EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2006	
APPROPRIATION/BUDGET ACTIVITY REASEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA 5					R-1 ITEM NOMENCLATURE 0604215N, STANDARDS DEVELOPMENT		
COST ($ in Millions)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	61.313	84.225	112.257	99.686	48.416	35.722	31.738
0572/JT SERVICE/NV STD AVIONICS CP/SB	44.614	63.019	98.025	84.759	32.843	19.541	15.004
1857/CALIBRATION STANDARDS	5.368	1.345	1.939	1.993	2.022	2.039	1.985
2311/STORES PLANNING AND WEAPONEERING	10.574	10.911	11.357	11.981	12.578	13.147	13.733
2312/COMMON HELICOPTERS	.757	.750	.936	.953	.973	.995	1.016
9999/CONGRESSIONAL ADD		8.200					

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

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 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 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.

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.

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 December FY03.

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.

Project 9770N , AVITS: The principal functions of AVITS is to provide the military maintainer: the capability to configure multiple, programmable virtual instruments into a portable, light weight, single-standard, multiple protocol packaging scheme; a capability that provides an interface to distance support assistance and training applications; and a system that reduces total ownership costs within the military. In addition, AVITS shall provide: "plug-and-play" instrument functionality along with self-test and self-system/on-line verification (calibration); one control/display with multiple virtual control/display panels; an integrated test executive engine that allows for automated maintenance procedures applications; and the ability to collect/ transmit test data in a format and language compatible with legacy maintenance data management software currently in use by the military.

EXHIBIT R-2, RDT&E Budget Item Justification		DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY REASEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA 5		R-1 ITEM NOMENCLATURE 0604215N, STANDARDS DEVELOPMENT

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

Project 9771N: New, innovative, conformal projection display screen technologies are now emerging that enhances optical performance, promise improved supportability, and reduce development costs for airborne displays. Such displays are easily size-scalable and exhibit customizable viewing angles, selective ambient light rejection, and extremely high contrast ratios. They also hold the potential for reduced weight, lower unit cost, and increased reliability. A new and innovative means to provide illumination to the projection screen is required for the military to take advantage of potential performance improvements. Current commercially based light engines will not meet the necessary optical performance requirements while operating in the military environment, therefore a solid-state light engine is required. At present, such an approach does not exist within industry. A solid state light engine, in concert with the new conformal display screen technology, provides an innovative approach to improving the state of the art for military displays.

Current AMLCD and CRT technology based displays have cost, optical performance, reliability, and weight shortcomings that reduce mission effectiveness in airborne applications while existing projection based displays have yet to provide a simple but effective solution. A more innovative light engine is needed to fully utilize projection technology's enhanced features. Advanced projection display technology using LED solid-state lighting can mitigate the limitations of other approaches while meeting the airborne display requirements for a variety of different applications.

The inherent conformal scalability of this technology will significantly reduce the development costs for different size displays. Low material costs will reduce maintenance costs. Common display solutions will also significantly reduce the logistics infrastructure requirements.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2006
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 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
0572 JT SERV/NV STD AVION CP/SB	44.614	63.019	98.025	84.759	32.843	19.541	15.004
RDT&E Articles Qty	30	1	1				

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) Collision Avoidance Systems, Military Flight Operational Quality Assurance (MFOQA), Common Avionics Displays, C/KC-130T CNS/ATM AMP, and the Avionics Component Improvement Program (AVCIP). C/KC-130T CNS/ATM AMP objectives will be achieved through a comprehensive cockpit redesign. GPWS/TAWS Collision Avoidance Systems 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 Common Avionics Display.

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

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2006
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

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

	FY 2005	FY 2006	FY 2007
Accomplishments / Effort / Sub-total Cost	5.543		40.770
RDT&E Articles Qty			1

CNS/ATM C/KC-130T AMP - Continue engineering manufacturing and development efforts. Initiate EMD Contract Award. Initiate validation kit procurement and installation and verification kit procurement. Conduct Systems Functional Revieiw , Preliminary Design Review and Critical Design Review. FY06 activities are dependent upon ATR which has been initiated with expected approval in 2nd Qtr of FY06.

	FY 2005	FY 2006	FY 2007
Accomplishments / Effort / Sub-total Cost		.984	
RDT&E Articles Qty			

AVCIP - 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.

NOTE: FY07-FY11 FUNDING HAS BEEN MOVED TO NEW PE 0702239N, PROJECT UNIT 3170.

	FY 2005	FY 2006	FY 2007
Accomplishments / Effort / Sub-total Cost	2.138	1.723	4.676
RDT&E Articles Qty			

COMMON AVIONICS DISPLAYS - Conduct Tech Demos to develop and test a projection display as (1) a form-fit-function demonstration replacement for the IP-1318A/A, a 5"x5" cockpit display used on F/A-18C/D/E/F aircraft, (2) a form-fit-function demonstration replacement for a 6"x8" cockpit display used on the AH-1Z / UH-1Y, and (3) a form-fit-function demonstration replacement for a 6"x6" cockpit display used on the MV-22B. The Tech Demos are 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 lab, 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.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2006
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

	FY 2005	FY 2006	FY 2007
Accomplishments / Effort / Sub-total Cost	1.010	3.085	9.715
RDT&E Articles Qty			

MFOQA - Initiate support to USN Naval Test Pilot School for the Fleet High Angle of Attack Program in support of MFOQA trending, data analysis, and database management concept development. Efforts will focus on F-18, H-60, V-22, and T-45 including follow-on platforms and core capability developmental effort to include parameter optimization, technology validation, and standardization of interfaces and protocols to be used. Additional efforts will include software development and integration for fleetwide MFOQA implementation. Prepare and Conduct PDR and CDR.

	FY 2005	FY 2006	FY 2007
Accomplishments / Effort / Sub-total Cost		6.002	9.843
RDT&E Articles Qty			

GPWS/TAWS - Begin development of GPWS/TAWS Collision Avoidance System (CAS) algorithm tailored to the platform performance and missions of the MH-60R, MH-60S, UH-1Y and AH-1Z. Develop simulation models for UH-1Y and AH-1Z for use at manned flight simulator (MFS). Evaluate MH-60R and MH-60S 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 Award. Initiate and complete H-60 DT. Initiate H-60 OT.

	FY 2005	FY 2006	FY 2007
Accomplishments / Effort / Sub-total Cost	.865	1.818	
RDT&E Articles Qty	1		

VPF - Conducted Vector Product Format (VPF) integration study for TAMMAC. Perform VPF software and hardware integration into TAMMAC. Completed VPF Integration Systems Design Review (SDR). Awarded VPF development contract. Conducted SRR, PDR and CDR review on VPF. Conduct VPF Developmental Testing (DT). Conduct VPF Systems Qualification Testing (SQT). Conduct VPF Operational Test. One DMC TAMMAC software unit will be procured to conduct T&E of the VPF software in TAMMAC.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2006
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	

	FY 2005	FY 2006	FY 2007
Accomplishments / Effort / Sub-total Cost	16.141	23.018	17.282
RDT&E Articles Qty	4		

JTRS - Awarded integration study contracts for the Joint Tactical Radio System (JTRS). Began aircraft integration analysis and planning for lead platforms. Began development of Concept of Operations (CONOPS), mission planning, and message processing software for JTRS. The acquisition plan identifies E-2 AHE (Advanced Hawkeye) as the Lead Platform and includes JTRS Integration Studies/Analyses including follow-on platforms. Initiate and complete E-2 AHE Multi-mode Information Distribution System (MIDS) JTRS Level 1 integration including development of required ancillary equipment. RDT&E articles were Engineering Development Models (EDMs) for integration lab installs and test aircraft installs. Initiate development of Navy-unique Communications capable hardware/software systems. Conduct technology assessments and demonstrations to determine feasible solutions to achieve airborne JTRS/Communications interoperability. Develop operational improvement of legacy communication system in support of networking capability.

	FY 2005	FY 2006	FY 2007
Accomplishments / Effort / Sub-total Cost	.679	1.156	1.116
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.

	FY 2005	FY 2006	FY 2007
Accomplishments / Effort / Sub-total Cost	.376		
RDT&E Articles Qty			

JMPS - Complete software developmental and operational testing efforts for Tactical Air Moving Map Capability/Joint Mission Planning System (TAMMAC/JMPS) Map planning capability. Incorporated common requirements from the TAMMAC integration of the MH-60S and AV-8B platforms.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2006
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	

	FY 2005	FY 2006	FY 2007
Accomplishments / Effort / Sub-total Cost	12.039	17.638	6.218
RDT&E Articles Qty	10	1	

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, FM Immunity, and RNP/RNAV. Continue CNS/ATM requirements definition for follow-on platforms. FY05 articles required for Mode S integration and test. FY06 article is required for integration and testing on the AH-1Z.

	FY 2005	FY 2006	FY 2007
Accomplishments / Effort / Sub-total Cost	1.688	3.000	2.000
RDT&E Articles Qty	15		

AWICS - Safety: Complete development of unencrypted wireless ICS system, and achieve Installation Decision (Unencrypted) for AWICS. Commence development and testing for Secure Transmission (COMSEC) capability.

