

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2, RDT&E Budget Item Justification							DATE:	
							February 2004	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5					R-1 ITEM NOMENCLATURE 0604215N, Standards Development			
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost		42.007	49.867	57.675	71.422	44.662	32.383	28.590
2311/Stores Planning and Weaponing Module		5.567	4.960	9.448	7.423	7.863	8.276	8.770
2312/Common Helicopters		1.157	0.949	0.772	0.795	0.981	1.000	1.020
S1857/Calibration Standards		4.115	4.219	1.359	1.366	1.652	1.675	1.704
W0572/Joint Services/Navy Standard Avionics		31.168	39.739	46.096	61.838	34.166	21.432	17.096
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:								
<p>Project E2311, Stores Planning and Weaponing Module: The Naval Aircraft Weaponing Components (NAWC) project, now referred to as the Weaponing 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. Weaponing 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&amp;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 will be delivered on an annual basis starting with v1.0 in September CY03.</p>								
<p>Project E2312, 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 &amp; elevation), and enhanced fidelity of landing zone, target zone, and threat analyses. The following type/model/series aircraft are supported by this PE: AH-1W, UH-1N, H-46D/E, H-53D/E, H-60B/F/H/R/S, and V-22. The developed common helicopter functionality will initially be implemented in Naval Portable Flight Planning Software (N-PFPS) then migrated to JMPS. Subsequent common helicopter functionality will be developed for implementation in the Joint Mission Planning Segment (JMPS) after JMPS initial fielding.</p>								

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APPROPRIATION/BUDGET ACTIVITY <b>RESEARCH DEVELOPMENT TEST &amp; EVALUATION, NAVY /BA-5</b>	R-1 ITEM NOMENCLATURE 0604215N, Standards Development	
<p>Project S1857, Calibration Standards: This project is a Navy-wide program to develop required calibration standards (hardware in all major measurement technology areas). It funds Navy lead-service responsibilities in the DOD and Joint Services Metrology RDT&amp;E program.</p> <p>Project W0572, Joint Services/Navy Standard Avionics Components and Subsystems: This project provides for the identification, design, development, test, evaluation and qualification of standard avionics for Navy use, and wherever practicable, use across all Services and Foreign Military Sales. Such air combat electronics developments include communications, navigation, flight avionics, safety systems, and flight mission information systems for both forward fit and retrofit aircraft. These efforts continue to maintain federated systems while encouraging transition of procurements to support a modular system for enhanced performance and affordability. Consideration is given up front to reduce acquisition costs through larger procurement quantities that satisfy multi-aircraft customer requirements and that reduce life cycle costs in the areas of reliability, maintainability, and training. Several examples of past successful tasks under this project include the Standard Central Air Data Computer, Solid State Barometric Altimeter, and Downed Aircraft Location System, jointly developed with the Air Force and Army and currently installed on numerous Navy, Air Force and Army aircraft. This project also funds Navy chairmanship and participation in the Joint Services Review Committee (JSRC) for Avionics Standardization. The RDT&amp;E Articles include Communication Navigation Surveillance/Air Traffic Management (CNS/ATM) Engineering Manufacturing Development (EMD) units, AMC&amp;D EMD units which include Display Processors and Mission Processors, Display Heads, 8 x 10 displays, and Fiber Channel Switches, Joint Tactical Radio Systems (JTRS) EMD units, Aircraft Wireless Internal Communication Systems (AWICS) EMD units, Vector Product Format (VPF) software units and Terrain Awareness Warning Systems (TAWS) units. JTRS is a New Start for FY04.</p>		

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EXHIBIT R-2a, RDT&E Project Justification							DATE: <b>February 2004</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>		PROGRAM ELEMENT NUMBER AND NAME 0604215N Standard Development			PROJECT NUMBER AND NAME 2311 Navy Stores Planning and Weaponneering Module			
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		5.567	4.960	9.448	7.423	7.863	8.276	8.770
RDT&E Articles Qty								

### A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Project E2311, Stores Planning and Weaponneering Module: The Naval Aircraft Weaponneering Components (NAWC) project, now referred to as the Weaponneering and Stores Planning (WASP) components, are integrated software products that allow pilots to determine the best combinations of weapons and delivery conditions to achieve the desired level of target damage, eliminate weapon delivery solutions that violate aircraft T/M/S specific safety-of-flight envelopes, and perform detailed weapons employment planning. WASP is approved by N78 as a permanent flight clearance system for the F/A-18 A, A+, B, C, D and D(RC) aircraft, and for all future aircraft T/M/S in the Joint Mission Planning System (JMPS). As a flight clearance system, WASP components will alert pilots if their planned weapon release conditions will result in bomb-to-bomb collisions, bomb-to-aircraft collisions, aircraft overstress, or excessive risk of aircraft loss/damage in the event of fuze early bursts. Weaponneering capabilities are fundamental requirements for Interdiction, Armed RECCE and Close Air Support mission planning, therefore WASP product availability is critical to successful Post-Joint Mission Planning System (JMPS) Combat 1 OT&E. The WASP product encompasses a multitude of GOTS/COTS software components and tools (aircraft target maneuver simulations, weapon flyout models, target probability of damage calculators, etc.), which are delivered as new targets are identified, emergent requirements for new aircraft T/M/S, stores and weapons are approved by N78, and new flight clearances and flight restrictions issued by NAVAIRSYSCOM. WASP components will be delivered on an annual basis starting with v1.0 in September CY03.

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<b>B. Accomplishments/Planned Program</b>				
		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.255	0.409	0.681
RDT&E Articles Quantity				
Continued Construction phase. Begin functional qualification test and certification. Continued Software Requirements Definition, Analysis, and Tracking for WASP versions (WASP V1.1 and WASP V2.0).				
		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.157	1.110	1.165
RDT&E Articles Quantity				
Initiate development of the JMPS integrated version of WASP. Software Architecture and Design to support WASP versions (WASP V1.1 and WASP V2.0).				
		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		3.653	2.021	3.708
RDT&E Articles Quantity				
Provide essential updates to ATACs until WASP is released. Develop and certify common components for TACMAN. Software Development, Integration and Correction of Defects for WASP versions (ATACS V 2.3, WASP V1.0, WASP V1.1 and WASP V2.0).				

