DEPARTMENT OF THE NAVY
FISCAL YEAR (FY) 2005
BUDGET ESTIMATES

JUSTIFICATION OF ESTIMATES
FEBRUARY 2004

RESEARCH, DEVELOPMENT, TEST & EVALUATION, NAVY
BUDGET ACTIVITY 5

DEPARTMENT OF THE NAVY
FY 2005 RDT&E PROGRAM

EXHIBIT R-1

APPROPRIATION: 1319N Research, Development, Test & Eval, Navy

Date: February 2004

Line No	Program Element Number	Item	Act	Thousands of Dollars FY 2003	FY 2004	FY 2005	SEC
83	0604212N	Other Helo Development	5	59,490	67,999	186,970	U
84	0604214N	AV-8B Aircraft - Eng Dev	5	17,712	8,630	12,284	U
85	0604215N	Standards Development	5	42,007	49,867	57,675	U
86	0604216N	Multi-Mission Helicopter Upgrade Development	5	89,943	76,141	78,757	U
87	0604217N	S-3 Weapon System Improvement	5	398			U
88	0604218N	Air/Ocean Equipment Engineering	5	7,332	3,041	4,506	U
89	0604221N	P-3 Modernization Program	5	887	14,593	9,554	U
90	0604230N	Warfare Support System	5		1,976	5,201	U
91	0604231N	Tactical Command System	5	68,220	65,443	49,180	U
92	0604234N	Advanced Hawkeye	5	107,043	343,306	597,015	U
93	0604245N	H-1 Upgrades	5	232,229	90,965	90,389	U
94	0604261N	Acoustic Search Sensors	5	13,311	16,940	13,363	U
95	0604262N	V-22A	5	387,421	402,483	304,164	U
96	0604264N	Air Crew Systems Development	5	7,354	16,183	8,838	U
97	0604269N	EA-18	5			357,502	U
98	0604270N	Electronic Warfare Development	5	88,509	275,422	48,956	U
99	0604273N	VHXX Executive Helo Development	5		195,233	777,398	U
100	0604280N	Joint Tactical Radio System - Navy (JTRS-Navy)	5	19,231	88,601	78,624	U
101	0604300N	SC-21 Total Ship System Engineering	5	668,472	1,052,273	1,431,585	U
102	0604307N	Surface Combatant Combat System Engineering	5	331,213	213,470	146,463	U
103	0604311N	LPD-17 Class Systems Integration	5	9,621	8,888	8,988	U

DEPARTMENT OF THE NAVY
FY 2005 RDT&E PROGRAM EXHIBIT R-1

APPROPRIATION: 1319N Research, Development, Test & Eval, Navy Date: February 2004

Line No	Program Element Number	Item	Act	Thousands of Dollars FY 2003	FY 2004	FY 2005	SEC
104	0604312N	Tri-Service Standoff Attack Missile	5	16,146	20,901	27,047	U
105	0604329N	Small Diameter Bomb (SDB)	5	100		9,961	U
106	0604366N	Standard Missile Improvements	5	24,244	81,014	99,022	U
107	0604373N	Airborne MCM	5	73,600	90,981	50,514	U
108	0604503N	SSN-688 and Trident Modernization	5	120,050	76,997	75,359	U
109	0604504N	Air Control	5	5,904	10,355	13,102	U
110	0604507N	Enhanced Modular Signal Processor	5	501	994	1,075	U
111	0604512N	Shipboard Aviation Systems	5	24,311	23,586	28,631	U
112	0604518N	Combat Information Center Conversion	5		13,093	8,228	U
113	0604558N	New Design SSN	5	234,592	144,576	143,270	U
114	0604561N	SSN-21 Developments	5	15,957	23,827	3,020	U
115	0604562N	Submarine Tactical Warfare System	5	24,445	32,354	43,404	U
116	0604567N	Ship Contract Design/ Live Fire T&E	5	196,697	134,061	130,908	U
117	0604574N	Navy Tactical Computer Resources	5	15,377	12,521	2,381	U
118	0604601N	Mine Development	5	1,455	1,480	6,123	U
119	0604603N	Unguided Conventional Air-Launched Weapons	5	13,415	12,065		U
120	0604610N	Lightweight Torpedo Development	5	18,745	6,173	9,965	U
121	0604618N	Joint Direct Attack Munition	5	46,904			U
122	0604654N	Joint Service Explosive Ordnance Development	5	7,295	8,046	8,081	U
123	0604703N	Personnel, Training, Simulation, and Human Factors	5	1,383	1,919	3,005	U

DEPARTMENT OF THE NAVY
FY 2005 RDT&E PROGRAM

EXHIBIT R-1

APPROPRIATION: 1319N Research, Development, Test & Eval, Navy

Date: February 2004

Line No	Program Element Number	Item	Act	Thousands of Dollars FY 2003	FY 2004	FY 2005	SEC
124	0604710N	Navy Energy Program	5	6,641			U
125	0604721N	Battle Group Passive Horizon Extension System	5	16,849	16,743	17,981	U
126	0604727N	Joint Standoff Weapon Systems	5	16,685	4,969	9,531	U
127	0604755N	Ship Self Defense (Detect & Control)	5	60,138	42,237	48,154	U
128	0604756N	Ship Self Defense (Engage: Hard Kill)	5	26,120	24,300	51,213	U
129	0604757N	Ship Self Defense (Engage: Soft Kill/EW)	5	42,818	53,506	28,233	U
130	0604771N	Medical Development	5	65,421	66,788	6,942	U
131	0604777N	Navigation/ID System	5	45,080	45,168	28,104	U
132	0604784N	Distributed Surveillance System	5	37,591	32,907	7,776	U
133	0604800N	Joint Strike Fighter (JSF)	5	1,661,509	2,159,197	2,264,507	U
134	0604910N	Smart Card	5	623	546	695	U
135	0605013M	Information Technology Development	5	18,060	10,063	9,301	U
136	0605013N	Information Technology Development	5	69,827	65,622	109,543	U
137	0605014N	Defense Integrated Military Human Resources System (DIMHRS) - RDT&E	5	51,788	75,441		U
138	0605500N	Multi-mission Maritime Aircraft (MMA)	5	65,615	71,413	496,029	U
139	0508713N	Navy Standard Integrated Personnel System (NSIPS)	5	8,553	4,600		U
		TOTAL System Development & Demonstration		5,184,832	6,359,897	8,008,517	

Fiscal Year 2005 Budget Estimates
Budget Appendix Extract Language

RESEARCH, DEVELOPMENT, TEST & EVALUATION, NAVY (RDTEN)

For expenses necessary for basic and applied scientific research, development, test and evaluation, including maintenance, rehabilitation, lease, and operation of facilities and equipment, **[**$15,146,383,000**]** *$16,346,391,000*, to remain available for obligation until September 30, **[**2005**]** *2006*: *Provided*, That funds appropriated in this paragraph which are available for the V–22 may be used to meet unique operational requirements of the Special Operations Forces: *Provided further*, That funds appropriated in this paragraph shall be available for the Cobra Judy program. *(10 U.S.C. 174, 2352–54, 7522; Department of Defense Appropriations Act, 2004.)*