	FY 2005	FY 2006	FY 2007
Accomplishments / Effort / Sub-total Cost	4.135	4.595	6.405
RDT&E Articles Qty			

AMC&D - For F/A-18E/F system; completed DT-IIA-4; conducted OT-IIA-2 (OPEVAL), and completed integration of 8X10 display, Fiber Channel Network Switch (FCNS) and AMC. Achieved MS III for FCNS and AMC. Conducted DT/OT for 8X10 display and Achieve MS III. For AV-8B: completed OT-IIB (OPEVAL) and achieved MS III. Conduct parts 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.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2006
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

C. PROGRAM CHANGE SUMMARY

Funding:	FY2005	FY2006	FY2007
Previous President's Budget:	47.521	71.105	58.220
Current President's Budget:	44.614	63.019	98.025
Total Adjustments	-2.907	-8.086	39.805

Summary of Adjustments			
Congressional Reductions		-7.000	
Congressional Rescissions			
Congressional Undistributed Reductions	-0.869	-0.743	
Congressional Increases	0.010		
Economic Assumptions		-0.343	1.265
Miscellaneous Adjustments	-2.048		38.540
Subtotal	-2.907	-8.086	39.805

Schedule:
AMC&D schedule reflects an addition of an approved LRIP III in 2Q/05. MS III 8x10 AMPD moved from 2Q/05 to 2Q/06 to allow for completion of WRA testing and adequate time for COMOPTEVFOR to generate test report and obtain a successful MS III decision.
CNS/ATM schedule reflects a change in program requirements, OPNAV has requested that the CNS/ATM program meet an urgent requirement of fielding MODE S to meet mandated requirements, adjusting the program from being platform focused to capability focused. The RNP/RNAV requirement will be addressed in POM 08. Removed the RNP/RNAV System Integration and DT/OT from schedule. H-60 systems integration extended through FY06 due to delay in H-60 contract award. H-60 DT/OT moved from 1Q/06 to 1Q/07.
MFOQA schedule reflects a change in strategy resulting from FY05 Congressional add. OT will be conducted for T-45 (3Q/10) to assess platform Hardware changes.
JTRS schedule reflects the acquisition plan for E-2 AHE as the lead platform and includes JTRS integration studies/analyses. Include requiements and design for RSL-16 and GEN 5 development.
AWICS schedule changed due to de-scope of contract and adjustment of acquisition strategy to align program with existing Army secure transmission wireless ICS program.
CNS/ATM C/KC-130T AMP schedule has been added.
GPWS/TAWS schedule reflects an additional H-1 integration contract award in 2Q/09 to provide technology insertion for the TAMMAC in the mission computer.
VPF schedule reflects a change in CDR from 4Q/05 to 1Q/06 to meet platform customer availability. Fleet introduction moved from 4Q/06 to 2Q/07 due to platform customer OT delayed.
JMPS OT moved from 2Q/05 to 2Q/06 to align with JMPS schedule changes.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2006
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

D. OTHER PROGRAM FUNDING SUMMARY:	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
Common Avionics, APN	160.856	178.733	177.500	156.239	149.552	150.168	149.423	1,044.372	2,166.843
0702239N, Avionics Component Improvement Program			1.375	1.625	1.877	2.882	3.889	0.000	11.648
0502504M, C-130 Series, APN LI 056000		29.186			30.563	43.908	39.731	432.000	575.388

Notes: Per ASN (FMC) - APN-5 funding through FY08 should be reclassified to Program Element (PE) 0604125N, Project Unit (PU) 0572.
APN-5 funding in FY05 is in process. Reclassification of FY07 and FY08 has been completed.
An Above Threshold Reprogramming (ATR) for FY06 has been initiated with expected approval in 2nd Qtr FY06.

E. ACQUISITION STRATEGY: 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 for the GEN 5 analysis and development efforts on the lead platforms. The Navy will integrate systems and components to satisfy platform requirements to achieve JTRS/communication capability as determined by analyses. TAMMAC/ Vector Product Format (VPF) is utilizing a sole source to Harris Corporation, to incorporate the VPF/Symbology data into the existing TAMMAC FRP Hardware. Aircrew Wireless Internal Communication System (AWICS) acquisition strategy changed to align with the Army Wireless ICS developmental program resulting in 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. Government activities include MFOQA 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 F-18 automated maintenance environment and 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 is planned as 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. The USN/USMC Avionics Modernization Program (AMP) will leverage off of the USAF developmental program by the same name, an ACAT ID program, to achieve the greatest possible commonality between equivalent USAF and USN/USMC aircraft. The USAF program will modify approximately 500 USAF C-130 aircraft. The USN/USMC program will modify 48 C/KC-130T aircraft. Based on the maturity of the U.S. Air Force (USAF) program in FY 2004, APN-5 funds were originally budgeted to integrate the USAF-developed C-130 AMP into the USN/USMC C/KC-130T AMP. The USAF schedule has slipped, with a Milestone C Low Rate Initial Production currently expected to occur in March 2006. Given the current status of the USAF program, recent guidance from the Assistant Secretary of the Navy (Financial Management and Comptroller) states that the USN/USMC C-130 joint effort with USAF should be funded with RDT&E,N funds. The Navy is exploring contracting options for procurement phase.

Exhibit R-3 Cost Analysis (page 1) | DATE: February 2006

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						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
AIRCRAFT INTEGRATION	SS-CPAF	THE BOEING COMPANY, WICHITA, KS						3.127	11/30/2006		3.127	3.127
ANCILLARY HARDWARE DEVELOPMENT	SS-CPAF	THE BOEING COMPANY, WICHITA, KS						2.262	11/30/2006		2.262	2.262
Aircraft Integration	SS-TBD	BELL HELICOPTER TEXTRON INC, HURST, TX		1.060	7/30/2005	3.297	11/30/2005	1.400	12/31/2006		5.757	5.757
Aircraft Integration	SS-TBD	LOCKHEED MARTIN CORPORATION, OWEGO, NY		1.230	7/30/2005	.059	11/30/2005	1.400	12/31/2006		2.689	2.689
Aircraft Integration	SS-TBD	MCDONNELL DOUGLAS CORP, SAINT LOUIS, MO	5.282	10.532	3/31/2005	8.440	12/31/2005	2.043	12/31/2006		26.296	26.296
Aircraft Integration	WX	NAWCAD, PATUXENT RIVER MD		1.601	12/31/2004	3.530	12/31/2005	.667	12/31/2006	Continuing	Continuing	
Aircraft Integration	WX	NAWCAD, PATUXENT RIVER MD	1.055	.243	3/31/2005	1.231	12/31/2005	1.276	12/31/2006	Continuing	Continuing	
Aircraft Integration	WX	NAWCWD, CHINA LAKE CA	.649	2.567	7/30/2005			.743	12/31/2006	Continuing	Continuing	
Aircraft Integration	SS-CPFF	NORTHROP GRUMMAN, SAINT AUGUSTINE, FL		3.793	7/30/2005	12.390	12/31/2005	10.780	12/31/2006		26.963	26.963
Aircraft Integration	SS-CPFF	SIKORSKY AIRCRAFT CORP, STRATFORD, CT				1.400	12/31/2005				1.400	1.400
Aircraft Integration	VARIOUS	VARIOUS		.373	VARIOUS			.129	VARIOUS	Continuing	Continuing	
Aircraft Integration	VARIOUS	VARIOUS	.536	.376	VARIOUS						.911	
PRIMARY HARDWARE DEVELOPMENT	SS-CPAF	THE BOEING COMPANY, WICHITA, KS	3.988					1.998	11/30/2006		5.986	5.986
PRIMARY HARDWARE DEVELOPMENT	SS-CPAF	VARIOUS						1.200	11/30/2006		1.200	1.200
Primary Hdw Development	SS-CPFF	MULTISPECTRAL SOL, INC., GERMANTOWN, MD	2.932	2.170	3/31/2005						5.102	5.102
Primary Hdw Development	SS-CPIF	HONEYWELL INTER INC, ALBUQUERQUE, NM				2.685	2/28/2006	1.013	2/28/2007		3.698	3.698
Primary Hdw Development	SS-CPIF	MCDONNELL DOUGLAS CORP, SAINT LOUIS, MO	20.838	1.068	3/31/2005			3.536	2/28/2007		25.442	25.442
Primary Hdw Development	SS-TBD	DCS CORPORATION, ALEXANDRIA, VA						1.688	12/31/2006		1.688	1.688
Primary Hdw Development	SS-TBD	MCDONNELL DOUGLAS CORP, SAINT LOUIS, MO						1.000	12/31/2006		1.000	1.000
Primary Hdw Development	TBD	VARIOUS		.330	12/31/2004	2.887	12/31/2005	2.276	12/31/2006	Continuing	Continuing	
Primary Hdw Development	SS-T&M	TRITON SERVICES INC, BOWIE, MD		.423	6/30/2005	.223	12/31/2005				.646	.646
Primary Hdw Development	VARIOUS	VARIOUS						2.715	VARIOUS	Continuing	Continuing	
Primary Hdw Development	VARIOUS	VARIOUS	1.149	.849	VARIOUS	.439	VARIOUS	.626	VARIOUS	Continuing	Continuing	
SYSTEMS ENGINEERING	WX	NAWCAD, PATUXENT RIVER MD						.300	11/30/2006	Continuing	Continuing	
Systems Eng	MIPR	ESC, HANSCOM AFB MA	.061	.360	12/31/2004	.210	12/31/2005	1.000	12/31/2006	Continuing	Continuing	
Systems Eng	WX	NAWCAD, PATUXENT RIVER MD	2.417	2.498	6/15/2005	3.248	11/30/2005	3.604	11/30/2006	Continuing	Continuing	
Systems Eng	VARIOUS	VARIOUS	3.233	1.790	VARIOUS	.390	VARIOUS	1.017	VARIOUS	Continuing	Continuing	
		From FY94-02	277.703								277.703	
SUBTOTAL PRODUCT DEVELOPMENT			319.842	31.262		40.430		45.800		Continuing	Continuing	
Remarks:												
SUPPORT												
CONFIGURATION MGMT	SS-CPAF	NATIONAL TECHNOLOGIES ASSOC. INC, ALEX, VA						.034	11/30/2006		.034	.034
DEVELOP SUPPORT EQUIP	SS-CPAF	THE BOEING COMPANY, WICHITA, KS						25.226	11/30/2206		25.226	25.226
Develop Support Equip	VARIOUS	VARIOUS	.444			.853	VARIOUS	.332	VARIOUS	Continuing	Continuing	
ILS CSS	VARIOUS	VARIOUS						.722	VARIOUS	Continuing	Continuing	
ILS DEPOT CHPT	WX	NADEP, CHERRY POINT NC						.491	11/30/2006	Continuing	Continuing	
Integrated Logistics Sup	WX	NAWCAD, PATUXENT RIVER MD	.252	.560	11/30/2004	.660	11/30/2006	1.451	12/31/2006	Continuing	Continuing	
Integrated Logistics Sup	VARIOUS	VARIOUS	.890	.152	VARIOUS	.649	VARIOUS				1.692	
Integration Logistics Sup	VARIOUS	VARIOUS	.094	.920	VARIOUS	.720	VARIOUS	.865	VARIOUS	Continuing	Continuing	
SOFTWARE DEVELOPMENT	WX	NADEP, CHERRY POINT NC						.439	11/30/2006	Continuing	Continuing	
Software Development	MIPR	PEOAV SFAE AVIR, REDSTONE ARSENAL, AL				2.822	11/30/2005	1.882	11/30/2006	Continuing	Continuing	
Studies & Analyses	VARIOUS	VARIOUS	1.297	.441	VARIOUS	1.403	VARIOUS	.210	VARIOUS	Continuing	Continuing	
TECHNICAL DATA	MIPR	AFFTC/FMAP, EDWARDS AFB, CA						.268	11/30/2006	Continuing	Continuing	
TECHNICAL DATA	WX	NADEP, CHERRY POINT NC						.162	11/30/2006	Continuing	Continuing	
		From FY94-FY02	24.037								24.037	
SUBTOTAL SUPPORT			27.014	2.074		7.107		32.081		Continuing	Continuing	