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<b>B. Accomplishments/Planned Program (Cont.)</b>															
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Accomplishments/Effort/Subtotal Cost	0.113	0.118	0.286												
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APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604215N Standard Development	PROJECT NUMBER AND NAME 2311 Navy Stores Planning and Weaponeering Module

**C. PROGRAM CHANGE SUMMARY:**

	FY 2003	FY 2004	FY 2005
Funding:			
Previous President's Budget:	1.742	5.016	6.297
Current BES/President's Budget	5.567	4.960	9.448
Total Adjustments	3.825	-0.056	3.151
Summary of Adjustments			
Congressional program reductions			
Congressional undistributed reductions		-0.056	
Congressional rescissions			
SBIR/STTR Transfer			
Economic Assumptions			0.008
Reprogrammings	3.825		
Other Adjustments			3.143
Congressional increases			
Subtotal	3.825	-0.056	3.151

Schedule: Slip in WASP V1 release from 2Q 2003 to 4Q 2003:

As a CNO approved alternative permanent flight clearance system for the F/A-18 A-D, the WASP application mirrors the release and update cycle of Volume IV of the F/A-18A\_D TACMAN. Signature and release of Urgent Interim Change 2 (UIC 2) to Vol IV of the TACMAN was expected to happen such that WASP would be able to implement changes in the software prior to release of Version 1.0. The OPNAV sponsor concurred that WASP should implement UIC 2 if possible. However, delays in the release of UIC 2 resulted in a corresponding delay of the release of WASP V1.0 from 2Q 2003 to 4Q 2003 with only minimal incorporation of UIC 2.

Insertion of V1.1 into schedule with delivery in 1Q 2005:

WASP V1.1 was inserted in the schedule to implement full Change 5 functionality in addition to requirements that were deferred from WASP V1.0.

Release of WASP V2 moved ahead from 3Q 06 to 4Q 05:

Technical: No applicable

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APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME			
<b>RDT&amp;E, N / BA-5</b>		0604215N Standards Development			2311 Navy Stores Planning and Weaponneering Module			

  

**D. OTHER PROGRAM FUNDING SUMMARY:**

<u>Line Item No. &amp; Name</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>To Complete</u>	<u>Total Cost</u>
BLI 287600 TAC A/C Mission Planning System (OPN)	6.807	8.551	9.098	7.525	8.113	8.241	8.578	Continuing	
PE2806F Air Force Mission Support System	17	73.8	146.7	159.6	265.8	0	0	Continuing	
Related RDT&E:									
P.E. 0604231N (Mission Planning)									

  

**E. ACQUISITION STRATEGY: \***

Weaponneering 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 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.

  

**F. MAJOR PERFORMERS: \*\***

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Exhibit R-3 Cost Analysis (page 1)								DATE: <b>February 2004</b>				
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>			PROGRAM ELEMENT 0604215N Standard Development			PROJECT NUMBER AND NAME 2311 Navy Stores Planning and Weaponeeing Module						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Software Development	WR	NAWCAD, PAX RIVER, MD	11.541	0.944	01/03	0.991	11/03	1.470	11/04	Continuing	Continuing	
Primary Software Development	GSA/FP	Various	11.747	1.754	01/03	1.813	11/03	4.117	11//04	Continuing	Continuing	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	WX	NAWCAD, PAX RIVER, MD	5.163	0.181	01/03	0.140	11/03	0.286	11/04	Continuing	Continuing	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			28.451	2.879		2.944		5.873		Continuing	Continuing	
Remarks:												
Development Support											0.000	
Software Development											0.000	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			0.000	0.000		0.000		0.000			0.000	
Remarks:												

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Exhibit R-2a, RDTEN Project Justification  
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Exhibit R-3 Cost Analysis (page 2)										DATE: <b>February 2004</b>		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME					
<b>RDTE&amp;E, N / BA-5</b>			0604215N Standard Development				2311 Navy Stores Planning and Weaponneering Module					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	NAWCAD, PAX RIVER, MD	4.639	1.650	01/03	0.745	11/03	1.743	11/04	Continuing	Continuing	
Operational Test & Evaluation											0.000	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			4.639	1.650		0.745		1.743		Continuing	Continuing	
Remarks:												
Government Engineering Support	WX	NAWCWD, CHLKE, CA		0.296	01/03	0.331	11/03	0.473	11/03	Continuing	Continuing	
Government Engineering Support	WR	NAWCAD, PAX RIVER, MD		0.581	01/03	0.586	11/03	0.975	11/04	Continuing	Continuing	
Program Management Support	WX	NAWCAD, PAX RIVER, MD	2.084	0.143	01/03	0.334	11/03	0.364	11/04	Continuing	Continuing	
Travel	WR	NAWCAD, PAX RIVER, MD	0.990	0.018	01/03	0.020	11/03	0.020	11/04	Continuing	Continuing	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			3.074	1.038		1.271		1.832		Continuing	Continuing	
Remarks:												
Total Cost			36.164	5.567		4.960		9.448		Continuing	Continuing	
Remarks:												

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Exhibit R-2a, RDTE Project Justification  
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EXHIBIT R4, Schedule Profile																								DATE: February 2004									
APPROPRIATION/BUDGET ACTIVITY										PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-5										0604215N Standards Development												2311 Navy Stores Planning and Weaponneering Module											
Fiscal Year	2002				2003				2004				2005				2006				2007				2008				2009				
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
Acquisition Milestones																																	
ATACS 2.3 Final Release					△																												
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															△																		
Test & Evaluation Milestones																																	
WASP V.1 Cert Test (F/A-18A/B/C/D)																																	
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WASP V.2 FQT & Cert Test (F/A-18A/B/C/D/E/F)																																	
Production Milestones																																	
WASP V.1 Dev (F/A-18A/B/C/D)																																	
WASP V.1.1 Cert Test (F/A-18A/B/C/D)																																	
WASP V.2 Development (F/A-18A/B/C/D/E/F)																																	
Deliveries																																	

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\* Not required for Budget Activities 1, 2, 3, and 6

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Exhibit R-3, Project Cost Analysis  
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**Exhibit R-3, Project Cost Analysis**  
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COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		1.157	0.949	0.772	0.795	0.981	1.000	1.020
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Project E2312, Common Helicopters: Automated mission planning systems to date have been developing targeting planning requirements for fixed-wing aircraft, while the unique planning requirements for helicopters have not been addressed. The unique and enhanced automated mission planning requirements that must be developed and implemented for helicopters include: data loading, an enhanced route editor (serpentine routing, hover, etc.) manipulation of higher fidelity (smaller scale) maps and imagery, enhanced performance tools (performance in and out of ground effect, performance degradation due to atmospheric conditions & elevation), and enhanced fidelity of landing zone, and threat analyses. The following type/model/series aircraft are supported by PE: AH-1W, UH-1N, H-46D/E, H-53D/E, H-60B/F/H/R/S, and V-22. The developed common helicopter functionality will initially be implemented in Naval Portable Flight Planning Software (N-PFPS) then migrated to JMPS. Subsequent common helicopter functionality will be developed for implementation in the Joint Mission Planning Segment (JMPS) after JMPS initial fielding.