[For an additional amount for ''Research, Development, Test and Evaluation, Navy'', $34,000,000, to remain available until September 30, 2005.**]** *(Emergency Supplemental Appropriations Act for Defense and for the Reconstruction of Iraq and Afghanistan, 2004.)*

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 0604212N ASW & OTHER HELO DEVELOPMENT			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost		*** **32.537**	**67.999**	**** **186.919**	**** **333.511**	**342.514**	**152.230**	**83.767**
H1109 CH/MH-53		**2.794**	**2.768**	**2.421**	**2.454**	**2.495**	**2.546**	**2.596**
H2415 MH-60S DEVELOPMENT		* **24.390**	** **60.433**	**81.231**	**34.338**	**8.156**	**3.838**	**3.997**
H2463 LAMPS MKIII DATA LINK		**0.200**						
H3058 VHXX REPLACEMENT		***						
H3059 CH-53E SLEP		***** **2.832**	**4.798**	**103.267**	**296.719**	**331.863**	**145.846**	**77.174**
H3060 Integrated Mechanical Diagnostics System (IMDS)								
H9055 SH-60 Laser Aim Scoring System (LASS)		**0.953**						
H9056 High Tech Training in Support of DoD Legacy		**1.368**						

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

*****The FY 2003 budget reflects a $1.2M Congressional add for Advance Cable Design which has been reduced by $0.027 million for Congressional Rescission and $.031 SBIR assesmentand will be executed under H9213.
** The FY 2004 budget reflects a $2.0M Congressional add for Advance Cable Design which has been reduced by $0.022 million for Congressional Rescission and will be executed under H9366 and H9367
***Total does not include $26.9M for PE 0604212N Project number H3058, VHXX Replacement (FY 2003, FY 2005, FY 2006) which has been included in PE 0604273N, Executive Helo Development Project number H3058.
****Due to a technical adjustment $51K in FY05 and $12K in FY06 funds for PE 0604273N, Executive Helo Development Project number H3058 remain in PE 0604273N, Executive Helo Development Project number H3058.
*****Due to low expenditures in project H3059, $3.7M in FY 03 funds were used to forward finance FY 04 requirements.

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

H1109 - The H-53E helicopter is the premier heavy lift helicopter for the Marine Corps and the only operational airborne mine sweeping platform for the Navy. From FY-2002 to FY-2009, H-53E efforts will continue to develop and qualify components, prior to production approval decisions, in order to replace obsolete system components. Emphasis will be placed on incorporating supportability improvement modifications in conjunction with the H-53E Service Life Extension/Modernization program. These efforts combined, will significantly improve the readiness of the H-53E fleet while reducing long term operational and supportability costs. RDT&E efforts will also focus on trade studies and risk reduction measures for the CH-53E Service Life Extension/Modernization Program, including but not limited to, studies and risk reduction efforts to identify candidate survivability, avionics, cargo handling, cockpit and other airframe specific improvements to extend the service life to 2025. Modeling and simulation will be used to the maximum practical extent throughout this effort. Manned Flight Simulator (MFS) will be utilized to develop, install and test interim modifications to existing H-53E legacy avionics, while maintaining the original basic system footprint and functionality. As a part of this effort, a complete electromagnetic vulnerability (EMV) assessment will be required for the affected and/or modified systems.

CLASSIFICATION:

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 0604212N ASW & OTHER HELO DEVELOPMENT				
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

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

H2415 - The mission of Helicopter Combat Support (HC) is to maintain forward deployed fleet sustainability through rapid airborne delivery of materials and personnel and to support amphibious operations through search and rescue coverage. The primary roles of the aircraft are to conduct vertical replenishment (VERTREP), day/night ship-to-ship, ship-to-shore, and shore-to-ship external transfer of cargo, internal transport of passengers and cargo, vertical on board delivery (VOD); airhead operations, and day/night search and rescue (SAR), Organic Airborne Mine Countermeasures (OAMCM) and Armed Helo. The MH-60S ORD was modified in May 2000 to add Organic Airborne Mine Countermeasures (OAMCM) as a primary mission, which provides Carrier Battle Groups (CVBGs) and Amphibious Readiness Groups (ARGs) an OAMCM capability. The Armed Helo will provide Combat Search and Rescue, Anti Surface Warfare (SUW) and Force Protection to include Link 16. The aircraft secondary roles include torpedo and drone recovery, noncombatant evacuation operations (NEO), Sea Air Land (SEAL) and Explosive Ordnance Disposal (EOD) support.

H2463 - The Light Airborne Multi-Purpose System (LAMPS) MK III helicopter is deployed on Ticonderoga Class cruisers, Oliver Hazard Perry Class frigates, Arleigh Burke Class Destroyer and Spruance Class destroyers. LAMPS provides an all-weather capability for detection, classification, and localization of ships and submarines and is an integrated ship-to-helicopter, computer-to-computer weapon system designed to increase the effectiveness of the surface combatant in the performance of its mission. Currently the LAMPS helicopter is tied to its host surface ship via a C-Band bi-directional data link. This data link transfers FLIR, radar, Electronic Support Measures (ESM), Identification Friend or Foe (IFF), voice, tactical symbology, and acoustic information between the helicopter and ship making the helicopter an extension of the ships sensors and increasing the sensor horizon of the ship. The recent introduction of Cooperative Engagement Capability (CEC) into the fleet has created an Electro Magnetic Interference (EMI) problem because it operates within the same C-Band frequency spectrum as the data link. In some CEC operating modes, it completely masks the LAMPS data link resulting in loss of information exchange between the ship and helicopter. To resolve this EMI issue, the LAMPS data link is being moved from the C-Band frequency to the KU-Band. Funding supports development and delivery of 5 air and 4 surface test articles.

CLASSIFICATION:

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 0604212N ASW & Other Helo Development

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: (Cont'd)
H3059 - The CH-53E is the Marine Corps only heavy lift helicopter for transport of troops, heavy weapons and equipment and support of combat assault operations, tactical retrieval and recovery operations. The CH-53E is unable to support the current Marine Corps Aviation Implementation Plan that calls for assault support and heavy lift through the year 2025 and the capability to lift large, mission representative, external and internal loads to complement the range and speed of the MV-22. The modernized CH-53E, which will be developed through this program, will have the capability required to execute our national military strategy through the year 2025. FY03-FY05 RDT&E efforts will focus on trade studies for the CH-53E Service Life Extension/Modernization Program including identification of candidate improvements, risk reduction measures, survivability engineering studies, engine selection, Developmental and Operational Test requirements definition, Business Case Analyses (BCAs) to refine and support the acquisition plan, cost model refinement and development of acquisition documentation.

H9055- The Laser Aim Scoring System (LASS) provides real-time, quantitative feedback on critical aspects of laser guided weapon employment not currently available from existing Navy laser scoring systems. This feedback has been proven to significantly improve flight crew weapon delivery capabilities during nearly a decade of use by the U.S. Army. The system consists of three major components: A Base Station, Target Kit and Aircrraft Flight Data Unit. LASS will be adapted to existing Navy seaborne target to support Navy H-60 armed helicopter training and readiness events requiring laser scoring capability.