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2006		
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						
Remarks:												
TEST & EVALUATION												
Dev Test & Eval	WX	NAWCAD, PAXTUXENT RIVER MD		1.528	11/30/2004					Continuing	Continuing	
Dev Test & Eval	WX	NAWCAD, PATUXENT RIVER MD	.222	1.265	11/30/2004	3.530	11/30/2005	.762	11/30/2006	Continuing	Continuing	
Dev Test & Eval	WX	NAWCWD, CHINA LAKE CA						3.159	11/30/2006	Continuing	Continuing	
Dev Test & Eval	VARIOUS	VARIOUS	3.050	.415	VARIOUS	.285	VARIOUS	.259	VARIOUS	Continuing	Continuing	
Oper Test & Eval	VARIOUS	VARIOUS	1.500			.131	VARIOUS	.092	VARIOUS	Continuing	Continuing	
Test Assets	VARIOUS	VARIOUS		.029	VARIOUS	.041	VARIOUS			Continuing	Continuing	
Test Assets	SS-FFP	RAYTHEON TECH SVCS, INDIANAPOLIS,IN		.305	3/31/2005						.305	.305
		From FY94-FY02	24.363								24.363	
SUBTOTAL TEST & EVALUATION			29.135	3.541		3.987		4.272		Continuing	Continuing	
Remarks:												
MANAGEMENT												
Contractor Eng Sup	VARIOUS	VARIOUS	5.264	3.411	VARIOUS	6.281	VARIOUS	6.206	VARIOUS	Continuing	Continuing	
Contractor Eng Sup	WX	NAWCAD, PATUXENT RIVER MD				.307	12/31/2005	.438	11/30/2006	Continuing	Continuing	
ENGINEERING & TECH SRVC CSS	VARIOUS	VARIOUS						.268	VARIOUS	Continuing	Continuing	
ENGINEERING SUP	WX	NADEP, CHERRY POINT NC						1.602	11/30/2006	Continuing	Continuing	
ENGINEERING SUP	WX	NAWCAD, PATUXENT RIVER MD		1.043	12/31/2004			2.579	11/30/2006	Continuing	Continuing	
Government Eng Sup	WX	NAWCAD, PATUXENT RIVER MD	1.718	.829	12/31/2004	1.140	12/31/2005	.763	12/31/2006	Continuing	Continuing	
Government Eng Sup	VARIOUS	VARIOUS	.550	.310	VARIOUS	.558	VARIOUS	.718	VARIOUS	Continuing	Continuing	
MGT & PROF SUPPT SVC CSS	SS-CPAF	SIERRA MGMT & TECH, INC. CALIFORNIA, MD						.091	11/30/2006		.091	.091
Program Mgmt Sup	WX	NAWCAD, PATUXENT RIVER MD	1.703	1.180	12/31/2004	2.603	11/30/2005	2.505	12/1/2006	Continuing	Continuing	
Program Mgmt Sup	VARIOUS	VARIOUS	.938	.897	VARIOUS	.506	VARIOUS	.562	VARIOUS	Continuing	Continuing	
Travel	TO	NAVAIR, PAXTUXENT RIVER MD	.034	.068	VARIOUS	.100	VARIOUS	.139	VARIOUS	Continuing	Continuing	
SUBTOTAL MANAGEMENT			10.207	7.738		11.496		15.872		Continuing	Continuing	
Remarks:												
Total Cost			386.198	44.614		63.019		98.025		Continuing	Continuing	
Remarks: Totals may not add due to rounding.												

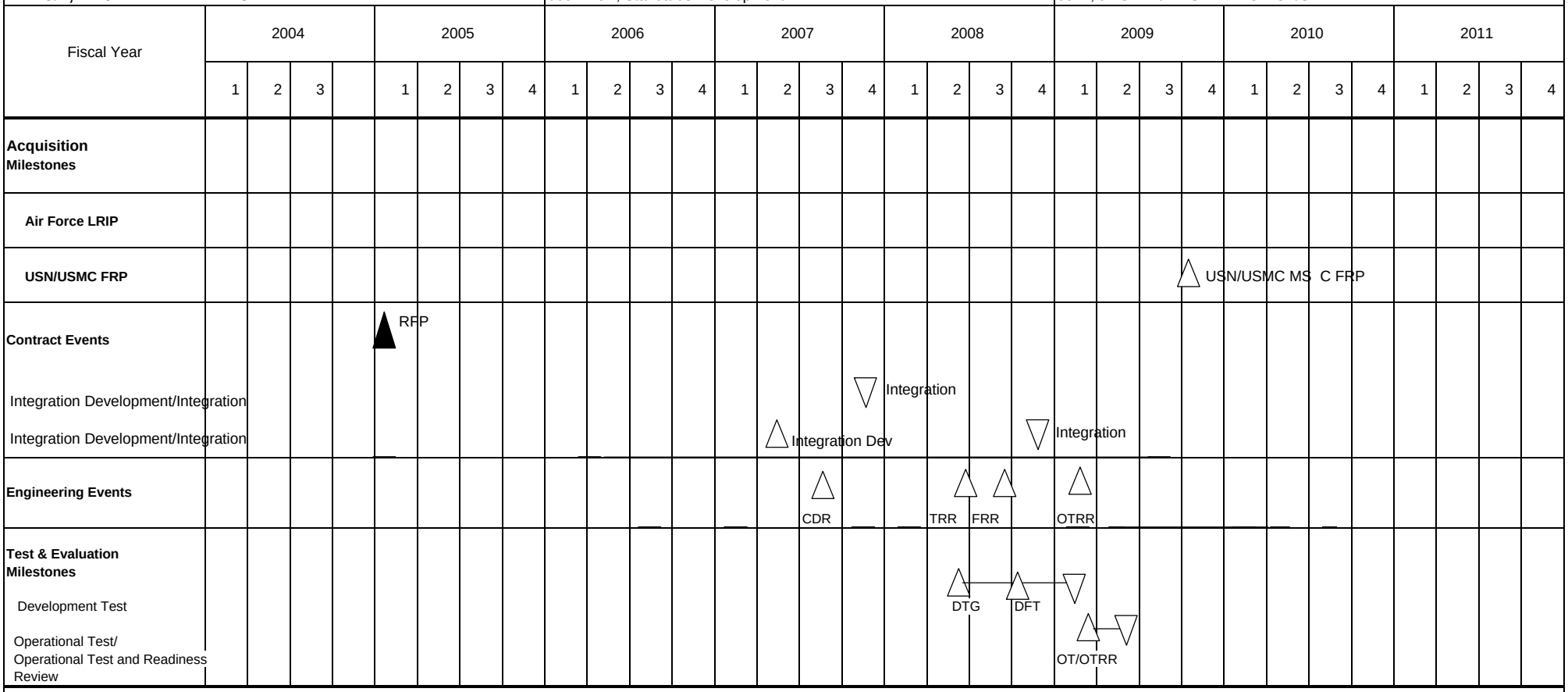
CLASSIFICATION: UNCLASSIFIED

EXHIBIT R4, Schedule Profile

C/KC-130T CNS/ATM AMP

DATE: **February 2006**

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



CLASSIFICATION: UNCLASSIFIED

Exhibit R-4a, Schedule Detail						DATE:		
C/KC-130T CNS/ATM AMP						**February 2006**		
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 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Release of RFP		1Q						
EM&D Contract Award								
Integration				4Q				
Integration Development				2Q				
Integration					4Q			
Critical Design Review (CDR)				3Q				
Test Readiness Review (TRR)					2Q			
Developmental Test Ground (DTG)					2Q			
Functional Readiness Review (FRR)					3Q			
Developmental Flt Test (DFT)					4Q			
Operation Test/Operational Test Readiness Review (OT/OTRR)						1Q-2Q		
USN/USMC MS C FRP						4Q		