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<b>B. Accomplishments/Planned Program</b>																			
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RDT&E Articles Quantity																			
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 30%;"></td><td style="width: 10%;"></td><td style="width: 20%; text-align: center;">FY 03</td><td style="width: 20%; text-align: center;">FY 04</td><td style="width: 20%; text-align: center;">FY 05</td></tr><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td></td><td></td><td></td></tr><tr><td>RDT&amp;E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></table>							FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost					RDT&E Articles Quantity				
		FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost																			
RDT&E Articles Quantity																			

R-1 SHOPPING LIST - Item No. 85

UNCLASSIFIED

**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>February 2004</b>																																								
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604215N Standard Development	PROJECT NUMBER AND NAME 2312 Common Helicopters																																								
<b>C. PROGRAM CHANGE SUMMARY:</b>  <table style="width: 100%; border-collapse: collapse;"><thead><tr><th style="text-align: left; width: 40%;">Funding:</th><th style="text-align: right; width: 15%;">FY 2003</th><th style="text-align: right; width: 15%;">FY 2004</th><th style="text-align: right; width: 15%;">FY 2005</th></tr></thead><tbody><tr><td>Previous President's Budget:</td><td style="text-align: right;">1.175</td><td style="text-align: right;">0.960</td><td style="text-align: right;">0.891</td></tr><tr><td>Current BES/President's Budget</td><td style="text-align: right;">1.157</td><td style="text-align: right;">0.949</td><td style="text-align: right;">0.772</td></tr><tr><td>Total Adjustments</td><td style="text-align: right; border-top: 1px solid black;">-0.018</td><td style="text-align: right; border-top: 1px solid black;">-0.011</td><td style="text-align: right; border-top: 1px solid black;">-0.119</td></tr><tr><td colspan="4" style="padding-top: 10px;">Summary of Adjustments</td></tr><tr><td>    Reprogramming</td><td style="text-align: right;">-0.006</td><td></td><td></td></tr><tr><td>    Economic Assumptions</td><td></td><td></td><td style="text-align: right;">-0.002</td></tr><tr><td>    Congressional undistributed reductions</td><td></td><td style="text-align: right;">-0.011</td><td></td></tr><tr><td>    Other Adjustments</td><td></td><td></td><td style="text-align: right;">-0.117</td></tr><tr><td>Subtotal</td><td style="text-align: right; border-top: 1px solid black;">-0.006</td><td style="text-align: right; border-top: 1px solid black;">-0.011</td><td style="text-align: right; border-top: 1px solid black;">-0.119</td></tr></tbody></table>  <div style="margin-left: 40px;">Schedule: Not Applicable</div>  <div style="margin-left: 40px;">Technical: Not Applicable</div>			Funding:	FY 2003	FY 2004	FY 2005	Previous President's Budget:	1.175	0.960	0.891	Current BES/President's Budget	1.157	0.949	0.772	Total Adjustments	-0.018	-0.011	-0.119	Summary of Adjustments				Reprogramming	-0.006			Economic Assumptions			-0.002	Congressional undistributed reductions		-0.011		Other Adjustments			-0.117	Subtotal	-0.006	-0.011	-0.119
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R-1 SHOPPING LIST - Item No. 85

UNCLASSIFIED

**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification							DATE: <b>February 2004</b>		
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>		PROGRAM ELEMENT NUMBER AND NAME 0604215N Standard Development			PROJECT NUMBER AND NAME 2312 Common Helicopters				
<b>D. OTHER PROGRAM FUNDING SUMMARY:</b>									
<u>Line Item No. &amp; Name</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>To Complete</u>	<u>Total Cost</u>
BLI 287600 TAC A/C Mission Planning System (OPN)	6.807	8.551	9.098	7.525	8.113	8.241	8.578	Continuing	Continuing
 <b>E. ACQUISITION STRATEGY:</b>									

R-1 SHOPPING LIST - Item No. 85

**CLASSIFICATION:**

Exhibit R-3 Cost Analysis (page 1)										DATE: <b>February 2004</b>		
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>			PROGRAM ELEMENT 0604215N Standard Development			PROJECT NUMBER AND NAME 2312 Common Helicopters						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Software Development	MP	Eglin AFB, Florida	3.083	0.956	11/02	0.727	11/03	0.662	11/04	Continuing	Continuing	
Primary Software Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering											0.000	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			3.083	0.956		0.727		0.662		Continuing	Continuing	
Remarks:												
Development Support											0.000	
Software Development											0.000	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												

R-1 SHOPPING LIST - Item No. 85

UNCLASSIFIED

Exhibit R-2a, RD TEN Project Justification  
(Exhibit R-2a, 16 of 46)



**CLASSIFICATION:**

Exhibit R-3 Cost Analysis (page 2)									DATE: <b>February 2004</b>			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
<b>RDTE&amp;E, N / BA-5</b>			0604215N Standard Development			2312 Common Helicopters						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation											0.000	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support	WX	NAWCAD, PAX RIVER, MD	2.138	0.171	11/02	0.192	11/03	0.080	11/04	Continuing	Continuing	
Program Management Support	Various	Various	0.918								0.918	
Travel	WX	NAWCAD, PAX RIVER, MD	0.215	0.030	11/02	0.030	11/03	0.030	11/04	Continuing	Continuing	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			3.271	0.201		0.222		0.110		Continuing	Continuing	
Remarks:												
Total Cost			6.354	1.157		0.949		0.772		Continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 85

UNCLASSIFIED

Exhibit R-2a, RDTE Project Justification  
(Exhibit R-2a, 17 of 46)

**CLASSIFICATION:**

EXHIBIT R4, Schedule Profile																								DATE:								
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME								
RDT&E, N / BA-5												0604215N Standard Development												2312 Common Helicopters								
Fiscal Year	2002				2003				2004				2005				2006				2007				2008				2009			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																																
Prototype Phase																																
PFPS v3.3																																
PFPS v4.0																																
PFPS v4.1																																
CMDL v2.0																																
CMDL v2.01																																
CMDL v2.1																																
CMDL UPC																																
Test & Evaluation Milestones																																
PFPS v3.3																																
PFPS v4.0																																
N-PFPS v4.1																																
CMDL v2.0																																
CMDL v2.01																																
CMDL v2.1																																
Production Milestones																																
CMDL UPC																																
Deliveries																																

R-1 SHOPPING LIST - Item No. 85

\* Not required for Budget Activities 1, 2, 3, and 6

UNCLASSIFIED

Exhibit R-2a, RDTEN Project Justification  
(Exhibit R-2a, 18 of 46)

**CLASSIFICATION:**

[illegible]

R-1 SHOPPING LIST - Item No. 85

UNCLASSIFIED

Exhibit R-3, Project Cost Analysis  
(Exhibit R-3, 19 of 46)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: <b>FEBRUARY 2004</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME Program Element (PE) No. 0604215N; Title: Standards Development				PROJECT NUMBER AND NAME Project Unit (PU) No. S1857, Calibration Standards			
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		4.115	4.219	1.359	1.366	1.652	1.675	1.704
RDT&E Articles Qty								
<b>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</b> This project is a Navy-wide program to develop required calibration standards (hardware) in all major measurement technology areas. It funds Navy lead-service responsibilities in the DOD and Joint Services Metrology RDT&E program. This project supports the military requirement to verify the performance of all test systems used to validate the operation of Navy systems with calibration standards traceable to the National Institute of Standards and Technology.								