H9056-The non-availability of replacement parts is quickly becoming the number one reason for severly reduced readiness of our weapon systems. Many of the sub-tier OEM suppliers no longer exist or are unable to respond to our requests for quotes. Sometimes organic depots locally manufacture parts, one at a time, using manual processes and tooling. Congressional funding for FY02 establishes a NAVAIR program that will feature an advanced center for laser data acquisition and reverse engineering that leverages an existing solid model creation capability. This combined capability creates manufacturing ready technical data that can be offered to multiple approved sources for rapid manufacturing of obsolete components, at significantly reduced costs. This funding develops an organic NAVAIR-owned and managed capability (equipment and personnel) to reverse engineer weapon system parts into manufacturing-ready digital technical data packages (D-TDP), suitable for low-cost, high-precision manufacturing.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604212N ASW & OTHER HELO DEVELOPMENT				PROJECT NUMBER AND NAME H1109 CH/MH-53			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**2.794**	**2.768**	**2.421**	**2.454**	**2.495**	**2.546**	**2.596**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The H-53E helicopter is the premier heavy lift helicopter for the Marine Corps and the only operational airborne mine sweeping platform for the Navy. From FY-2002 to FY-2009, H-53E efforts will continue to develop and qualify components, prior to production approval decisions, in order to replace obsolete system components. Emphasis will be placed on incorporating supportability improvement modifications in conjunction with the H-53E Service Life Extension/Modernization program. These efforts combined, will significantly improve the readiness of the H-53E fleet within the Navy and Marine Corps while reducing long term operational and supportability costs. RDT&E efforts will also focus on trade studies and risk reduction measures for the CH-53E Service Life Extension/Modernization Program, including but not limited to, studies and risk reduction efforts to identify candidate survivability, avionics, cargo handling, cockpit and other airframe specific improvements to extend the service life to 2025. Modeling and simulation will be used to the maximum practical extent throughout this effort. Manned Flight Simulator (MFS) will be utilized to develop, install and test interim modifications to existing H-53E legacy avionics, while maintaining the original basic system footprint and functionality. As a part of this effort, a complete electromagnetic vulnerability (EMV) assessment will be required for the affected and/or modified systems.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604212N ASW & OTHER HELO DEVELOPMENT	H1109 CH/MH-53

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		1.667	0.723	0.000
RDT&E Articles Quantity				

Conduct cockpit architecture design to address communication deficiencies, bread board testing, information display shortfalls, navigation upgrades/modifications and obsolescence issues.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.000	0.000	0.000
RDT&E Articles Quantity				

Conducted Armor Threat Assessment and Armor Selection Test on aircraft.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.250	0.000	0.000
RDT&E Articles Quantity				

Conduct Aircraft Cockpit Survivability and System Assessment. Model and test survivability design effectiveness.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604212N ASW & OTHER HELO DEVELOPMENT	H1109 CH/MH-53

B. Accomplishments/Planned Program (Cont.)

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.577	0.710	0.475
RDT&E Articles Quantity				

Design, model ,and test effectiveness of ballistic vulnerability (armor) package.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.000	0.896	1.712
RDT&E Articles Quantity				

Evaluate, test and analyze recommended improvements to the legacy T-64 engine and related systems.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.150	0.000	0.000
RDT&E Articles Quantity				

Integrate software applique for cockpit and avionics improvements, to include the development of new sensors and the impact on flight control computers.

R-1 SHOPPING LIST - Item No. 83

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604212N ASW & OTHER HELO DEVELOPMENT	H1109 CH/MH-53

B. Accomplishments/Planned Program (Cont.)

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.000	0.289	0.234
RDT&E Articles Quantity				

Conduct Business Case Analyses to determine impact of high Operation and support (O&S) cost drivers and address alternatives for obsolescence issues.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.150	0.000	0.000
RDT&E Articles Quantity				

Select and test antenna and other electronic components.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.000	0.150	0.000
RDT&E Articles Quantity				

Update CH-53E baseline vulnerability assessment (last full assessment was in 1979)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604212N ASW & OTHER HELO DEVELOPMENT	H1109 CH/MH-53

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:	2.846	2.799	2.423
Current BES/President's Budget	2.794	2.768	2.421
Total Adjustments	-0.052	-0.031	-0.002
Summary of Adjustments			
Congressional program reductions			
Congressional undistributed reductions		-0.031	
Congressional rescissions			
SBIR/STTR Transfer	0.000		
Economic Assumptions			-0.001
Reprogrammings	-0.052		
Other Navy/OSD adjustments			
Congressional increases			
Reprioritization			-0.001
Subtotal	-0.052	-0.031	-0.002

Schedule:

Not Applicable

Technical:

Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA-5	0604212N ASW & OTHER HELO DEVELOPMENT	H1109 CH/MH-53	

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
N/A									

E. ACQUISITION STRATEGY:

This is a non-ACAT program with no specific acquisition strategies.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604212N ASW & OTHER HELO DEVELOPMENT				PROJECT NUMBER AND NAME H1109 CH/MH-53						
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	Various	Raytheon	0.702	0.395	Various						1.097	1.097
Ancillary Hardware Development	Various	Various	0.888	0.163	Various	0.233	Various			Continuing	Continuing	
Aircraft Integration	Various	NAWCAD Pax River, MD				0.311	Various			Continuing	Continuing	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	Various	NAWCAD Pax River, MD						0.572	Various	Continuing	Continuing	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			1.590	0.558		0.544		0.572		Continuing	Continuing	
Remarks:												
Development Support	Various	NAWCAD Pax River, MD		0.406	Various					Continuing	Continuing	
Software Development	Various	Various		0.327	Various					Continuing	Continuing	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data	Various	Various				0.194	Various			Continuing	Continuing	
Studies & Analyses	Various	Various	0.869	0.550	Various	1.335	Various	0.259	Various	Continuing	Continuing	
GFE	Various	NAWCAD Pax River, MD		0.125	Various					Continuing	Continuing	
Award Fees											0.000	
Subtotal Support			0.869	1.408		1.529		0.259		Continuing	Continuing	
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604212N ASW & OTHER HELO DEVELOPMENT				PROJECT NUMBER AND NAME H1109 CH/MH-53						
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	Various	Various	1.054	0.420	Various	0.219	Various	0.577	Various	Continuing	Continuing	
Operational Test & Evaluation	WX	COMOPTEVFOR		0.130								
Live Fire Test & Evaluation	Various	NAWCWD China Lake, CA						0.477	Various	Continuing	Continuing	
Test Assets												
Tooling												
GFE												
Award Fees												
Subtotal T&E			1.054	0.550		0.219		1.054		Continuing	Continuing	
Remarks:												
Contractor Engineering Support												
Government Engineering Support	Various	NAWCAD Pax River, MD		0.180	Various					Continuing	Continuing	
Program Management Support	Various	Various				0.380	Various	0.400	Various	Continuing	Continuing	
Travel	WX	NAWCAD Pax River, MD	0.512	0.098	11/02	0.096	11/03	0.136	11/04	Continuing	Continuing	
Transportation												
SBIR Assessment												
Subtotal Management			0.512	0.278		0.476		0.536		Continuing	Continuing	
Remarks:												
Total Cost			4.025	2.794		2.768		2.421		Continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 83

CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **February 2004**

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

PROGRAM ELEMENT NUMBER AND NAME: 0604212N ASW & OTHER HELO DEVELOPMENT

PROJECT NUMBER AND NAME: H1109 CH/MH-53

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
Program Milestones																																
Engineering Milestones																																
External Cargo Handling System Design																																
Aircraft Survivability Assmt																																
Armor Threat Assessment & Selection Test																																
Cockpit & A/C System Assessment																																
Other A/C Cockpit Integration Cadidates																																
Design Armor Package																																
Cockpit Upgrade Architecture Selection																																
Baseline Vulnerability Study																																
Hydraulic & Electric Actuator Assessment																																
Fuel Sponson Ballistic Vulnerability Assessment																																
Obsolesence Issues/Studies																																
Survivability Analysis																																
Legacy P3I Efforts																																
T&E Milestones	Armor Selection Test				Survivability Design Test / Cockpit Design Test / Cockpit/Avionics SW Int. / Antennae/AMP/Modem Test				△ Tech Data Study Contract Award							△ Complete Initial Phase - Live-Fire Vulnerability Test																			

R-1 SHOPPING LIST - Item No. 83

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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT 0604212N ASW & OTHER HELO DEVELOPMENT				PROJECT NUMBER AND NAME H1109 CH/MH-53			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Aircraft Survivability Assessment								
Armor Threat Assessment & Selection Test								
Cockpit & A/C System Assessment								
Design Armor Package		1Q-4Q						
Cockpit Upgrade Architecture Selection		1Q-4Q	1Q-3Q					
Tech Data Study Contract Award			2Q					
Baseline Vulnerability Study		2Q-4Q	1Q-4Q					
Hydraulic & Electric Actuator Assessment			1Q-4Q	1Q-4Q				
Fuel Sponson Ballistic Vulnerability Assessment				1Q-4Q				
Initial Phase Live Fire Vulnerability Test				4Q				
Obsolesence Issues/Studies					1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Survivability Analysis					1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Legacy P3I Efforts					1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q

R-1 SHOPPING LIST - Item No. 83

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604212N ASW & Other Helo Development				PROJECT NUMBER AND NAME H2415 MH-60S Development			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**24.390***	**60.433****	**81.231**	**34.338**	**8.156**	**3.838**	**3.997**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Helicopter Combat Support (HC) mission is to maintain forward deployed fleet sustainability through rapid airborne delivery of materials and personnel and to support amphibious operations through search and rescue coverage. The primary roles of the aircraft are to conduct vertical replenishment (VERTREP), day/night ship-to-ship, ship-to-shore, and shore-to-ship external transfer of cargo; internal transport of passengers, mail and cargo, vertical on board delivery (VOD); airhead operations, and day/night search and rescue (SAR) , Organic Airborne Mine Countermeasures (OAMCM) and Armed Helo. The MH-60S ORD was modified in May 2000 to add Organic Airborne Mine Countermeasures (OAMCM) as a primary mission for the MH-60S. The AMCM mission will provide Carrier Battle Groups (CVBGs) and Amphibious Readiness Groups (ARGs) with an OAMCM capability. The Armed Helo will provide Combat Search and Rescue, Anti Surface Warfare (SUW) and Force Protection to include Link 16. The aircraft secondary roles include torpedo and drone recovery, noncombatant evacuation operations (NEO), Sea Air Land (SEAL) and Explosive Ordnance Disposal (EOD) support.

*The FY 2003 budget reflects a $1.2M Congressional add for Advance Cable Design which has been reduced by $0.027 million for Congressional Rescission and $.031 SBIR assesment and will be executed under H9213.

The FY 2004 budget reflects a $2.0M Congressional add for Advance Cable Design which has been reduced by $0.022 million for Congressional Rescission and will be executed under H9366 and H9367.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604212N ASW & Other Helo Development	H2415 MH-60S Development

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		13.737	27.267	36.412
RDT&E Articles Quantity				

The design, development, integration and support of the AMCM unique items into the MH-60S airframe. Designed, developed, integrated and supported the interoperability of Automatic Flight Control System (AFCS) (Completed in FY02). T&E on AMCM Mission Kits as each weapon system is introduced to the MH-60S. AMCM Training systems engineering and development; including training situation analysis, and instructional system development (ISD) documentation. Live Fire Test and Evaluation for the MH-60S program. Navy field activity systems engineering, program management support and travel. Design, develop, integrate and support the Link 16 development (FY04 - cont.). Integrate Link16 training situation analysis, instructional system development (ISD) document (FY05 - cont.). RTOC inititatives: Improved organizational level oil analysis technology, replacement of flight control self retaining bolts (FY04), and weight reduction (FY04-FY05).

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		7.443	31.188	44.819
RDT&E Articles Quantity				

Developmental efforts on the avionics architecture and systems of the MH-60S helicopter. Development of the consoles, as well as software modifications, to support AMCM sensors and palletized system. Navy field activity systems engineering and test support, program management, and travel. Continue AMCM Training systems engineering and development; including training situation analysis, and instructional system development (ISD) documentation. AMCM sensor systems test and evaluation support (FY03 - continuing). Engineering and integration effort to incorporate AMCM requirements into the aircraft and ship C4I structure (FY04 - cont.). Design, develop, integrate and support the Link 16 development (FY04- cont.). Integrate Link16 training situation analysis, instructional system development (ISD) document (FY05 - cont.).

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.968		
RDT&E Articles Quantity				

Development of Carriage, Stream, Tow, & Recovery System (CSTRS) prototypes. Engineering analysis and trade studies to define unique requirements for all five AMCM sensors. Navy field activity systems engineering and test support, program management, and travel.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604216N Multi-Mission Helicopter Upgrade Developme	H2415 MH-60S Development

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		1.100	0.000	0.000
RDT&E Articles Quantity				

Design, develop, integrate and support the Advance Concept Technology Demonstration (ACTD) .

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		1.142	1.978	0.000
RDT&E Articles Quantity				

Design, develop, integrate,testing and support the Advanced Cable Design for the MH-60S.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604212N ASW & Other Helo Development	H2415 MH-60S Development

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:	23.884	59.113	81.711
Current President's Budget:	24.390	60.433	81.231
Total Adjustments	0.506	1.320	-0.480
Summary of Adjustments			
Congressional program reductions		-0.680	
Congressional undistributed reductions			
Congressional rescissions			
SBIR/STTR Transfer	-0.370		
Economic Assumtions			-0.225
Reprogrammings			
Congressional increases		2.000	
Reprioritization	0.876		-0.255
Subtotal	0.506	1.320	-0.480

Schedule:

Block 2A test articles and testing have been rescheduled due to delays in modifications and delivery of the test aircraft. Block 2A Initial Production deliveries updated to reflect the revised production schedule for Common Console and weight reduced CSTRS. Block 2A Full Rate Production events have been updated based on revised completion date for Operational Testing (OT-IIC). Block 2B system development and testing adjusted to more accurately reflect revised contract award date and availability of sensors for integration. The Block 3B scheduled IPR 1 date moved from early first quarter 04 to late first quarter 04 due to refinement of the original, long-term plan. Development and test milestones were adjusted to accommodate the shift for the IPR.