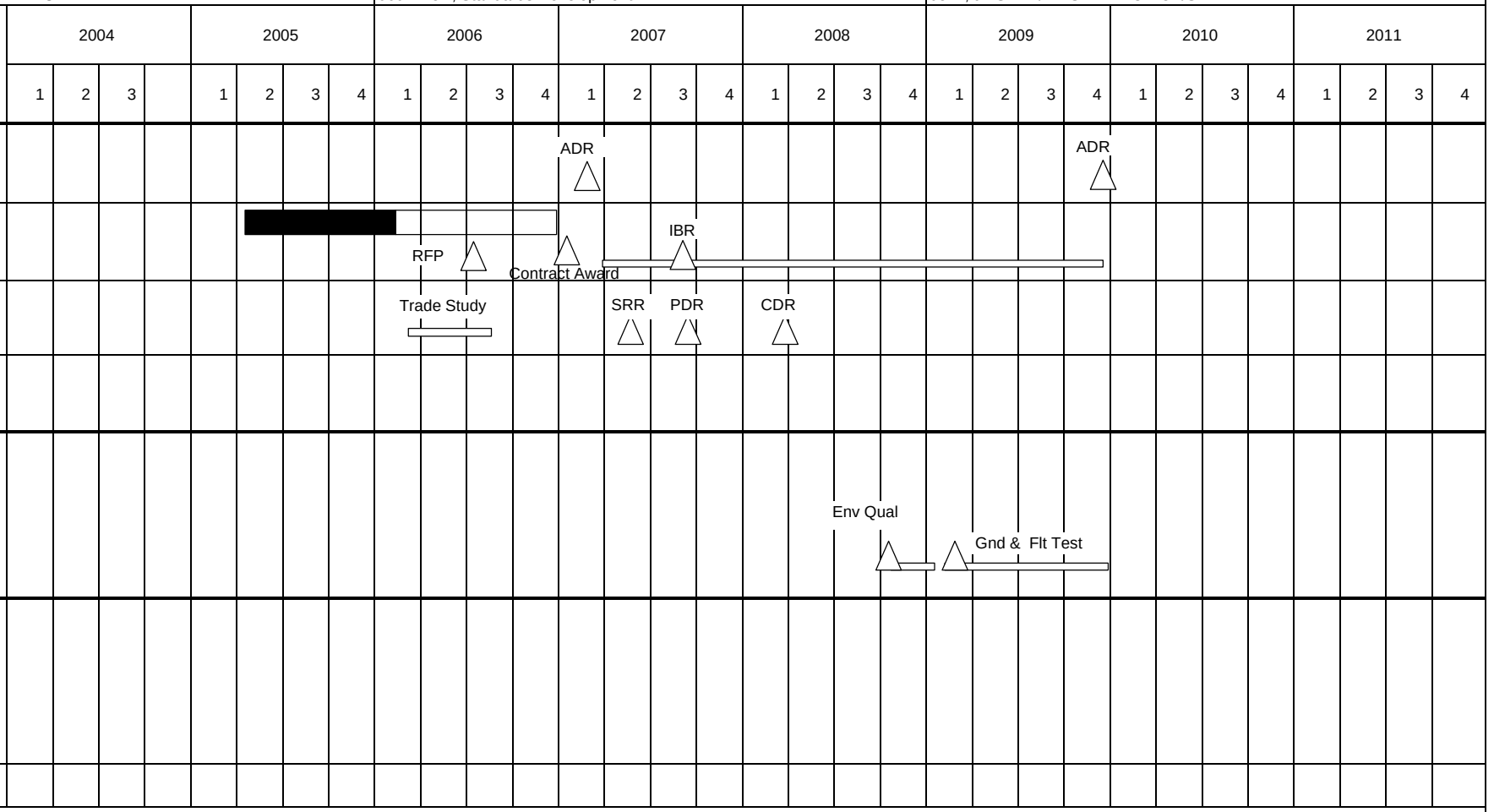
CLASSIFICATION: UNCLASSIFIED

EXHIBIT R4, Schedule Profile

COMMON AVIONICS DISPLAYS (CAD)

DATE: **February 2006**

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



CLASSIFICATION: UNCLASSIFIED

Exhibit R-4a, Schedule Detail

COMMON AVIONICS DISPLAYS (CAD)

DATE: **February 2006**

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 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Tech Demos		2Q-4Q	1Q-4Q					
Engineering Trade Study			1Q-3Q					
RFP Issued			3Q					
Acquisition Decision Review (ADR)				1Q		4Q		
Contract Award				1Q				
System Requirements Review (SRR)				2Q				
Preliminary Design Review (PDR)				3Q				
IBR				3Q				
Critical Design Review (CDR)					1Q			
Deliver Qual Units					3Q			
Environmental Qual					4Q			
Deliver Flt Units						1Q		
Gnd and Flt Test						1Q		

CLASSIFICATION: UNCLASSIFIED

EXHIBIT R4, Schedule Profile — **MFOQA** — DATE: **February 2006**

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	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3		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 B △	PDR △		CDR △					MS C △			IOC △								
Core Capability (F-18, H-60, T-45, V-22 & follow on platforms)																																
F/A-18C/D/E/F Integration																																
MH-60R/S Integration																																
T-45C Integration																																
MV-22B Integration																																
Test & Evaluation Milestones																																
Developmental Test																																
Operational Test																																
Production Milestones																																
Deliveries																																

Core Capability: Development/Deficiency Correction

F/A-18C/D/E/F Integration: Development/Integration | DT | Installs

MH-60R/S Integration: Development/Integration | DT | Installs

T-45C Integration: Development/Integration | DT | OT | Installs

MV-22B Integration: Development/Integration | DT | Installs

Exhibit R-4a, Schedule Detail

MFOQA

DATE: **February 2006**

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 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Development/Deficiency Correction		3Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
F/A-18C/D/E/F Integration Development/Integration			3Q-4Q	1Q-4Q	1Q-2Q			
F-18C/D/E/F DT					3Q-4Q	1Q		
F-18 Installs						2Q-4Q	1Q-4Q	
MS B				1Q				
Preliminary Design Review (PDR)				2Q				
Critical Design Review (CDR)				4Q				
MS C						1Q		
MH-60R/S Integration Development/Integration				2Q-4Q	1Q-4Q	1Q-2Q		
H-60 DT						3Q-4Q		
H-60 Installs							1Q-4Q	1Q-4Q
T45C Integration Development/Integration					1Q-4Q	1Q-4Q	1Q	
T-45 DT							1Q-3Q	
T-45 OT							3Q-4Q	1Q
T-45 Installs								2Q-4Q
V-22B Integration Development/Integration						1Q-4Q	1Q-4Q	
V-22 DT								1Q-2Q
V-22 Installs								3Q-4Q
IOC						4Q		

CLASSIFICATION: UNCLASSIFIED

EXHIBIT R4, Schedule Profile

GPWS/TAWS

DATE: **February 2006**

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	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3		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									H-60 Integration Contract											H-60 IOC									Forward Looking Capability			
																												H-1 IOC			
Government Software Development									H-60 Govt S/W Development/Integration																	Develop functional requirement/systems spec							
														H-1 Integration Contract								H-1 Integration Contract											
Government Software Development															H-1 Govt S/W Development/Integration																	
Test & Evaluation Milestones																																
Developmental Test												H-60 DT									H-1 DT											
Operational Test														H-60 OT									H-1 OT									
Production Milestones																																
Deliveries																																

CLASSIFICATION: UNCLASSIFIED

Exhibit R-4a, Schedule Detail **GPWS/TAWS**						DATE: **February 2006**		
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 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
H-60 Government Software Development/Integration			1Q-4Q	1Q-3Q				
H-1 Government Software Development/Integration				3Q-4Q	1Q-4Q	1Q		
H-60 Integration Contract			1Q					
H-1 Integration Contract				3Q				
H-1 Integration Contract						2Q		
H-60 Developmental Testing				1Q-3Q				
H-1 Developmental Testing						2Q-4Q		
H-60 Operational Testing				4Q	1Q-2Q			
H-1 Operational Testing							1Q-2Q	
Forward Looking Capability								2Q
H-60 IOC					4Q			
H-1 IOC							4Q	

CLASSIFICATION: UNCLASSIFIED

EXHIBIT R4, Schedule Profile

VPF

DATE: **February 2006**

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	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3		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																							
								■	■	□			OT Testing costs are part of H-1 upgrades testing																			
Production Milestones																																
Deliveries								▲																								