**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>FEBRUARY 2004</b>															
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME Program Element (PE) 0604215N Standards Developme	PROJECT NUMBER AND NAME Project Unit (PU) No. S1857, Calibration Standards															
<b>B. Accomplishments/Planned Program</b>  <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"><thead><tr><th style="width: 35%;"></th><th style="width: 15%;"></th><th style="width: 15%; text-align: center;">FY 03</th><th style="width: 15%; text-align: center;">FY 04</th><th style="width: 20%; text-align: center;">FY 05</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td style="text-align: center;">4.115</td><td style="text-align: center;">4.219</td><td style="text-align: center;">1.359</td></tr><tr><td>RDT&amp;E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"><p><b>FY 2003 Accomplishments:</b></p><p>(U) (\$67,000) Reserved for Small Business Innovation Research assessment in accordance with 15 USC 638.</p><p>(U) (\$ 2.398) Completed 18 calibration standards (hardware) in support of chemical biological detection systems, fuel measurement systems, shipboard gage temperature calibrations, laser target designators and rangefinders (1.5 um), fiber optic systems, electro-optical measurement systems, laser power measurements, missile guidance systems, infrared imaging systems (850 – 1300 nm), electromagnetic interference measurement, aircraft/shipboard IFF systems, Watt Meter calibrators, multifunction electrical test equipment, fiber optic hydrophones, and electronic internet systems,</p><p>(U) (\$ 1.717) Continued development of 6 calibration standards (hardware) in support of reduced crew size initiatives, missile guidance systems, radar cross section measurements, 3 modeling and simulation projects.</p><p>(U) (\$ 0) Began no new standards development .</p><p><b>FY 2004 Plan:</b></p><p>(U) (\$ 2.245) Complete 9 calibration standards (hardware) in support of missile guidance systems, radar cross section measurements, modeling and simulation projects, new technology for reduced crew size, and chemical biological sensors.</p><p>(U) (\$ .810) Continue development of 2 standards to reduce crew size initiatives on board ships and a modeling simulation project.</p><p>(U) (\$ 1.164) Begin development of 9 new standards to reduce cumbersome work practices on board ships, chemical biological detectors, laser target designators and rangefinders (1.5 um), reduce shipboard crew size, and reduce calibration costs.</p><p><b>FY 2005 Plan:</b></p><p>(U) (\$ .279) Complete 1 calibration standard (hardware) in support of reduce crew size initiatives.</p><p>(U) (\$1.080) Continue development of 5 standards to reduce cumbersome work practices on board ships, eye safe laser target designators and rangefinders (1.5 um), modeling and simulation projects, and reduce crew size.</p><p>(U) (\$ 0) Begin no new standards development.</p></div>					FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost		4.115	4.219	1.359	RDT&E Articles Quantity				
		FY 03	FY 04	FY 05													
Accomplishments/Effort/Subtotal Cost		4.115	4.219	1.359													
RDT&E Articles Quantity																	

# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>FEBRUARY 2004</b>
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
<b>RDT&amp;E, N / BA-5</b>	Program Element (PE) 0604215N Standards Development	Project Unit (PU) No. S1857, Calibration Standards

**C. PROGRAM CHANGE SUMMARY:**

	FY 2003	FY 2004	FY 2005
Funding:			
Previous President's Budget: (FY 04 Pres Controls)	4,203.000	1,266.000	1,388.000
Current BES/President's Budget: (FY05 Presidents Controls)	4,115.000	4,219.000	1,359.000
Total Adjustments	-88.000	2,953.000	-29.000
Summary of Adjustments			
FY03 SBIR	-67.000	0.000	0.000
Other Adjustments	-21.000	-47.000	-29.000
Congressional increases	0.000	3,000.000	0.000
Subtotal	-88.000	2953.000	-29.000

Schedule:

Not applicable

Technical:

Not applicable

R-1 SHOPPING LIST - Item No. 85

UNCLASSIFIED

# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: <b>FEBRUARY 2004</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>			PROGRAM ELEMENT NUMBER AND NAME Program Element (PE) 0604215N Standards Developmen			PROJECT NUMBER AND NAME Project Unit (PU) No. S1857, Calibration Standards		

  

**D. OTHER PROGRAM FUNDING SUMMARY:**

<u>Line Item No. &amp; Name</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>To Complete</u>	<u>Total Cost</u>
Not Applicable									

  

**E. ACQUISITION STRATEGY: \***

Not Applicable

  

**F. MAJOR PERFORMERS: \*\***

Not Applicable

  

\* Not required for Budget Activities 1,2,3, and 6  
 \*\* Required for DON and OSD submit only.

R-1 SHOPPING LIST - Item No. 85

UNCLASSIFIED

# UNCLASSIFIED

## CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: <b>FEBRUARY 2004</b>				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
<b>RDT&amp;E, N / BA-5</b>			Program Element (PE) 0604215N Standards Development			Project Unit (PU) No. S1857, Calibration Standards						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	WX	NSWC, Corona Division		3.431		3.499		1.001			7.931	
Ancillary Hardware Development											0.000	
Component Development											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering											0.000	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			0.000	3.431		3.499		1.001		0.000	7.931	
Remarks:												
Development Support											0.000	
Software Development											0.000	
Training Development											0.000	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												



# UNCLASSIFIED

## CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: <b>FEBRUARY 2004</b>		
APPROPRIATION/BUDGET ACTIVITY <b>RDTE, N / BA-5</b>			PROGRAM ELEMENT Program Element (PE) 0604215N Standards Development			PROJECT NUMBER AND NAME Program Element (PE) 0604215N Standards Development						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation											0.000	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Contractor Engineering Support				0.181		0.200		0.120			0.501	
Government Engineering Support				0.433		0.465		0.208			1.106	
Program Management Support											0.000	
Travel				0.070		0.055		0.030			0.155	
Labor (Research Personnel)											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	0.684		0.720		0.358		0.000	1.762	
Remarks:												
Total Cost			0.000	4.115		4.219		1.359		0.000	9.693	
Remarks:												

R-1 SHOPPING LIST - Item No. 85

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Exhibit R-3, Project Cost Analysis  
(Exhibit R-3, page 25 of 46)

# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: <b>February 2004</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>		PROGRAM ELEMENT NUMBER AND NAME 0604215N, Standards Development			PROJECT NUMBER AND NAME W0572, Joint Services/Navy Standard Avionics Components and Subsystems			
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		31.168	39.739	46.096	61.838	34.166	21.432	17.096
RDT&E Articles Qty		3	18	5	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 Terrain Awareness Warning System (TAWS), Tactical Aircraft Moving Map Capability (TAMMAC), Midair Collision Avoidance System (MCAS), Communication Navigation Surveillance Air Traffic Management (CNS/ATM), Advanced Mission Computer & Displays (AMC&D), Vector Product Format (VPF), Aircrew Wireless Internal Communication Systems (AWICS), and Joint Tactical Radio System (JTRS). Participation in Human Factors Quality Management Board (HFQMB) ensures Navy safety upgrades and mandatory safety improvements for naval aircraft.

