (test facilities, functional qualification testing and certification/accreditation test) are supplemented with contract labor procured predominately through BPA contracts.

Exhibit R-3 Cost Analysis (page 1)									DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5		PROGRAM ELEMENT 0604215N, STANDARDS DEVELOPMENT				PROJECT NUMBER AND NAME 2311, WASP						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
PRODUCT DEVELOPMENT	WX	NAWCAD, PATUXENT RIVER MD	15.243	0.634	11/06	0.666	11/07	0.699	11/08	Continuing	Continuing	
PRODUCT DEVELOPMENT	WX	NAWCWD, CHINA LAKE CA	0.102	0.148	11/06	0.664	11/07	0.946	11/08	Continuing	Continuing	
SYSTEMS ENGINEERING	WX	NAWCAD, PATUXENT RIVER MD	6.917	0.627	11/06	0.658	11/07	0.645	11/08	Continuing	Continuing	
PRIMARY SOFTWARE DEVELOP	CPFF	MPEC, HANSCOM AFB, MA		4.451	11/06	4.000	11/07	3.200	11/08	38.000	49,651	49,651
PRODUCT DEVELOPMENT	BPA	VARIOUS	22.322	1.445	11/06	1.742	11/07	1.829	11/08	38.322	65.660	65.660
SUBTOTAL PRODUCT DEVELOPMENT			44.584	7.305		7.730		7.319		Continuing	Continuing	

Remarks: Dollars may not add due to rounding.

TEST & EVALUATION												
TEST & EVALUATION	WX	NAWCAD, PATUXENT RIVER MD	12.700	1.499	11/06	1.496	11/07	1.526	11/08	Continuing	Continuing	
TEST & EVALUATION	WX	NAWCWD, CHINA LAKE CA	0.094	0.126	11/06	0.132	11/07	0.139	11/08	Continuing	Continuing	
TEST & EVALUATION	WX	NAWCWD, PT MUGU, CA				0.100	11/07	0.105	11/08	Continuing	Continuing	
SUBTOTAL TEST & EVALUATION			12.794	1.625		1.728		1.770		Continuing	Continuing	

Remarks: Dollars may not add due to rounding.

MANAGEMENT												
GOVERNMENT ENG SUP	WX	NAWCAD, PATUXENT RIVER MD	1.993	0.878	11/06	0.900	11/07	0.730	11/08	Continuing	Continuing	
GOVERNMENT ENG SUP	WX	NAWCWD, CHINA LAKE, CA	0.995	0.050	11/06	0.053	11/07	0.054	11/08	Continuing	Continuing	
PROGRAM MANAGEMENT SUPT	WX	NAWCAD, PATUXENT RIVER MD	6.307	0.658	11/06	0.347	11/07	0.329	11/08	Continuing	Continuing	
PROGRAM MANAGEMENT SUPT	WX	NAWCWD, PT MUGU, CA		0.050	11/06	0.051	11/07	0.052	11/08	Continuing	Continuing	
TRAVEL	WX	NAWCAD, PATUXENT RIVER MD	1.088	0.040	11/06	0.042	11/07	0.043	11/08	Continuing	Continuing	
SUBTOTAL MANAGEMENT			10.383	1.676		1.393		1.208		Continuing	Continuing	

Remarks: Dollars may not add due to rounding.