CLASSIFICATION: UNCLASSIFIED

Exhibit R-4a, Schedule Detail **VPF**						DATE: **February 2006**			
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 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	
VPF Integration Study	1Q-3Q								
System Design Review (SDR)		2Q							
System Requirements Review (SRR)		2Q							
Preliminary Design Review (PDR)		3Q							
VPF S/W to H/W Integration		1Q-4Q	1Q-2Q						
Critical Design Review (CDR)			1Q						
Developmental Testing (DT/OT)		4Q	1Q-4Q						
Fleet Introduction				2Q					

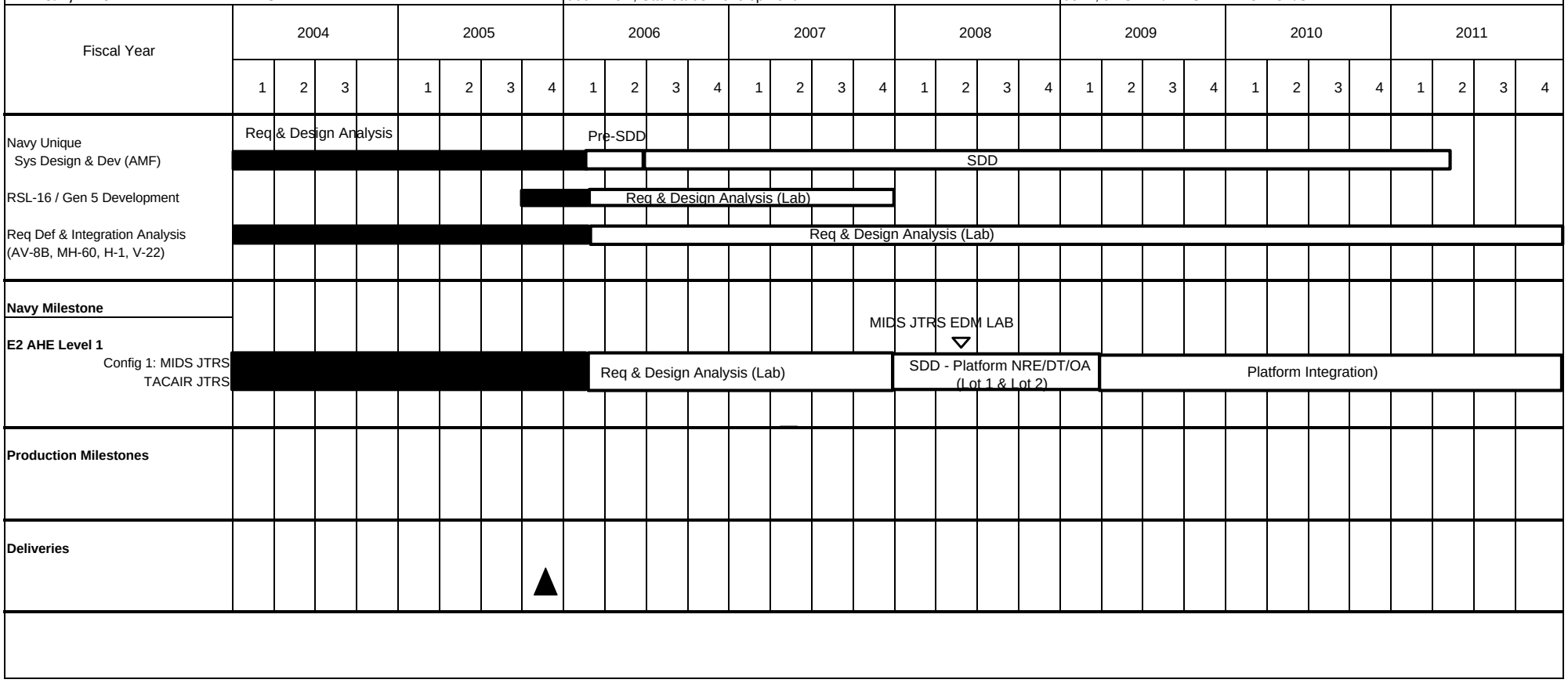
CLASSIFICATION: UNCLASSIFIED

EXHIBIT R4, Schedule Profile

JTRS

DATE: **February 2006**

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



CLASSIFICATION: UNCLASSIFIED

Exhibit R-4a, Schedule Detail **JTRS**						DATE: **February 2006**		
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 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
JTRS System Design & Development	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q
RSL-16/GEN 5 Development		4Q	1Q-4Q	1Q-4Q				
SDD-Platform NRE-DT-OA Lot 1 & 2 - E2 AHE	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q		
Platform Integration - E-2 AHE Level 1						2Q-4Q	1Q-4Q	1Q-4Q
MIDS/JTRS Eng Dev Model (EDM) - Lab					2Q			

CLASSIFICATION: UNCLASSIFIED

EXHIBIT R4, Schedule Profile

JMPS

DATE: **February 2006**

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	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3		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						DT																									
Development Test JMPS 1.2.3																																
Operational Test											OT																					
Production Milestones																																
Deliveries																																

- Split cost with PMA209/PMA265

- PMA265 funding as part of JMPS 1.2.3 roll

CLASSIFICATION: UNCLASSIFIED

Exhibit R-4a, Schedule Detail **JMPS**						DATE: **February 2006**		
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 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Developmental Testing (DT) 1.1	1Q-4Q	1Q						
Developmental Testing (DT) 1.2.3		2Q-4Q	1Q-2Q					
Operational Testing (OT)			2Q-3Q					

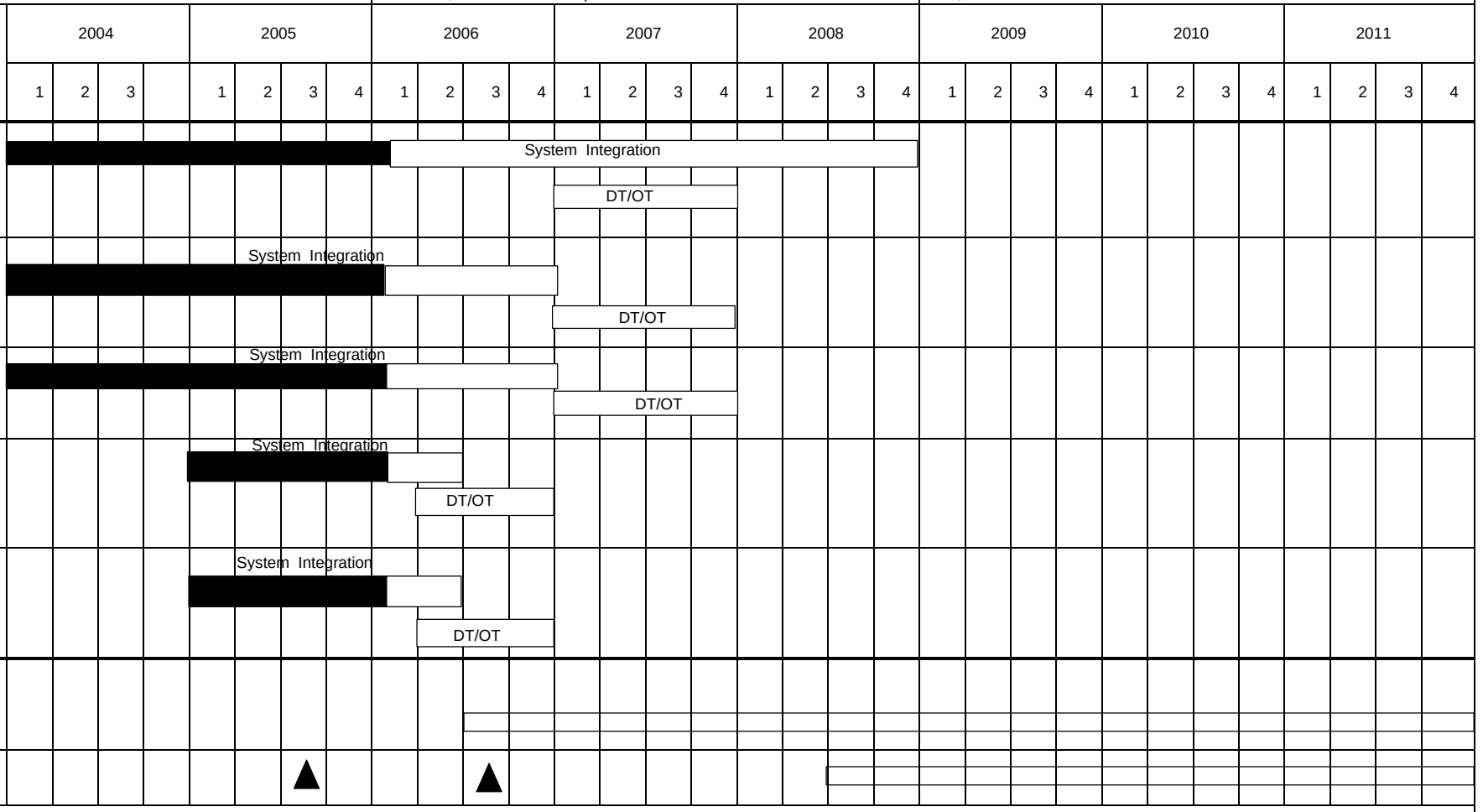
CLASSIFICATION: UNCLASSIFIED

EXHIBIT R4, Schedule Profile

CNS/ATM

DATE: **February 2006**

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



CLASSIFICATION: UNCLASSIFIED

Exhibit R-4a, Schedule Detail **CNS/ATM**						DATE: **February 2006**		
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 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
F-18 System Integration	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q			
MH-60S Integration	1Q-4Q	1Q-4Q	1Q-4Q	1Q				
MH-60R Integration	1Q-4Q	1Q-4Q	1Q-4Q	1Q				
AH-1Z Integration		1Q-4Q						
UH-1Y Integration		1Q-4Q	1Q-2Q					
F-18 DT/OT Mode S				1Q-4Q				
MH-60S DT/OT Mode S				1Q-4Q				
MH-60R DT/OT Mode S				1Q-4Q				
AH-1Z DT/OT Mode S			2Q-4Q					
UH-1Y DT/OT Mode S			2Q-4Q					
Platform Procurements (SW Upgrades ONLY)			3Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Deliveries (SW Upgrades)					3Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q