The RDT&E Articles include Communication Navigation Surveillance/Air Traffic Management (CNS/ATM) Engineering Manufacturing Development (EMD) units, AMC&D EMD units which include Display Processors and Mission Processors, Display Heads, 8 x 10 displays, and Fiber Channel Switches, Joint Tactical Radio Systems (JTRS) EMD units, Aircrew Wireless Internal Communication Systems (AWICS) EMD units, Vector Product Format (VPF) software units, and Terrain Awareness Warning Systems (TAWS) units.

R-1 SHOPPING LIST - Item No. 85

UNCLASSIFIED

**Exhibit R-3, Project Cost Analysis**  
(Exhibit R-3, page 26 of 46)

# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: <b>February 2004</b>																
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604215N, Standards Development	PROJECT NUMBER AND NAME W0572, Joint Services/Navy Standard Avionics Components and Subsystems																	
<b>(U) B. Accomplishments/Planned Program</b>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%; text-align: center;"><b>AMC&amp;D</b></td> <td style="width: 10%;"></td> <td style="width: 15%; text-align: center;">FY 03</td> <td style="width: 15%; text-align: center;">FY 04</td> <td style="width: 15%; text-align: center;">FY 05</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td></td> <td style="text-align: center;">22.778</td> <td style="text-align: center;">12.222</td> <td style="text-align: center;">8.749</td> </tr> <tr> <td>RDT&amp;E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <p style="margin-top: 10px;">Conducted PDR and CDR for 8 X10 display. Continued development and obtain production approval for Advanced Multi-Purpose Color Display (AMPCD) for AV-8B and F/A-18C/D. For F/A-18E/F system: completed DT-IIA-2; conducted OT-IIA-1 (OA); continued development of 8X10 display, Fibre Channel Network Switch (FCNS) and AMC; completed DT-IIA-3; conduct TECHEVAL and DT-IIA-4; conduct OPEVAL and Operational Test of Type 2 AMC; and achieve MS III. For AV-8B: completed DT-IIB-1 and DT-IIB-2 (TECHEVAL); continued development of AMC; began and completed OT-IIB (OPEVAL) and achieve MS III. Complete development of 8X10 display, FCNS and AMC.</p>					<b>AMC&amp;D</b>		FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost		22.778	12.222	8.749	RDT&E Articles Quantity				
<b>AMC&amp;D</b>		FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost		22.778	12.222	8.749															
RDT&E Articles Quantity																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%; text-align: center;"><b>JSRC</b></td> <td style="width: 10%;"></td> <td style="width: 15%; text-align: center;">FY 03</td> <td style="width: 15%; text-align: center;">FY 04</td> <td style="width: 15%; text-align: center;">FY 05</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td></td> <td style="text-align: center;">1.117</td> <td style="text-align: center;">1.005</td> <td style="text-align: center;">0.795</td> </tr> <tr> <td>RDT&amp;E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <p style="margin-top: 10px;">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.</p>					<b>JSRC</b>		FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost		1.117	1.005	0.795	RDT&E Articles Quantity				
<b>JSRC</b>		FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost		1.117	1.005	0.795															
RDT&E Articles Quantity																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%; text-align: center;"><b>TAWS</b></td> <td style="width: 10%;"></td> <td style="width: 15%; text-align: center;">FY 03</td> <td style="width: 15%; text-align: center;">FY 04</td> <td style="width: 15%; text-align: center;">FY 05</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td></td> <td style="text-align: center;">0.549</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> </tr> <tr> <td>RDT&amp;E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <p style="margin-top: 10px;">Safety: Completed DT and commenced OT of the Terrain Awareness Warning System (TAWS) for F/A-18 OFP 17C/18E. Evaluated data and test results from simulator and flight testing of industry based TAWS and sensors which supplement TAWS performance. Support fleet release of the TAWS for F/A-18 OFP 18E with fleet briefs and training. Monitor initial fleet acceptance of the TAWS for F/A-18 OFP 18E. Began development of program plans based on research of commercial based TAWS and sensors and applicability to other Navy platforms.</p>					<b>TAWS</b>		FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost		0.549	0.000	0.000	RDT&E Articles Quantity				
<b>TAWS</b>		FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost		0.549	0.000	0.000															
RDT&E Articles Quantity																			