Technical:

Not applicable.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604212N ASW & Other Helo Development	H2415 MH-60S Development

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
017900 APN-1 MH-60S	352.503	408.454	400.754	591.412	681.589	657.703	876.597	357.010	
AMCM (Included in numbers above)									
060510 APN-6 MH-60S	13.571	17.697	18.638	35.717	8.907	3.586	12.393	0.000	

E. ACQUISITION STRATEGY:

Airborne Mine Countermeasures (AMCM) and Armed Helo are elements of the existing MH-60S ACAT IC Program. MH-60S will employ an evolutionary acquisition approach via the MH-60S Block Upgrade. This allows for future modification for systems still in early development. The block upgrades will maximize commonality across all MH-60S missions and all AMCM/Armed Helo weapon systems, including logistics, training and maintenance. The MH-60S block upgrade are as follows.

- Block 1 - Combat Support Helicopter
- Block 2- Airborne Mine Countermeasures
-Block 3 - Armed Helo

F. MAJOR PERFORMERS:

R-1 SHOPPING LIST - Item No. 83

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604212N ASW & Other Helo Development				PROJECT NUMBER AND NAME H2415 MH-60S 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
Primary Hardware Dev, Airframe	SS/CPAF	Sikorsky, Stratford, CT	46.666	9.728	Various	18.110	Various	20.201	Various	7.072	101.777	101.777
Primary Hardware Dev, Avionics	SS/CPAF	Lockheed Martin, Owego, NY	57.867	3.435	Various	22.028	Various	28.606	Various	21.940	133.876	133.876
Primary Hardware Dev, CSTRS	SS/CPFF	CTC, Johnstown, PA	30.507	0.968	Various						31.475	31.475
Training Development	Various	NAWCAD &NAWC-TSD	1.162	0.240	Various	0.733	02/04	1.700	Various	1.800	5.635	
Aircraft Integration											0.000	
Ship integration											0.000	
Systems Engineering	SS/CPAF	Cortland Cable, NY		1.142	08/03	1.978	06/04				3.120	3.120
TCDL	TBD	TBD						8.800	Various	1.500	10.300	
GFE	TBD	TBD				1.300	02/04				1.300	
Award fees	SS/CPAF	Sikorsky & Lockheed Martin	1.815			1.900	Various	3.600	Various	1.600	8.915	8.915
ACTD	MIPR	Bolling AFB		1.100	Various						1.100	
Subtotal Product Development			138.017	16.613		46.049		62.907		33.912	297.498	
Remarks:												
Development Support											0.000	
Software Development, Airframe											0.000	
Software Development, Avionics											0.000	
Integrated Logistics Support	Various	Various	3.982	0.808	12/02	3.071	12/03	4.712	Various	Continuing	Continuing	
Configuration Managemnet											0.000	
Technical Data	Various	Various								0.100	0.100	
Studies & Analysis	Various	NAWCAD	2.674								2.674	
GFE											0.000	
Subtotal Support			6.656	0.808		3.071		4.712		Continuing	Continuing	
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604212N ASW & Other Helo Development				PROJECT NUMBER AND NAME H2415 MH-60S 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	WX	NRWATS, NAWCAD & NSW	9.624	2.143	Various	3.311	12/03	1.910	Various	4.144	21.132	
Operational Test & Evaluation	WX	NAWCAD & NRWATS	1.552					2.946	Various	1.000	5.498	
Live Fire Test & Evaluation	WX	NAWCAD & China Lake	1.138	0.464	Various	0.946	02/04	0.855	Various		3.403	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			12.314	2.607		4.257		5.711		5.144	30.033	
Remarks:												
Contractor Engineering Support	Various	Various	4.671	0.275	01/03	0.525	Various	0.300	Various	Continuing	Continuing	
Government Engineering Support	Various	Various	16.293	2.176	01/03	4.890	Various	5.372	Various	Continuing	Continuing	
Program Management Support	Various	Various	7.597	1.611	01/03	1.541	Various	2.029	Various	Continuing	Continuing	
Travel	WX	NAWCAD	0.489	0.300	11/02	0.100	Various	0.200	Various	0.400	1.489	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			29.050	4.362		7.056		7.901		Continuing	Continuing	
Total Cost			186.037	24.390		60.433		81.231		Continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 83

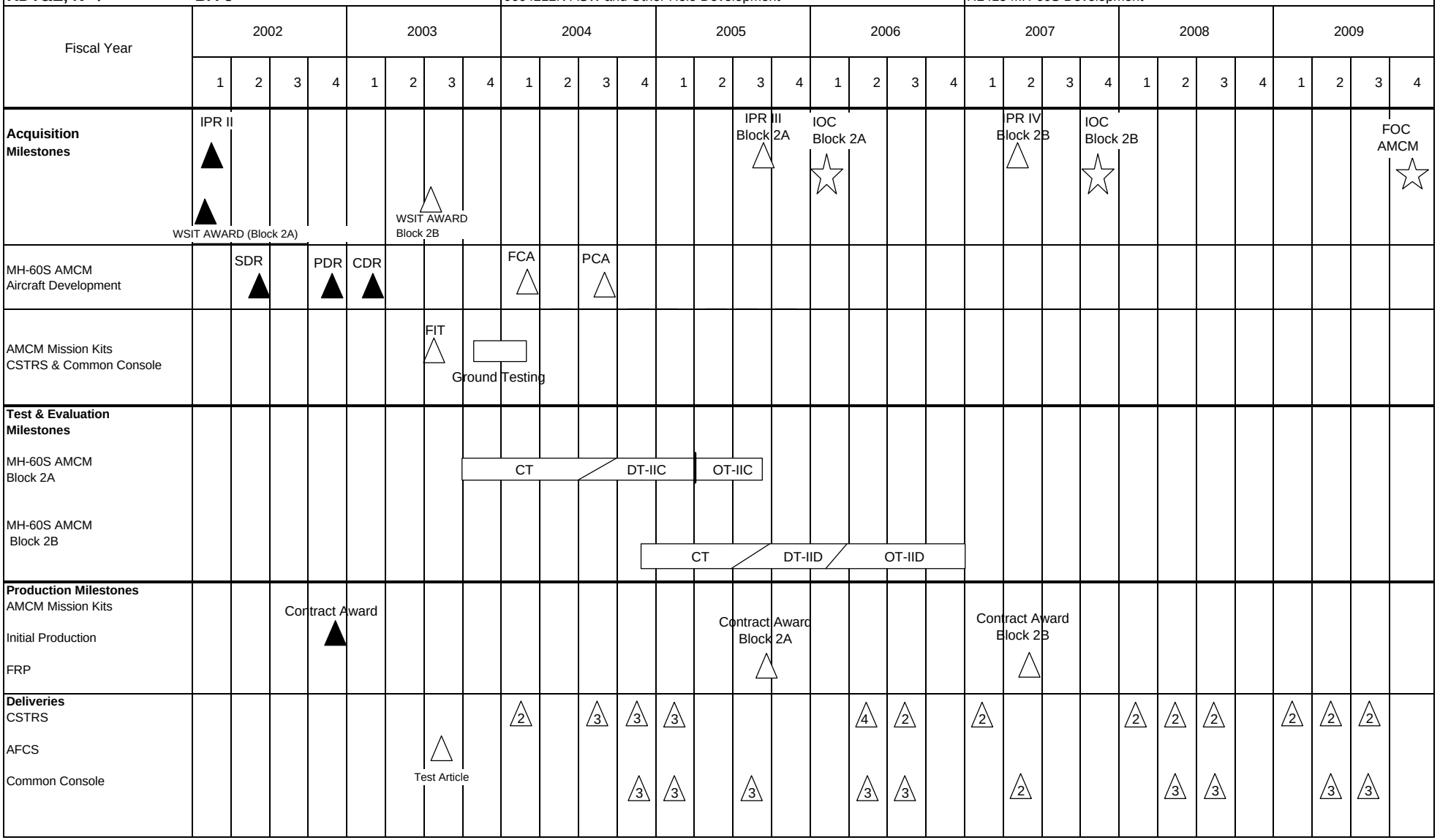
CLASSIFICATION:

EXHIBIT R4, Schedule Profile **AMCM** | DATE: **February 2004**

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

PROGRAM ELEMENT NUMBER AND NAME: 0604212N ASW and Other Helo Development

PROJECT NUMBER AND NAME: H2415 MH-60S Development



R-1 SHOPPING LIST - Item No. 83

Notes: T&E Milestones: Block 2A and 2B contain overarching test periods that include the applicable sensor systems within their respective Blocks. Each Block involves concurrent testing of the AMCM systems within the Block that includes the requisite time periods between test events.

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT 0604212N ASW and Other Helo Development				PROJECT NUMBER AND NAME H2415 MH-60S Development			
Schedule Profile - AMCM	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Block 2A								
WSIT Contract Award Block 2A	1Q							
In-Process Review	1Q							
System Development	1Q-4Q							
System Design Review (SDR)	2Q							
Preliminary Design Review (PDR)	4Q							
Contract Award Initial Production	4Q							
Start Initial Production	4Q							
Critical Design Review (CDR)		1Q						
AFCS Test Article Delivery		3Q						
Functional Integration Test		3Q						
Ground Testing		4Q	1Q					
Contractor Test		4Q	1Q-3Q					
Initial Production Delivery			1Q-4Q	1Q				
Functional Configuration Audit			1Q					
Physical Configuration Audit			3Q					
Developmental Testing (DT-IIC)			3Q-4Q	1Q				
Operational Testing (OT-IIC)				2Q-3Q				
Contract Award - Production				3Q				
Full Rate Production (FRP) Decision 2A/IPR III				3Q				
Initial Operational Capability - Block 2A					1Q			
Full Rate Production Delivery					2Q			
Block 2B								
WSIT Contract Award Block 2B		3Q						
Contractor Test			4Q	1Q-3Q				
Developmental Testing (DT-IID)				3Q-4Q	1Q			
Initial Production Delivery					2Q-3Q			
Operational Testing (OT-IID)					1Q-4Q			
Initial Operational Capability - Block 2B						4Q		
Full Rate Production (FRP) Decision 2B/ IPR IV						2Q		
Contract Award - Production						2Q		
Full Rate Production Delivery							1Q-3Q	1Q-3Q
Full Operational Capability - Block 2B								4Q

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CLASSIFICATION:

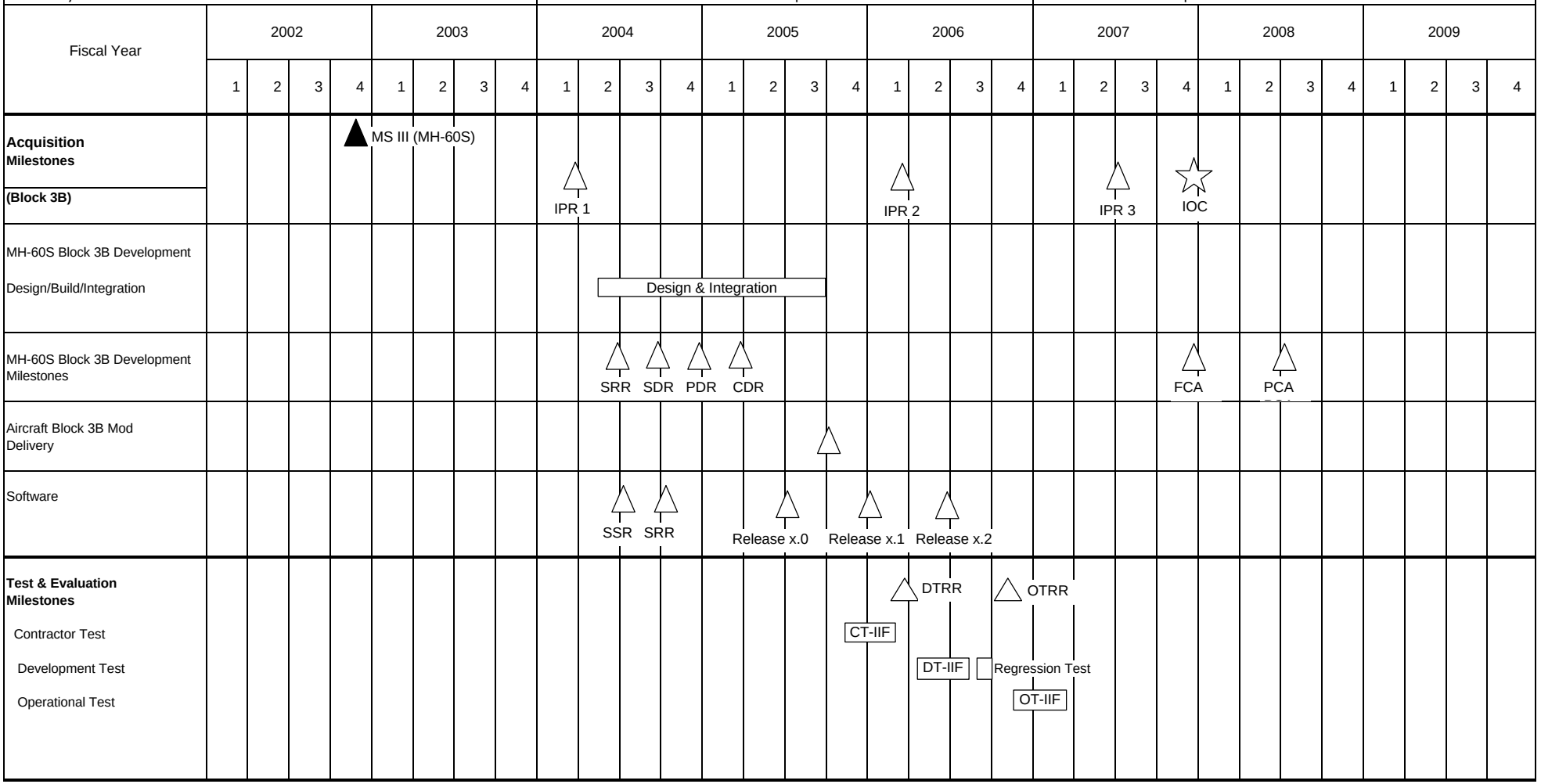
EXHIBIT R4, Schedule Profile
Link 16

DATE: **February 2004**

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

PROGRAM ELEMENT NUMBER AND NAME
0604212N ASW and Other Helo Development

PROJECT NUMBER AND NAME
H2415 MH-60S Development



R-1 SHOPPING LIST - Item No. 83

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT 0604212N ASW and Other Helo Development				PROJECT NUMBER AND NAME H2415 MH-60S Development			
Schedule Profile - Link 16	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
BLOCK 3B								
IPR 1			1Q					
System Design, Build, and Integration			2Q-4Q	1Q-3Q				
Systems Requirements Review (SRR)			2Q					
System Design Review (SDR)			3Q					
Software Specification Review (SSR)			3Q					
Preliminary Design Review (PDR)			4Q					
Software Readiness Review (SRR)			4Q					
Critical Design Review (CDR)				1Q				
Software Delivery x.0				3Q				
Aircraft Block 3B Mod Delivery				4Q				
Contractor Test (CT-IIF)				4Q	1Q			
IPR 2					1Q			
Software Delivery x.1					1Q			
Developmental Test Readiness Review (DTRR)					1Q			
Software Delivery x.2					2Q			
Developmental Testing (DT-IIF)					2Q-3Q			
Operational Test Readiness Review					4Q			
Operational Testing (OT-IIF)					4Q	1Q		
IPR 3						3Q		
Functional Configuration Audit (FCA)						4Q		
IOC						4Q		
Physical Configuration Audit							3Q	

R-1 SHOPPING LIST - Item No. 83

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604212N ASW & OTHER HELO DEVELOPMENT				PROJECT NUMBER AND NAME H3059 CH-53E SLEP			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**2.832**	**4.798**	**103.267**	**296.719**	**331.863**	**145.846**	**77.174**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The CH-53E is the Marine Corps only heavy lift helicopter for transport of troops, heavy weapons and equipment and support of combat assault operations, tactical retrieval and recovery operations. The CH-53E is unable to support the current Marine Corps Aviation Implementation Plan that calls for assault support and heavy lift through the year 2025 and the capability to lift large, mission representative, external and internal loads to complement the range and speed of the MV-22. The modernized CH-53E, that will be developed through this program, will have the capability required to execute our national military strategy through the year 2025. FY03-FY05 RDT&E efforts will focus on trade studies for the CH-53E Service Life Extension/Modernization Program including identification of candidate improvements, risk reduction measures, survivability engineering studies, engine selection, Developmental and Operational Test requirements definition, Business Case Analyses (BCAs) to refine and support the acquisition plan, cost model refinement and development of acquisition documentation.

R-1 SHOPPING LIST - Item No. 83

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604212N ASW & OTHER HELO DEVELOPMENT	H3059 CH-53E SLEP

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.200	0.275	0.290
RDT&E Articles Quantity				

Navy field activity systems engineering support of the requirements generation process, including identification of candidate survivability enhancements and improvements for CH-53E modernization.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.880	2.053	12.203
RDT&E Articles Quantity				

NAVAIR Integrated Product Team and Navy field activity systems engineering and logistics efforts to prepare the Acquisition Strategy, examine equipment and avionics for the modernized CH-53E, develop acquisition milestone documentation and prepare Request for Proposal (RFP) documentation for the System Development and Demonstration (SDD) contract.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		1.752	2.290	0.000
RDT&E Articles Quantity				

Perform trade studies to develop a System Requirements Analysis, refine the baseline configuration and perform risk reduction efforts including modeling and simulation.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604212N ASW & OTHER HELO DEVELOPMENT	H3059 CH-53E SLEP

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.000	0.180	0.180
RDT&E Articles Quantity				

Perform Business Case Analyses (BCAs) to refine and support the program definition and acquisition strategy.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.000	0.000	0.175
RDT&E Articles Quantity				

COMOPTEVFOR (HMX) test support to identify Operational Test (OT) requirements and ensure the aircraft satisfies the mission need.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.000	0.000	90.419
RDT&E Articles Quantity				

CH-53E System Development and Demonstration (SDD) contract for engineering and manufacturing development that will translate the design approach developed through the trade studies into a stable, producible and cost effective system design.

R-1 SHOPPING LIST - Item No. 83

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604212N ASW & OTHER HELO DEVELOPMENT	H3059 CH-53E SLEP

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:	2.917	4.852	109.493
Current BES/President's Budget	2.832	4.798	103.267
Total Adjustments	-0.085	-0.054	-6.226
Summary of Adjustments			
Congressional program reductions			
Congressional undistributed reductions		-0.054	
Congressional rescissions			
SBIR/STTR Transfer	0.000		
Economic Assumptions			-0.323
Reprogrammings	-0.085		
Other Navy/OSD Adjustments			
Congressional increases			
Reprioritization			-5.903
Subtotal	-0.085	-0.054	-6.226

Schedule:

Not Applicable

Technical:

Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604212N ASW & OTHER HELO DEVELOPMENT	H3059 CH-53E SLEP

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
P-1 Procurement Line: BLI 015800/CH-53E SLEP						192.6	268.1	TBD	TBD

E. ACQUISITION STRATEGY:

The AoA was approved 11 September 2003. The ORD was entered into the JCS Knowledge Management Distribution System 10 December 2003. MS-B is scheduled for first quarter FY2005. System Development and Demonstration contract award is scheduled for second quarter FY2005.

R-1 SHOPPING LIST - Item No. 83

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604212N ASW & OTHER HELO DEVELOPMENT			PROJECT NUMBER AND NAME H3059 CH-53E SLEP						
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	TBD	Contractor TBD						90.547	12/04	731.399	821.946	821.946
Ancillary Hardware Development												
Training Development												
Aircraft Integration												
Ship Suitability												
Systems Engineering	TBD	Contractor TBD		0.426	03/03	1.659	12/03				2.085	2.085
Licenses												
Tooling												
GFE												
Award Fees												
Subtotal Product Development			0.000	0.426		1.659		90.547		731.399	824.031	
Remarks: Primary Hardware Development contract not yet negotiated. Target Value of Contract will be available after contract award												
Development Support												
Software Development										1.650	1.650	
Integrated Logistics Support	Various	NAWCAD Pax River, MD				0.665	11/03	1.123	11/04	11.364	13.152	
Configuration Management										0.900	0.900	
Technical Data												
Studies & Analyses	CPFF	Booz Allen Hamilton, MD	1.999	0.835	03/03	0.738	12/03	0.337	12/04		3.909	3.909
GFE												
Award Fees												
Subtotal Support			1.999	0.835		1.403		1.460		13.914	19.611	
Remarks:												