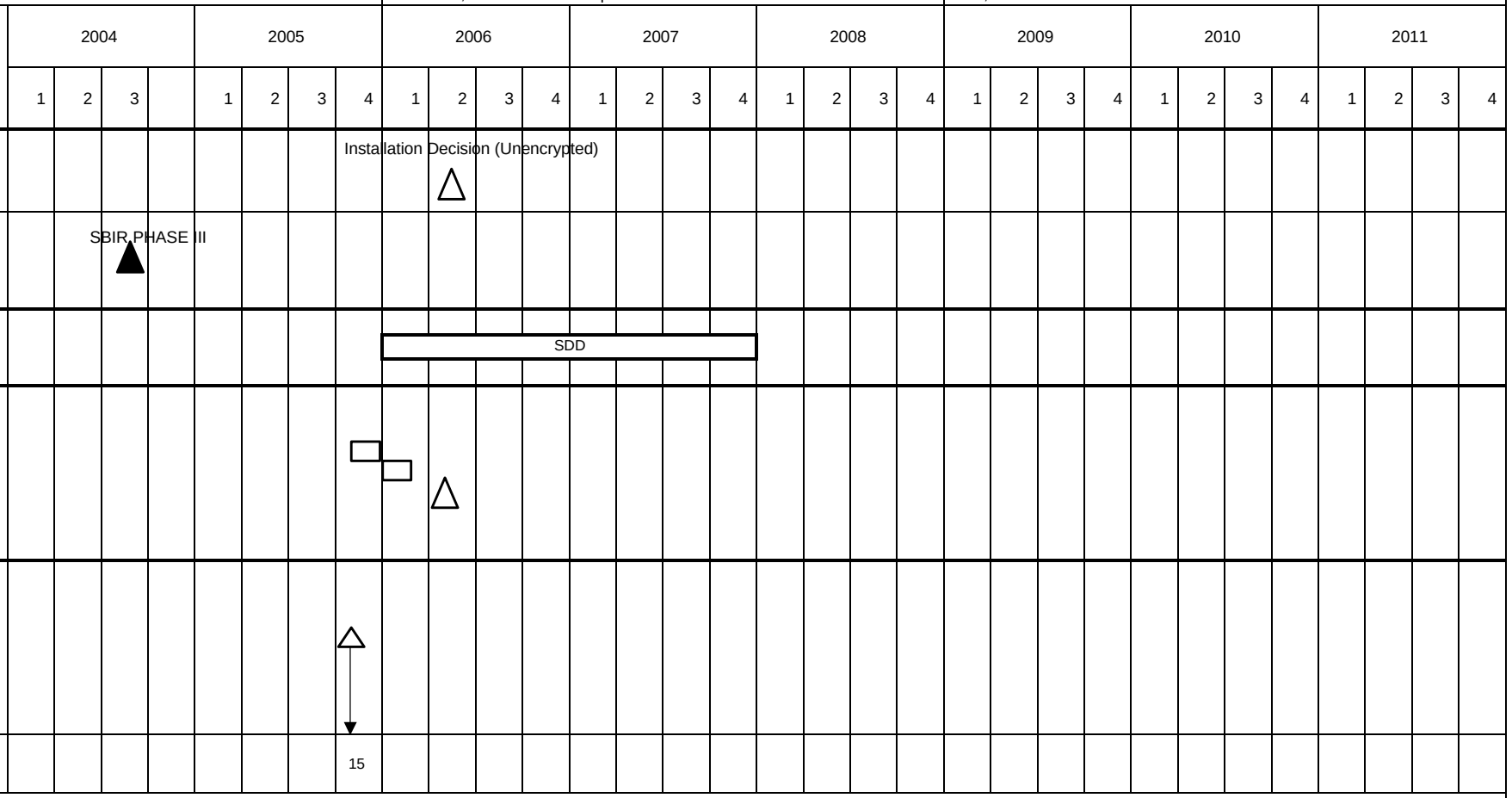
CLASSIFICATION: UNCLASSIFIED

EXHIBIT R4, Schedule Profile

AWICS

DATE: **February 2006**

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



* Army will DT Secure Transmission Solution.

** First Article units will support DT-B/C efforts.

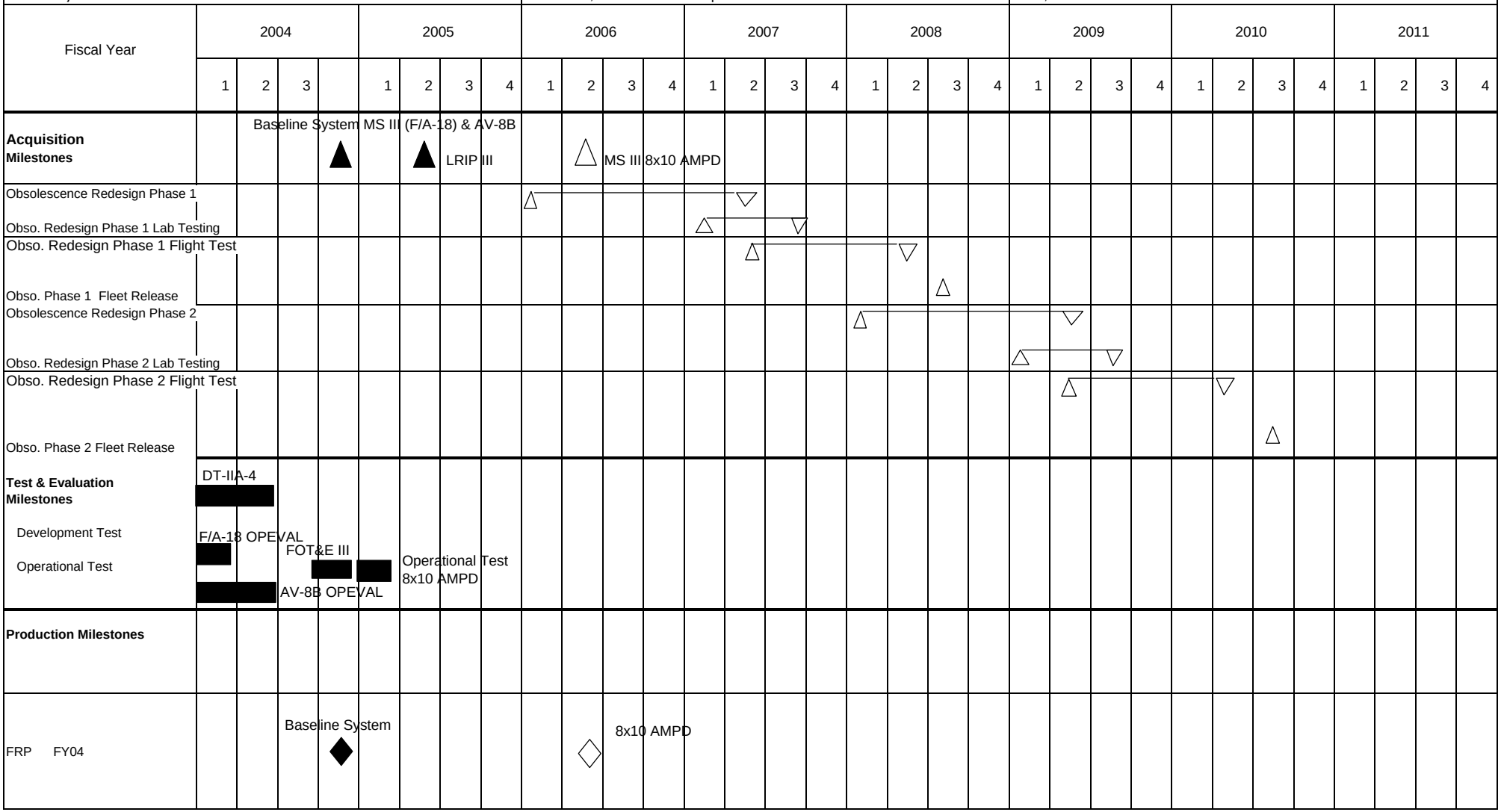
CLASSIFICATION: UNCLASSIFIED

Exhibit R-4a, Schedule Detail **AWICS**						DATE: **February 2006**			
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 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	
Contract Award - SBIR Phase III	3Q								
First Articles		4Q							
Developmental Testing (DT-B)		4Q							
Developmental Testing (DT-C)									
Installation Decision (Unencrypted)			2Q						
Secure Transmission (COMSEC SDD)			1Q-4Q	1Q-4Q					
DT Report			2Q						
Deliveries		4Q							