R-1 SHOPPING LIST - Item No. 85

UNCLASSIFIED

**Exhibit R-3, Project Cost Analysis**  
(Exhibit R-3, page 27 of 46)

# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: <b>February 2004</b>																																														
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604215N, Standards Development	PROJECT NUMBER AND NAME W0572, Joint Services/Navy Standard Avionics Components and Subsystems																																															
<b>(U) B. Accomplishments/Planned Program</b>																																																	
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%; text-align: center;"><b>JMPS</b></td> <td style="width: 10%;"></td> <td style="width: 15%; text-align: center;">FY 03</td> <td style="width: 15%; text-align: center;">FY 04</td> <td style="width: 15%; text-align: center;">FY 05</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td></td> <td style="text-align: center;">0.853</td> <td style="text-align: center;">1.125</td> <td style="text-align: center;">0.000</td> </tr> <tr> <td>RDT&amp;E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Second software release of ARC-210 AFP as partially JMPS-integrated package utilizing JMPS common database input (and correcting Software Trouble Reports (STRs) from first release). Third software release for ARC-210 AFP as fully integrated JMPS software segment (with corrected STRs from previous release). Completed software coding and unit testing. Conducted SRR and developed software build of the TAMMAC Joint Mission Planning Systems (JMPS) Unique Planning component (UPC). Conducted functional , developmental and operational testing efforts for TAMMAC/JMPS Map planning capability. Resolved deficiencies from testing. Incorporated common requirements from the TAMMAC integration of the MH-60S and AV-8B platforms.</p> </div> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td style="width: 30%; text-align: center;"><b>CNS/ATM</b></td> <td style="width: 10%;"></td> <td style="width: 15%; text-align: center;">FY 03</td> <td style="width: 15%; text-align: center;">FY 04</td> <td style="width: 15%; text-align: center;">FY 05</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td></td> <td style="text-align: center;">4.346</td> <td style="text-align: center;">11.938</td> <td style="text-align: center;">13.435</td> </tr> <tr> <td>RDT&amp;E Articles Quantity</td> <td></td> <td style="text-align: center;">3</td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Continued CNS/ATM integration of Mode S and Required Navigation Performance (RNP)-4 functional integration and certification efforts into naval aircraft. Achieved MS III decision for Mode S. Perform naval aircraft platform functional integration for F/A-18E/F, KC-130J, MH-60S, MH-60R and E-2C in the areas of communications, navigation, surveillance, processing and displays. (Mode S, 8.33khz, FM Immunity, RNP/RNAV). Continue CNS/ATM requirements definition. RDT&amp;E articles in FY03 required for Mode S integration and test.</p> </div> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td style="width: 30%; text-align: center;"><b>VPF</b></td> <td style="width: 10%;"></td> <td style="width: 15%; text-align: center;">FY 03</td> <td style="width: 15%; text-align: center;">FY 04</td> <td style="width: 15%; text-align: center;">FY 05</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td></td> <td style="text-align: center;">0.846</td> <td style="text-align: center;">3.432</td> <td style="text-align: center;">2.362</td> </tr> <tr> <td>RDT&amp;E Articles Quantity</td> <td></td> <td></td> <td style="text-align: center;">1</td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Conducted Vector Product Format (VPF) integration study for TAMMAC. Perform VPF software and hardware integration into TAMMAC. Completed VPF Integration Systems Design Review (SDR). Award 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 unit will be procured to conduct T&amp;E of the VPF software in TAMMAC.</p> </div>					<b>JMPS</b>		FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost		0.853	1.125	0.000	RDT&E Articles Quantity					<b>CNS/ATM</b>		FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost		4.346	11.938	13.435	RDT&E Articles Quantity		3			<b>VPF</b>		FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost		0.846	3.432	2.362	RDT&E Articles Quantity			1	
<b>JMPS</b>		FY 03	FY 04	FY 05																																													
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R-1 SHOPPING LIST - Item No. 85

UNCLASSIFIED

**Exhibit R-3, Project Cost Analysis**  
(Exhibit R-3, page 28 of 46)

# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: <b>February 2004</b>																
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604215N, Standards Development	PROJECT NUMBER AND NAME W0572, Joint Services/Navy Standard Avionics Components and Subsystems																	
<b>(U) B. Accomplishments/Planned Program</b>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;">AWICS</th><th style="width: 15%;"></th><th style="width: 15%;">FY 03</th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td style="text-align: center;">0.679</td><td style="text-align: center;">2.137</td><td style="text-align: center;">0.750</td></tr><tr><td>RDT&amp;E Articles Quantity</td><td></td><td></td><td style="text-align: center;">15</td><td></td></tr></tbody></table>					AWICS		FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost		0.679	2.137	0.750	RDT&E Articles Quantity			15	
AWICS		FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost		0.679	2.137	0.750															
RDT&E Articles Quantity			15																
<div style="border: 1px solid black; padding: 5px; min-height: 60px;">Safety: Produced Phase III SBIR Sole Source contract. Achieved Milestone B for AWICS. Perform initial developmental testing on lead platform (H-53). Achieved Milestone C for AWICS. RDT&amp;E articles are used for environmental, integration, EMI, EMC, TEMPEST and flight testing.</div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;">JTRS</th><th style="width: 15%;"></th><th style="width: 15%;">FY 03</th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td style="text-align: center;">0.000</td><td style="text-align: center;">7.880</td><td style="text-align: center;">20.005</td></tr><tr><td>RDT&amp;E Articles Quantity</td><td></td><td></td><td style="text-align: center;">2</td><td style="text-align: center;">5</td></tr></tbody></table>					JTRS		FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost		0.000	7.880	20.005	RDT&E Articles Quantity			2	5
JTRS		FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost		0.000	7.880	20.005															
RDT&E Articles Quantity			2	5															
<div style="border: 1px solid black; padding: 5px; min-height: 60px;">Awarded integration contracts for the Joint Tactical Radio System (JTRS). Began aircraft integration analysis and planning for lead platforms. Begin development of mission, mission planning, and message processing software for JTRS. RDT&amp;E articles are Engineering Development Units for integration lab install and test aircraft installs.  JTRS is an Air Force lead program. The Navy is utilizing an Air Force contract vehicle for navy unique requirements and Navy vehicles for integration efforts on the lead platforms.</div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 30%; height: 20px;"></td><td style="width: 15%;"></td><td style="width: 15%;"></td><td style="width: 15%;"></td><td style="width: 15%;"></td></tr><tr><td style="height: 20px;"></td><td></td><td></td><td></td><td></td></tr><tr><td style="height: 20px;"></td><td></td><td></td><td></td><td></td></tr></table>																			
<div style="border: 1px solid black; height: 80px; width: 100%;"></div>																			

R-1 SHOPPING LIST - Item No. 85

UNCLASSIFIED

# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: <div style="text-align: right;"><b>February 2004</b></div>
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604215N, Standards Development	PROJECT NUMBER AND NAME W0572, Joint Services/Navy Standard Avionics Components and Subsystems

**(U) C. PROGRAM CHANGE SUMMARY:**

(U) Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:	32.323	42.821	46.855
Current BES/President's Budget	31.168	39.739	46.096
Total Adjustments	-1.155	-3.082	-0.759
Summary of Adjustments			
Congressional program reductions			
Congressional undistributed reductions		-0.082	
Congressional rescissions			
SBIR/STTR Transfer	-0.496		
Reprogrammings	-0.659	-5.600	-5.200
Other Adjustments		2.600	4.441
Congressional increases			
Subtotal	-1.155	-3.082	-0.759

(U) Schedule:

LPIA Milestone III decision changed from 2Q/03 to 4Q/03 due to required corrections of minor deficiencies identified in operational test. AMC&D MS III (AV-8B) changed from 3Q/03 to 3Q/04 as a result of OSCAR schedule changes. AMC&D AV-8B OPEVAL changed from 4Q/02 to 2Q/03 due to new OSCAR Test Plan. F/A-18E/F MS III changed from 2Q/04 to 3Q/04 due to the availability of the F/A-18E/F mission software. AMC&D F/A-18E/F OPEVAL changed from 2Q/03 to 3Q/03 to accommodate the availability of the F/A-18E/F mission software. AMC&D OT changed from 2Q/04 to 3Q/04 to align with the F/A-18E/F overarching test plan. CNS/ATM Mode S Milestone III decision changed from 2Q/03 to 4Q/03 due to additional test required by COMOPTEVFOR. JMPS corrected to reflect SRR in 2Q/03. JMPS DT changed from 2Q/03 to 4Q/03 due to delay in contract award at NAWC Pt. Mugu. JMPS OT changed from 1Q/04 to 3Q/04 due to slip in DT. VPF Contract award changed from 2Q/03 to 4Q/03 due to delay in defining SOW requirements, which slips all following development milestones. AWICS schedule reflects new acquisition strategy to utilize SBIR Phase III contract as approved May 03. AWICS scheduled changed due to the delay in receipt of Rapid Deployment Capability (RDC) . JTRS schedule reflects the new Navy Migration Plan approved Summer 03.