Total Cost			67.761	10.606		10.851		10.297		Continuing	Continuing	

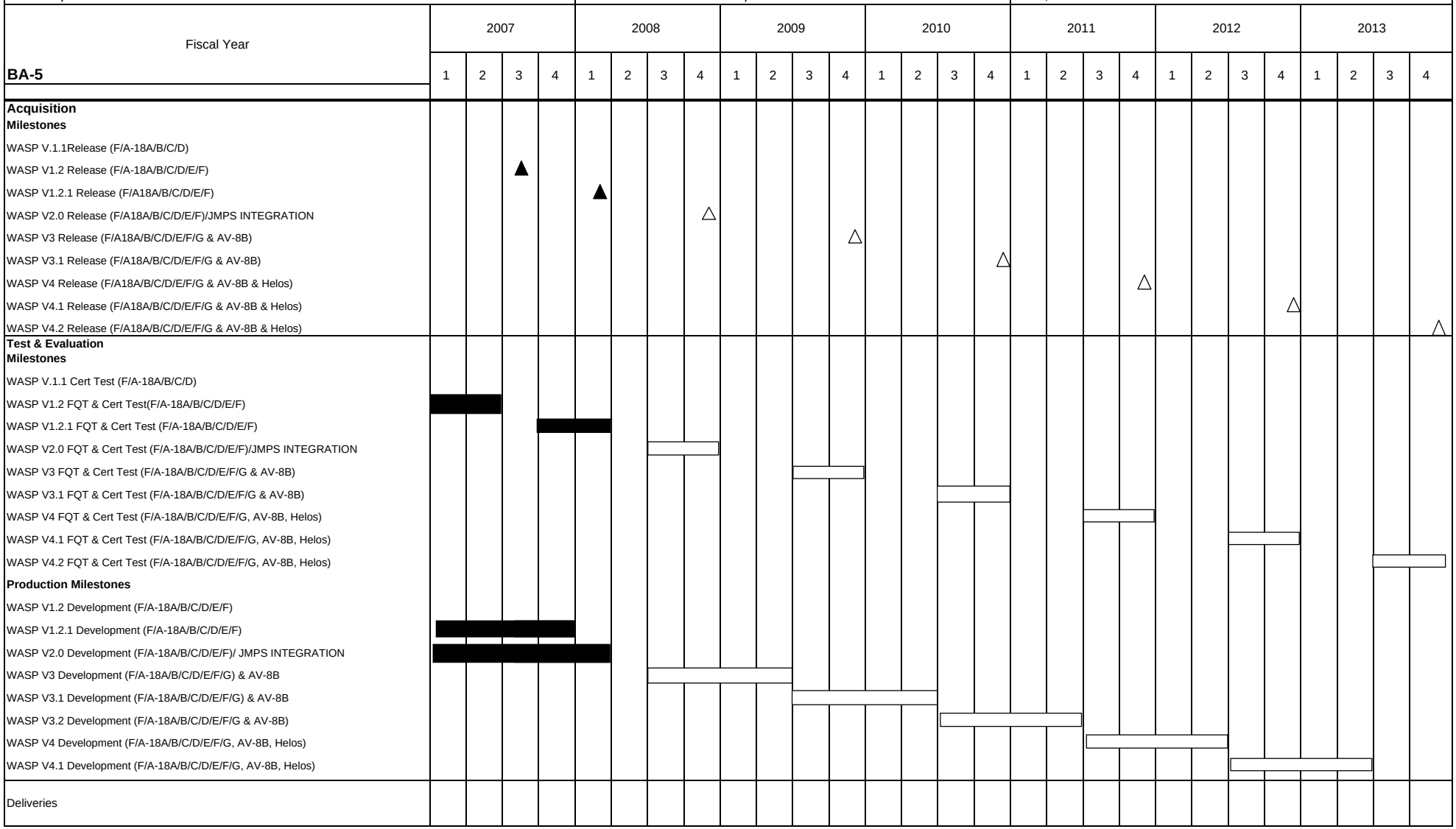
Remarks: Dollars may not add due to rounding.

EXHIBIT R4, Schedule Profile | DATE: **February 2008**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA-5**

PROGRAM ELEMENT NUMBER AND NAME: 0604215N Standards Development

PROJECT NUMBER AND NAME: 2311, WASP



CLASSIFICATION:

Exhibit R-4a, Schedule Detail			DATE: February 2008				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N/BA-5**	**PROGRAM ELEMENT** **0604215N, Standards Development**			PROJECT NUMBER AND NAME 2311, WASP			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Acquisition Milestones							
WASP V.1.1 Release (F/A-18A/B/C/D)							
WASP V.1.2 Release (F/A-18A/B/C/D/E/F)	3Q						
WASP V.1.2.1 Release (F/A-18A/B/C/D/E/F)		1Q					
WASP V.2.0 Release (F/A-18A/B/C/D/E/F) JMPS Integration		4Q					
WASP V3 Release (F/A-18A/B/C/D/E/F/G & AV-8B)			4Q				
WASP V3.1 Release (F/A-18A/B/C/D/E/F /G & AV-8B)				4Q			
WASP V4 Release (F/A-18A/B/C/D/E/F/G, AV-8B, Helos)					4Q		
WASP V4.1 Release (F/A-18A/B/C/D/E/F/G, AV-8B, Helos)						4Q	
WASP V4.2 Release (F/A-18A/B/C/D/E/F/G, AV-8B, Helos)							4Q
Technical Evaluation (TECHEVAL)							
WASP V.1.1 FQT & Cert Test (F/A-18A/B/C/D)							
WASP V.1.2 FQT & Cert Test (F/A-18A/B/C/D/E/F)	1-2Q						
WASP V.1.2.1 FQT & Cert Test (F/A-18A/B/C/D/E/F)	4Q	1Q					
WASP V.2.0 FQT & Cert Test (F/A-18A/B/C/D/E/F) JMPS Integration		3Q-4Q					
WASP V3 FQT & Cert Test (F/A-18A/B/C/D/E/F/G & AV-8B)			3Q-4Q				
WASP V3.1 FQT & Cert Test (F/A-18A/B/C/D/E/F/G & AV-8B)				3Q-4Q			
WASP V4 FQT & Cert Test (F/A-18A/B/C/D/E/F/G, AV-8B, Helos)					3Q-4Q		
WASP V4.1 FQT & Cert Test (F/A-18A/B/C/D/E/F/G, AV-8B, Helos)						3Q-4Q	
WASP V4.2 FQT & Cert Test (F/A-18A/B/C/D/E/F/G, AV-8B, Helos)							3Q-4Q
Production Milestones							
WASP V.1.2 Development (F/A-18A/B/C/D/E/F)							
WASP V.1.2.1 Development (F/A-18A/B/C/D/E/F)	1Q-4Q						
WASP V.2.0 Development (F/A-18A/B/C/D/E/F) JMPS Integration	1Q-4Q	1Q					
WASP V3 Development (F/A-18A/B/C/D/E/F/G & AV-8B)		3Q-4Q	1Q-2Q				
WASP V3.1 Development (F/A-18A/B/C/D/E/F/G & AV-8B)			3Q-4Q	1Q-2Q			
WASP V3.2 Development (F/A-18A/B/C/D/E/F & AV-8B)				3Q-4Q	1Q-2Q		
WASP V4 Development (F/A-18A/B/C/D/E/F/G, AV-8B, Helos)					3Q-4Q	1Q-2Q	
WASP V4.1 Development (F/A-18A/B/C/D/E/F/G, AV-8B, Helos)						3Q-4Q	1Q-2Q