CLASSIFICATION: UNCLASSIFIED

EXHIBIT R4, Schedule Profile — **AMC&D** — DATE: **February 2006**

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



CLASSIFICATION: UNCLASSIFIED

Exhibit R-4a, Schedule Detail

AMC&D

DATE: **February 2006**

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 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Operational Evaluation (OPEVAL) AV-8B	1Q-2Q							
MSIII (AV-8B)	4Q							
Operational Evaluation (OPEVAL) F/A-18E/F	1Q							
Developmental Testing (DT-IIA-4) F/A-18E/F	1Q-2Q							
MSIII (F/A-18E/F)	4Q							
FOT&E III	3Q-4Q							
FRP	4Q							
Operational Testing 8x10 AMPD	4Q	1Q						
LRIP III		2Q						
MS III 8x10 AMPD			2Q					
FRP 8x10 AMPD			2Q					
Obsolescence Redesign Phase 1			1Q-4Q	1Q-2Q				
Obsolescence Redesign Phase 1 Lab Testing				1Q-3Q				
Obsolescence Redesign Phase 1 Flight Test				2Q-4Q	1Q-2Q			
Obsolescence Redesign Phase 1 Fleet Release					3Q			
Obsolescence Redesign Phase 2					1Q-4Q	1Q-2Q		
Obsolescence Redesign Phase 2 Lab Testing						1Q-3Q		
Obsolescence Redesign Phase 2 Flight Test						2Q-4Q	1Q-2Q	
Obsolescence Redesign Phase 2 Fleet Release							3Q	

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2006**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604215N Standards Development				PROJECT NUMBER AND NAME S1857, Calibration Standards			
COST ($ in Millions)		FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost		**5.368**	**1.345**	**1.939**	**1.993**	**2.022**	**2.039**	**1.985**
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 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.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2006**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	0604215N Standards Development	PROJECT NUMBER AND NAME S1857, Calibration Standards

B. Accomplishments/Planned Program

	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost - S1857C Calibration Standa	**5.368**		
RDT&E Articles Quantity			

FY 2005 Plan: (U) ($ .349) Complete 3 calibration standards (hardware) in support of chemical biological sensors, radar cross section measurements, and reduced crew size initiatives.
(U) ($ .901) 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.
(U) ($- 0.082) BEGIN NO NEW STANDARDS DEVELOPMENT DUE TO SUBSTANTIALLY REDUCED R&D LINE AND DECLINING FUNDING LEVELS.
(U) ($4.200) CONGRESSIONAL Add Navy/Marine Corps advanced measurement standards R&D (Note only for the development of advances measurement standards and metrology systems to support the Navy and Marine Corps testing needs).

	FY 05	**FY 06**	FY 07
Accomplishments/Effort/Subtotal Cost S1857		**1.345**	
RDT&E Articles Quantity			

FY 2006 Plan: (U) ($ 1.345) 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.

CLASSIFICATION:		
EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2006**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	0604215N Standards Development	PROJECT NUMBER AND NAME S1857, Calibration Standards

B. Accomplishments/Planned Program (Cont.)

	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost S1857			**1.939**
RDT&E Articles Quantity			

FY 2007 Plan: (U) ($ .234) Complete 1 calibration standard (hardware) in support of electrical calibration standards.
(U) ($0) S1857 No Continued standards development.
(U) ($ 1.405) Begin development of 6 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 miniature electrical mechanical sensors (MEMS)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2006**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604215N Standards Development	S1857, Calibration Standards

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2005	FY 2006	FY 2007
Previous President's Budget: (FY 06 Pres Controls)	5.476	1.365	1.658
Current President's Budget	5.368	1.345	1.939
Total Adjustments	-0.108	-0.020	0.281
Summary of Adjustments			
Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions	-0.110	-0.014	
Congressional Increases			
Economic Assumptions	0.001	-0.006	0.011
Miscellaneous Adjustments	0.001		0.270
Subtotal	-0.108	-0.020	0.281

Schedule:

Not applicable

Technical:

Not applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: **FEBRUARY 2006**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA-5	0604215N Standards Development	S1857, Calibration Standards	

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
Not Applicable									

E. ACQUISITION STRATEGY:

Not Applicable

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)

DATE: **FEBRUARY 2006**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604215N Standards Development	S1857, 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		5.344		1.017		1.939			8.300	
Ancillary Hardware Development												
Component Development												
Ship Integration												
Ship Suitability												
Systems Engineering												
Training Development												
Licenses												
Tooling												
GFE												
Award Fees												
Subtotal Product Development				5.344		1.017		1.939			8.300	

Remarks:

Development Support												
Software Development												
Training Development												
Integrated Logistics Support												
Configuration Management												
Technical Data												
GFE												
Award Fees												
Subtotal Support				0.000		0.000		0.000			0.000	

Remarks:

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)

DATE: **FEBRUARY 2006**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604215N Standards Development	S1857, 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												
Operational Test & Evaluation												
Live Fire Test & Evaluation												
Test Assets												
Tooling												
GFE												
Award Fees												
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Contractor Eng Supt				0.012		0.120		0.000			0.132	
Government Eng Supt				0.011		0.208		0.000			0.219	
Program Management Support												
Travel				0.001		0.000		0.000			0.001	
Labor (Research Personnel)												
SBIR Assessment												
Subtotal Management			0.000	0.024		0.328		0.000		0.000	0.352	
Remarks:												
Total Cost			0.000	5.368		1.345		1.939		0.000	8.652	
Remarks:												

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2006
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 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
A2311 WASP	10.574	10.911	11.357	11.981	12.578	13.147	13.733
RDT&E Articles Qty							

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, eliminiate weapons delivery solutions that will violate aircraft T/M/S/ specific safetly-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/domage 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 December FY03.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604215N, STANDARDS DEVELOPMENT**	PROJECT NUMBER AND NAME 2311, WASP

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

	FY 2005	FY 2006	FY 2007	
Accomplishments / Effort / Sub-total Cost	.333	.386	1.039	
RDT&E Articles Qty				

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 2005	FY 2006	FY 2007	
Accomplishments / Effort / Sub-total Cost	2.570	3.190	3.306	
RDT&E Articles Qty				

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 (JMEME) accreditation.

	FY 2005	FY 2006	FY 2007	
Accomplishments / Effort / Sub-total Cost	.807	.889	.889	
RDT&E Articles Qty				

Systems Engineering - Provide Systems Engineering support to the Weaponeering 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 for new JMEM capabilites into WASP. Provide analysis of new requirements, allocation of requirements, design oversight, and life cycle management of the WASP program.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604215N, STANDARDS DEVELOPMENT**	PROJECT NUMBER AND NAME 2311, WASP	

	FY 2005	FY 2006	FY 2007	
Accomplishments / Effort / Sub-total Cost	.232	.243	.256	
RDT&E Articles Qty				

Compliance with external directives - Provide Weaponeering 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.

	FY 2005	FY 2006	FY 2007	
Accomplishments / Effort / Sub-total Cost	4.103	4.703	4.839	
RDT&E Articles Qty				

Software Development - Develop new software for WASP components V1.1, V2.0, V2.1 and V3.0 to support additions 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) detection and flyout models into WASP. Integrate WASP with JSOW/JDAM/SLAM-ER mission planning systems.

	FY 2005	FY 2006	FY 2007	
Accomplishments / Effort / Sub-total Cost	2.529	1.500	1.028	
RDT&E Articles Qty				

Program Management - In FY05 Performed Weaponeering and Stores Planning (WASP) project management, which includes contracting support (providing contract administration, preparing contract package 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.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /	**BA 5**	**0604215N, STANDARDS DEVELOPMENT**	2311, WASP

C. PROGRAM CHANGE SUMMARY

Funding:	FY 2005	FY 2006	FY 2007
Previous President's Budget:	9.349	11.077	13.450
Current President's Budget:	10.574	10.911	11.357
Total Adjustments	1.225	-0.166	-2.093
Summary of Adjustments			
Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions	-0.008	-0.116	
Congressional Increases	0.002		
Economic Assumptions		-0.050	0.054
Miscellaneous Adjustments	1.231		-2.147
Subtotal	1.225	-0.166	-2.093

Schedule: V1.1 delivered 1Q FY05 and V2.0 to field in 3Q FY06. Slip in WASP V2 release from 1Q 2006 to 3Q 2006:
Late GFI (safe Escape comopnent) delivery will delay delivery of WASP V2 components until 3Q FY06. WASP components must then be integrated into JMPS 1.2.3 framework.
WASP V2 release must also align with JMPS F/A-18 H-4E MPE release. JMPS H-4E MPE scheduled to enter DT/OT in Jan 2007.
V2.0 experiencing a 6 month delay in fielding due to late delivery of GFI Safe Escape components critical to the performance of the F/A-18 E/F platform.

Technical: Not applicable

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604215N, STANDARDS DEVELOPMENT**	PROJECT NUMBER AND NAME 2311, WASP	

D. OTHER PROGRAM FUNDING SUMMARY:	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)	9.035	7.753	8.316	8.648	8.842	9.006	9.151	Continuing	Continuing
PE2806F Air Force Mission Support System	136.701	143.154	196.749	148.541	96.314	Continuing	Continuing	Continuing	Continuing

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, sytems 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.