(U) Technical:

Not Applicable.

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## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: <b>February 2004</b>																						
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>		PROGRAM ELEMENT NUMBER AND NAME 0604215N, Standards Development			PROJECT NUMBER AND NAME W0572, Joint Services/Navy Standard Avionics Components and Subsystems																								
<p><b>(U) D. OTHER PROGRAM FUNDING SUMMARY:</b></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;">Line Item No. &amp; Name</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2003</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2004</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2005</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2006</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2007</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2008</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2009</th> <th style="text-align: center; border-bottom: 1px solid black;">To Complete</th> <th style="text-align: center; border-bottom: 1px solid black;">Total Cost</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">Common Avionics, APN</td> <td style="text-align: center; padding: 5px;">68.696</td> <td style="text-align: center; padding: 5px;">147.524</td> <td style="text-align: center; padding: 5px;">167.504</td> <td style="text-align: center; padding: 5px;">225.641</td> <td style="text-align: center; padding: 5px;">201.192</td> <td style="text-align: center; padding: 5px;">182.277</td> <td style="text-align: center; padding: 5px;">173.647</td> <td style="text-align: center; padding: 5px;">Continuing</td> <td style="text-align: center; padding: 5px;">Continuing</td> </tr> </tbody> </table> <p style="margin-top: 20px;"><b>(U) E. ACQUISITION STRATEGY: *</b></p> <p>Advanced Mission Computer &amp; Display (AMC&amp;D) is utilizing a Sole source to McDonnell Douglas Corp. (MDC), a wholly owned subsidiary of the Boeing Company, for prototype design using an 845 Other Transaction Agreement (OTA) and Cost Plus Contract for EMD and Fixed Price Incentive contract for LRIP. 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 Navy contracts for integration on forward-fit and retrofit platforms to provide CNS/ATM functionality. Joint Tactical Radio System (JTRS) is an Air Force lead program. The Navy is utilizing an Air Force contract vehicle for navy unique requirements and a Navy vehicle for integration efforts on the lead platforms. TAMMAC Vector Product Format (VPF) is utilizing a sole source to Harris Corporation, to incorporate the NIMA VPF data into the the existing TAMMAC FRP Hardware. Aircrew Wireless Internal Communication System (AWICS) is employing a sole source Phase III SBIR contract to procure a common system for use aboard multiple assault, logistics, Rotary Wing and Fixed Wing aircraft.</p>										Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost	Common Avionics, APN	68.696	147.524	167.504	225.641	201.192	182.277	173.647	Continuing	Continuing
Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost																				
Common Avionics, APN	68.696	147.524	167.504	225.641	201.192	182.277	173.647	Continuing	Continuing																				

R-1 SHOPPING LIST - Item No. 85

UNCLASSIFIED

# UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2004				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			0604215N, STANDARD DEVELOPMENT			W0572, Joint Services/Navy Standard Avionics Components and Subsystems						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Prime Hdw Develop, AMC&D OTA845	SS/845	Boeing, St. Louis, MO	54.516								54.516	54.516
Prime Hdw Develop, AMC&D EMD	SS/CP	Boeing, St. Louis, MO	113.571	16.614	11/02	8.890	11/03	7.398	11/04		146.473	146.473
Prime Hdw Develop, LPIA EMD	C/CS	BAE Systems, Wayne, NJ	7.264								7.264	7.264
Prime Hdw Develop, TAMMAC EMD	SS/CPIF	Boeing, St. Louis, MO	26.332								26.332	26.332
Prime Hdw Develop, CNS/ATM EMD	SS/BOA	Litton, Woodland Hills, CA	2.032								2.032	2.032
Prime Hdw Develop, CNS/ATM EMD	SS/CPIF	Rockwell, Cedar Rapids, IA	3.064								3.064	3.064
Prime Hdw Develop, CNS/ATM EMD	C/FPIF	BAE Systems, Greenlawn, NY	2.157								2.157	2.157
Prime Hdw Develop, MCAS EMD	SS/CPFF	BAE Systems, Greenlawn, NY	1.969								1.969	1.969
Prime Hdw Develop, VPF	SS/TBD	Harris, Melbourne, FL		0.413	12/02	2.837	12/03	0.671	12/04		3.921	3.921
Prime Hdw Develop, JTRS	TBD	TBD				3.596	12/03				3.596	
Primary Hardware Development	TBD	TBD		0.170	12/02	0.250	03/04	0.000	11/04		0.420	
Ancillary Hardware Development												
Training Development												
Aircraft/Ship Integration	WX	NAWCs		0.150	03/03	0.320	03/04	0.200	03/05	Continuing	Continuing	
Aircraft/Ship Integration, CNS/ATM	WX	NAWCs				9.278	04/04	9.647	04/05	Continuing	Continuing	
Aircraft/Ship Integration, JTRS	WX	NAWCs				3.276	03/04	19.059	11/04	Continuing	Continuing	
Ship Suitability												
Systems Engineering	WX	NAWCs		1.865	12/02	3.097	12/03	2.646	12/04	Continuing	Continuing	
Licenses												
Tooling												
GFE												
Award Fees												
Misc			62.527								62.527	
Subtotal Product Development			273.432	19.212		31.544		39.621		Continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 85

# UNCLASSIFIED

Exhibit R-2a, RDTE Project Justification  
(Exhibit R-2a, page 32 of 46)