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604215N, STANDARDS DEVELOPMENT	PROJECT NUMBER AND NAME 2312, COMMON HELICOPTERS	

COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
2312 COMMON HELICOPTERS	.945	.927	.963	.977	.998	1.020	1.040	
RDT&E Articles Qty Not Applicable								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:
Project 2312, Common Helicopters: Automated mission planning systems to date have focused on developing planning capabilities for fixed-wing aircraft, while the unique planning requirements for helicopters have not been fully 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/Z, UH-1N/Y, H-46D/E, H-53D/E, H-60B/F/H/R/S, and V-22. Common helicopter functionality will be developed for implementation in the Joint Mission Planning System (JMPS) after JMPS initial fielding.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

Product Development	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.945	.927	.963
RDT&E Articles Qty			

Continue development of Common Helicopter functionality and implementation in PFPS V3.3.1 and JMPS Version 1.2.4 and 1.4. V3.3.1 of PFPS is the current release of PFPS for the Navy. JMPS V1.5 was renamed V.1.4 to align with the Air Force's naming convention.

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
PE2806F Air Force Mission Support System	129.259	105.371	99.028	99.213	99.964	101.896	103.967	Continuing	Continuing

D. ACQUISITION STRATEGY: Not Applicable

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2008**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604215N, STANDARDS DEVELOPMENT				PROJECT NUMBER AND NAME 9999, CONGRESSIONAL ADD			
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
Project Cost	2.200	***3.180**						
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: CONGRESSIONAL ADD.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

9770N Advanced Virtual Test	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	2.200	3.180	
RDT&E Articles Quantity			

FY-2007 RDT&E Congressional plus-up funds for the US NAVY METCAL RDT&E Program efforts at the Naval Surface Warfare Center, Corona, Ca, will be issued for the research and development (R&D) of National Service, Primary and Depot Maintenance calibration standards in the technology areas of Nuclear, Biological and Chemical (NBC), electro-optics, and physical-mechanical, for the purpose of ensuring measurement accuracy in support/maintenance of new advanced technology weapon systems, current weapon systems and associated support equipment. This will also continue the efforts of calibration standards (hardware) in support of Nanoscale Dimensional Standards using Atomic Force Microscopy (AFM); complete the Transducer Vibration support capability at the I-level labs, portability; transition one new standard to the primary standard lab and continue the development of two standards that in eye safe laser target designators and rangefinders at (1.5 um) and (1.06 um) and the support effort of automation calibration.

FY-2008 RDT&E Congressional plus-up funds for the US NAVY METCAL RDT&E Program efforts at the Naval Surface Warfare Center, Corona, Ca, will be issued for the Research and Development (R&D) of National Service, Primary and Depot Maintenance calibration standards in the technology areas of Nuclear, Biological and Chemical (NBC), electro-optics, and physical-mechanical, for the purpose of ensuring measurement accuracy in support/maintenance of new advanced technology weapon systems, current weapon systems and associated support equipment. This will also continue the efforts of calibration standards (hardware) in support of Nanoscale Dimensional Standards using Atomic Force Microscopy (AFM); Standards for Nuclear/Chemical Agent Detector calibration; Wireless Closed Loop Calibration Capability; Relational Automated Calibration Engine (RACE) Sequencer and RACE Procedure Machine (RPM) at the I-level labs; and complete the development of one standard in eye safe laser target designators and rangefinders at (1.5 um) and (1.06 um).

*The FY08 Congressional Add is being shown in the NAVAIR line when it should be in the NAVSEA line. Procedures to correct are underway.