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2006			
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 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
PRODUCT DEVELOPMENT	WX	NAWCAD, PATUXENT RIVER MD	13.476	1.301	11/30/2004	1.532	11/30/2005	1.596	11/30/2006	Continuing	Continuing	
SYSTEMS ENG	WX	NAWCAD, PATUXENT RIVER MD	5.484	.807	11/30/2004	.889	11/30/2005	.889	11/30/2006	Continuing	Continuing	
VARIOUS/CONTRACTS	VARIOUS	VARIOUS	15.314	2.782	11/30/2004	3.171	11/30/2005	3.243	11/30/2006	Continuing	Continuing	
SUBTOTAL PRODUCT DEVELOPMENT			34.274	4.890		5.592		5.728		Continuing	Continuing	
Remarks:												
SUPPORT												
SUBTOTAL SUPPORT												
Remarks:												
TEST & EVALUATION												
TEST & EVALUATION	WX	NAWCAD, PATUXENT RIVER MD	7.034	2.570	11/30/2004	3.190	11/30/2005	3.306	11/30/2006	Continuing	Continuing	
SUBTOTAL TEST & EVALUATION			7.034	2.570		3.190		3.306		Continuing	Continuing	
Remarks:												
MANAGEMENT												
GOVERNMENT ENG SUP	WR	NAWCAD, PATUXENT RIVER MD	1.167	.232	11/30/2004	.243	11/30/2005	.256	11/30/2006	Continuing	Continuing	
GOVERNMENT ENG SUP	WX	NAWCWD, CHINA LAKE CA	.627	.333	11/30/2004	.386	11/30/2005	1.039	11/30/2006	Continuing	Continuing	
MANAGEMENT SUP	WX	NAWCAD, PATUXENT RIVER MD	2.561	2.529	11/30/2004	1.460	11/30/2005	.988	11/30/2006	Continuing	Continuing	
TRAVEL	TO	NAVAIRHQ, PATUXENT RIVER MD	1.028	.020	Various	.040	Various	.040	Various	Continuing	Continuing	
SUBTOTAL MANAGEMENT			5.383	3.114		2.129		2.323		Continuing	Continuing	
Remarks:												
Total Cost			46.691	10.574		10.911		11.357		Continuing	Continuing	
Remarks:												

EXHIBIT R4, Schedule Profile

DATE: **February 2006**

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 Weaponeering Module

Fiscal Year	2005				2006				2007				2008				2009				2010				2011			
	1	2	3		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																												

CLASSIFICATION:

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

R-1 SHOPPING LIST - Item No. 85

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2006
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 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
A2312 COMMON HELOS	.757	.750	.936	.953	.973	.995	1.016
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 analysis. The following type/model/series aircraft are supported by PE: AH1-W, UH-1N, H-46D/E, H-53D/E, H-60B/F/H/R/S, and V-22. The developed common helicopter functionally 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.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /	**BA 5**	**0604215N, STANDARDS DEVELOPMENT**	2312 COMMON HELICOPTERS

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

	FY 2005	FY 2006	FY 2007
Accomplishments / Effort / Sub-total Cost	.757	.750	.936
RDT&E Articles Qty			

Continue development of Common Helicopter functionality and implementation in PFPS, PFPS Version 4.0 and JMPS, JMPS Version 1.2.4 and 1.5.

C. PROGRAM CHANGE SUMMARY

Funding:	FY 2005	FY 2006	FY 2007
Previous President's Budget:	0.759	0.761	0.945
Current President's Budget:	0.757	0.750	0.936
Total Adjustments	-0.002	-0.011	-0.009
Summary of Adjustments			
Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions		-0.008	
Congressional Increases			
Economic Assumptions		-0.003	0.004
Miscellaneous Adjustments	-0.002		-0.013
Subtotal	-0.002	-0.011	-0.009

Schedule: Not Applicable

Technical: Not Applicable

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /	**BA 5**	**0604215N, STANDARDS DEVELOPMENT**	2312 COMMON HELICOPTERS

D. OTHER PROGRAM FUNDING SUMMARY:

	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)	9.035	7.753	8.316	8.648	8.842	9.006	9.151	Continuing	Continuing
PE2806F Air Force Mission Support System	136.701	143.154	196.749	148.541	96.314	Continuing	Continuing	Continuing	Continuing

E. ACQUISITION STRATEGY:

Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2006**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604215N Standards Development				PROJECT NUMBER AND NAME 9999, Congressional Adds			
COST ($ in Millions)		FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost			**8.200**					
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 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.

Project 9770N , AVITS: The principal functions of AVITS is to provide the military maintainer: the capability to configure multiple, programmable virtual instruments into a portable, light weight, single-standard, multiple protocol packaging scheme; a capability that provides an interface to distance support assistance and training applications; and a system that reduces total ownership costs within the military. In addition, AVITS shall provide: "plug-and-play" instrument functionality along with self-test and self-system/on-line verification (calibration); one control/display with multiple virtual control/display panels; an integrated test executive engine that allows for automated maintenance procedure applications; and the ability to collect/transmit test data in a format and language compatible with maintenance data management software currently in use by the military.

.

Project 9771N, SCRAMscreen Display: New, innovative, conformal projection display screen technologies are now emerging that enhance optical performance, promise improved supportability, and reduce development costs for airborne displays. Such displays are easily size-scalable and exhibit customizable viewing angles, selective ambient light rejection, and extremely high contrast ratios. They also hold the potential for reduced weight, lower unit cost, and increased reliability. A new and innovative means to provide illumination to the projection screen is required for the military to take advantage of potential performance improvements. Current commercially based light engines will not meet the necessary optical performance requirements while operating in the military environment, therefore a solid-state light engine is required. At present, such an approach does not exist within industry. A solid state light engine, in concert with the new conformal display screen technology, provides an innovative approach to improving the state of the art for military displays.

Current AMLCD and CRT technology based displays have cost, optical performance, reliability, and weight shortcomings that reduce mission effectiveness in airborne applications while existing projection based displays have yet to provide a simple but effective solution. A more innovative light engine is needed to fully utilize projection technology's enhanced features. Advanced projection display technology using LED solid-state lighting can mitigate the limitations of other approaches while meeting the airborne display requirements for a variety of different applications.

The inherent conformal scalability of this technology will significantly reduce the development costs for different size displays. Low material costs will reduce maintenance costs. Common display solutions will also significantly reduce the logistics infrastructure requirements.

CLASSIFICATION:		
EXHIBIT R-2a, RDT&E Project Justification		DATE: FEBRUARY 2006
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604215N Standards Development	9999, Congressional Adds

CONGRESSIONAL PLUS-UPS:

1857	FY 05	FY 06	FY 07
Identify Project Number: S1857 Calibration Satandarc			
Title of Congressional Add		2.000	

Project S1857, Calibration Standards: FY 2006 Plan: (U) ($ 2.000) S1857C Commence development of Navy-wide program to develop calibration standards (hardware) in support of Navy Weapons systems, ground and air, throughout the Fleet. Verify the military requirement performance of all test systems used to validate the operation of Navy Weapon Systems with the National Institute of Standards and Technology calibration standards.

9770	FY 05	FY 06	FY 07
Identify Project Number: 9770N - AVITS			
Title of Congressional Add		1.700	

Project 9770N , AVITS: FY 2006 Plan: (U) ($ 1.700) 9770N Commence development to provide the military maintainer: the capability to configure multiple, programmable virtual instruments into a portable, light weight, single-standard, multiple protocol packaging scheme; a capability that will provide an interface to distance support assistance and training applications; and a system that reduces total ownership costs within the military.

CLASSIFICATION:		
EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2006**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604215N Standards Development	9999, Congressional Adds

CONGRESSIONAL PLUS-UPS:

9771N	FY 05	FY 06	FY 07
Accomplishments / Effort / Sub-total Cost		4.500	
RDT&E Articles Qty			

Project 9771N, SCRAM Screen Display: FY 2006 Plan: (U) 9771N New, innovative, conformal projection display screen technologies are now emerging that enhances optical performance, promise improved supportability, and reduce development costs for airborne displays. Such displays are easily size-scalable and exhibit customizable viewing angles, selective ambient light rejection, and extremely high contrast ratios. They also hold the potential for reduced weight, lower unit cost, and increased reliability. A new and innovative means to provide illumination to the projection screen is required for the military to take advantage of potential performance improvements. Current commercially based light engines will not meet the necessary optical performance requirements while operating in the military environment, therefore a solid-state light engine is required. At present, such an approach does not exist within industry. A solid state light engine, in concert with the new conformal display screen technology, provides an innovative approach to improving the state of the art for military displays.

Current AMLCD and CRT technology based displays have cost, optical performance, reliability, and weight shortcomings that reduce mission effectiveness in airborne applications while existing projection based displays have yet to provide a simple but effective solution. A more innovative light engine is needed to fully utilize projection technology's enhanced features. Advanced projection display technology using LED solid-state lighting can mitigate the limitations of other approaches while meeting the airborne display requirements for a variety of different applications.

The inherent conformal scalability of this technology will significantly reduce the development costs for different size displays. Low material costs will reduce maintenance costs. Common display solutions will also significantly reduce the logistics infrastructure requirements.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2006**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604215N Standards Development	9999, Congressional Adds

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2005	FY 2006	FY 2007
Previous President's Budget: (FY 06 Pres Controls)	0.000	0.000	0.000
Current President's Budget:	0.000	8.200	0.000
Total Adjustments	0.000	8.200	0.000
Summary of Adjustments			
Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions			
Congressional Increases		8.200	
Economic Assumptions			
Miscellaneous Adjustments			
Subtotal	0.000	8.200	0.000

Schedule:

Not applicable

Technical:

Not applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: **FEBRUARY 2006**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA-5	0604215N Standards Development	9999, Congressional Adds	

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
Not Applicable									

E. ACQUISITION STRATEGY:

Not Applicable