**UNCLASSIFIED**

**Exhibit R-2a, RD TEN Project Justification**  
(Exhibit R-2a, page 33 of 46)

R-1 SHOPPING LIST - Item No. 85

# UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: <b>February 2004</b>			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME							
<b>RDT&amp;E, N / BA-5</b>			0604215N, STANDARD DEVELOPMENT			W0572, Joint Services/Navy Standard Avionics Components and Subsystems							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Developmental Test & Evaluation, AMC&D	WX	NAWCs	1.733	1.953	11/02	1.569	01/04	0.326	01/05	Continuing	Continuing		
Developmental Test & Evaluation, VPF	WX	NAWCs				0.299	01/04	1.216	01/05		1.515		
Developmental Test & Evaluation, AWICS	WX	NAWCs		0.045	06/03	0.887	03/04	0.050	02/05		0.982		
Operational Test & Evaluation	WX	NAWCs		1.695	11/02	0.086	01/04	0.450	01/05	Continuing	Continuing		
Live Fire Test & Evaluation													
Test Assets													
Tooling													
GFE													
Award Fees													
Misc			22.162								22.162		
Subtotal T&E			23.895	3.693		2.841		2.042		Continuing	Continuing		
Remarks:													
Contractor Engineering Support	WX	NAWCs		1.738	02/03	2.099	02/04	2.083	02/05	Continuing	Continuing		
Government Engineering Support	WX	NAWCs		1.332	12/02	0.764	12/03	0.583	12/04	Continuing	Continuing		
Program Management Support	WX	NAWCs		1.246	11/02	0.576	11/03	0.894	11/04	Continuing	Continuing		
Travel	WX	NAWCs		0.096	11/02	0.050	11/03	0.050	11/04	Continuing	Continuing		
Transportation													
SBIR Assessment											0.000		
Subtotal Management			0.000	4.412		3.489		3.610		Continuing	Continuing		
Remarks:													
Total Cost			318.813	31.168		39.739		46.096		Continuing	Continuing		
Remarks:													

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Exhibit R-3, Project Cost Analysis  
(Exhibit R-3, page 34 of 46)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:								
AMC&D																								February 2004								
APPROPRIATION/BUDGET ACTIVITY										PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME												
RDT&E, N / BA-5										0604215N, Standard Development										W0572, Joint Services/Navy Standard Avionics Components and Subsystems												
Fiscal Year	2002				2003				2004				2005				2006				2007				2008				2009			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones																																
Test & Evaluation Milestones																																
Development Test																																
Operational Test																																
Production Milestones																																
LRIP I FY02 (39)																																
LRIP II FY02 (48)																																
LRIP III FY03 (45)																																
FRP FY04																																
Deliveries																																

R-1 SHOPPING LIST - Item No. 85

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Exhibit R-3, Project Cost Analysis  
(Exhibit R-3, page 35 of 46)

**UNCLASSIFIED**

**CLASSIFICATION:**

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R-1 SHOPPING LIST - Item No.

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**UNCLASSIFIED**

**Exhibit R-3, Project Cost Analysis**  
(Exhibit R-3, page 36 of 46)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:											
JMPS																								February 2004											
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-5												0604215N, Standards Development												W0572, Joint Services/Navy Standard Avionics Components and Subsystems											
Fiscal Year	2002				2003				2004				2005				2006				2007				2008				2009						
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4							
Acquisition Milestones																																			
TAMMAC JUMPS UPC Development		SDR	FDR	CDR		SRR																													
		△	△	△		△																													
Test & Evaluation Milestones																																			
Development Test																																			
Operational Test																																			
Production Milestones																																			

**UNCLASSIFIED**

**CLASSIFICATION:**

[illegible]

R-1 SHOPPING LIST - Item No.

85

**UNCLASSIFIED**

### Exhibit R-4, Schedule Profile

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# UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE: February 2004											
CNS/ATM																																			
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-5												0604215N, Standards Development												W0572, Joint Services/Navy Standard Avionics Components and Subsystems											
Fiscal Year	2002				2003				2004				2005				2006				2007				2008				2009						
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4							
Acquisition Milestones																																			
Mode S					Production & Install △			MS III △																											
F/A-18E/F Integration									System Integration																										
													△	Lab Test					△	V & V															
MH-60S Integration									System Integration																										
													△	Lab Test					△	V & V															
MH-60R Integration									System Integration																										
													△	Lab Test					△	V & V															
KC-130J Integration													System Integration																						
																		△	Lab Test			△	V & V												
E-2C Integration													System Integration																						
																		△	Lab Test			△	V & V												
Production Milestones																																			
Platform Procurements																																			
Deliveries																																			

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UNCLASSIFIED

Exhibit R-4, Schedule Profile  
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**UNCLASSIFIED**

**CLASSIFICATION:**

[illegible]

R-1 SHOPPING LIST - Item No.

85

**UNCLASSIFIED**

**Exhibit R-4, Schedule Profile**  
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# UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE: February 2004								
APPROPRIATION/BUDGET ACTIVITY										PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME												
RDT&E, N / BA-5										0604215N, Standards Development										W0572, Joint Services/Navy Standard Avionics Components and Subsystems												
Fiscal Year	2002				2003				2004				2005				2006				2007				2008				2009			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																																
VPF Integration Study																																
Contract Award																																
Vector Product Development																																
Software VPF S/W to H/W Integration																																
Test & Evaluation Milestones																																
Development Test																																
Operational Test																																
Production Milestones																																

R-1 SHOPPING LIST - Item No. 85

UNCLASSIFIED

Exhibit R-4, Schedule Profile  
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**UNCLASSIFIED**

**CLASSIFICATION:**

[illegible]

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85

**UNCLASSIFIED**

### Exhibit R-4, Schedule Profile

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE: February 2004								
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME								
RDT&E, N / BA-5												0604215N, Standards Development												W0572, Joint Services/Navy Standard Avionics Components and Subsystems								
Fiscal Year	2002				2003				2004				2005				2006				2007				2008				2009			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones							ADR △					MSC △																				
Contract Award											SBIR PHASE III △					LRIP I △																
Test & Evaluation Milestones																																
Developmental Test																																
OT Readiness Review																																
H53 Operational Test																																
Production Milestones																																
DT-B1																																
DT-B2																																
LRIP 1 FY04																																
Procurements																																
Deliveries																																

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**UNCLASSIFIED**

**CLASSIFICATION:**

[illegible]

R-1 SHOPPING LIST - Item No.

85

**UNCLASSIFIED**

**Exhibit R-4, Schedule Profile**  
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UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE: February 2004											
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-5												0604215N, Standards Development												W0572, Joint Services/Navy Standard Avionics Components and Subsystems											
Fiscal Year	2002				2003				2004				2005				2006				2007				2008				2009						
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
Navy Unique JTRS Sys Design & Dev																																			
Navy Milestone - Leads																																			
E-2 AHE Req Definition/Integration																																			
Hardware																																			
Test & Evaluation																																			
AV-8B Req Definition/Integration																																			
Hardware																																			
Test & Evaluation																																			
MH-60 Req Definition/Integration																																			
Hardware																																			
Test & Evaluation																																			
Production Milestones																																			

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Exhibit R-4, Schedule Profile  
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**UNCLASSIFIED**

**CLASSIFICATION:**

[illegible]

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**Exhibit R-4, Schedule Profile**  
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