R-1 SHOPPING LIST - Item No. 83

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604212N ASW & OTHER HELO DEVELOPMENT			PROJECT NUMBER AND NAME H3059 CH-53E SLEP							
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	Various	NAWCAD Pax River, MD						0.175	11/04	23.246	23.421	
Operational Test & Evaluation	Various	OPTEVFOR (HMX)						0.175	11/04	12.764	12.939	
Live Fire Test & Evaluation	Various	NAWCWD China Lake, CA								1.453	1.453	
Test Assets												
Tooling												
GFE												
Award Fees												
Subtotal T&E			0.000	0.000		0.000		0.350		37.463	37.813	
Remarks:												
Contractor Engineering Support	Various	NAWCAD Pax River, MD		0.233	01/03	0.406	11/03	1.865	11/04	14.516	17.020	
Government Engineering Support	Various	NAWCAD Pax River, MD		1.013	03/03	0.820	11/03	4.802	11/04	37.376	44.011	
Program Management Support	Various	NAWCAD Pax River, MD		0.315	03/03	0.490	11/03	4.118	11/04	32.239	37.162	
Travel	Various	NAWCAD Pax River, MD		0.010	03/03	0.020	11/03	0.125	11/04	5.589	5.744	
Transportation												
SBIR Assessment												
Subtotal Management			0.000	1.571		1.736		10.910		89.720	103.937	
Remarks:												
Total Cost			1.999	2.832		4.798		103.267		872.496	985.392	
Remarks:												

R-1 SHOPPING LIST - Item No. 83

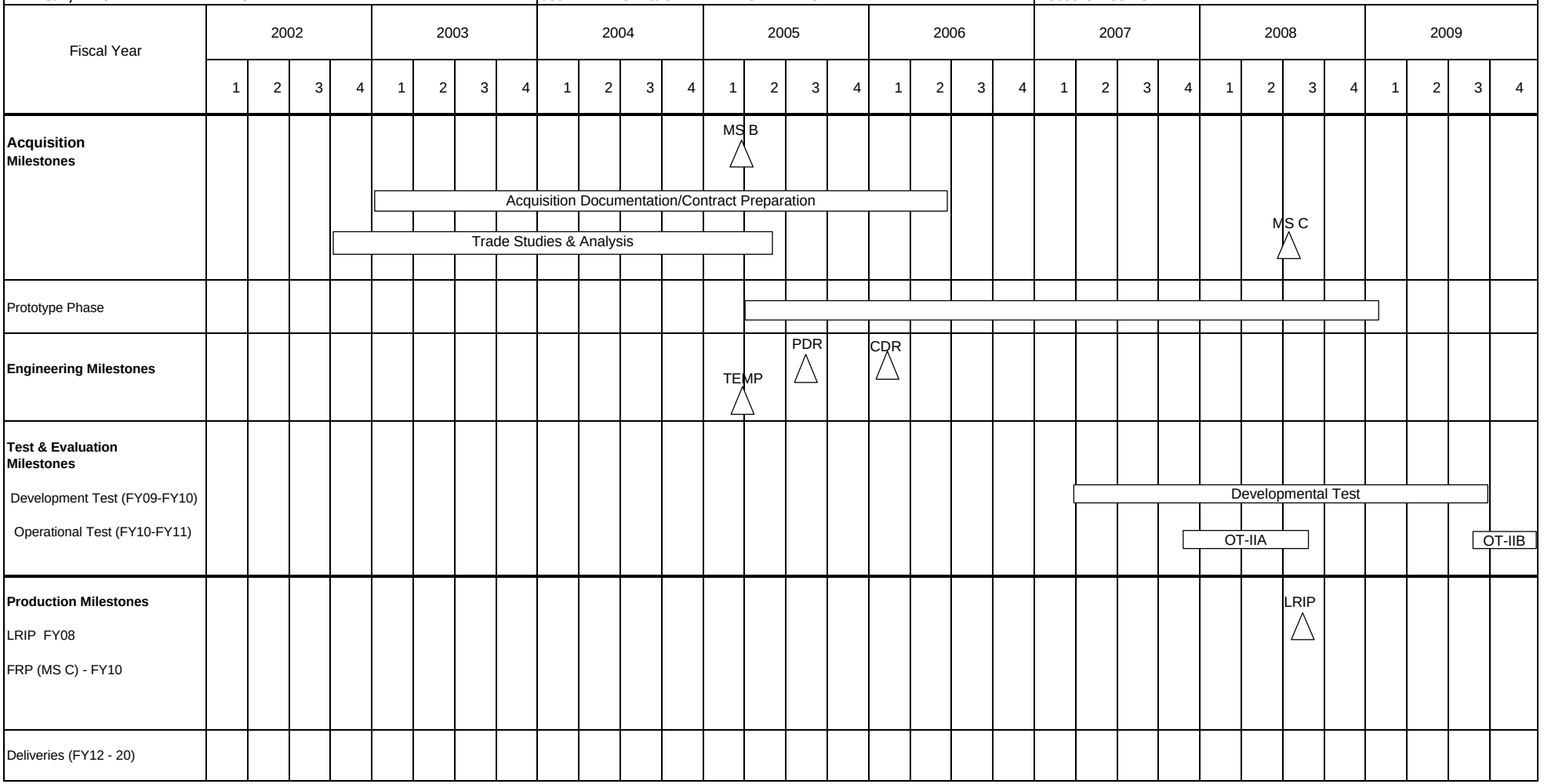
CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **February 2004**

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

PROGRAM ELEMENT NUMBER AND NAME: 0604212N ASW & OTHER HELO DEVELOPMENT

PROJECT NUMBER AND NAME: H3059 CH-53E SLEP



R-1 SHOPPING LIST - Item No. 83

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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT 0604212N ASW & OTHER HELO DEVELOPMENT				PROJECT NUMBER AND NAME H3059 CH-53E SLEP			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Prototype Phase				2Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q
Milestone B				1Q				
Contract Preparation		1Q-4Q	1Q-4Q	1Q-4Q	1Q-2Q			
Trade Studies & Analysis		1Q-4Q	1Q-4Q	1Q-2Q				
Preliminary Design Review (PDR)				3Q				
Critical Design Review (CDR)					1Q			
Developmental Testing						2Q-4Q	1Q-4Q	1Q-3Q
Test and Evaluation Master Plan (TEMP)				1Q				
Milestone C (MS C)							3Q	
Operational Testing (OT-IIA)						4Q	1Q-3Q	
Operational Testing (OT-IIB)								3Q-4Q
Low-Rate Initial Production							3Q	

R-1 SHOPPING LIST - Item No. 83

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604212N ASW & OTHER HELO DEVELOPMENT			PROJECT NUMBER AND NAME H9056 High Tech Training in Support of DoD Legacy Parts							
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	NAWCAD, Pax River, MD	0.250								0.250	
Ancillary Hardware Development												
Aircraft Integration												
Ship Integration												
Ship Suitability												
Systems Engineering												
Training Development												
Licenses												
Tooling												
GFE												
Award Fees												
Subtotal Product Development			0.250	0.000		0.000		0.000		0.000	0.250	
Remarks:												
Development Support												
Software Development	WX	NAWCAD, Pax River, MD	0.250								0.250	
Integrated Logistics Support	WX	NAWCAD, Pax River, MD	0.225								0.225	
Configuration Management												
Technical Data												
Studies & Analyses				0.478	Various						0.478	
GFE												
Award Fees												
Subtotal Support			0.475	0.478		0.000		0.000		0.000	0.953	
Remarks:												

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 0604214N / AV-8B Aircraft			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost		**17.712**	**8.630**	**12.284**	**15.119**	**11.209**	**10.375**	**10.816**
H0652 AV-8B		**14.733**	**8.630**	**12.284**	**15.119**	**11.209**	**10.375**	**10.816**
H2634 AV-8B (OSCAR)		**2.979**						

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: (H0652) The program provides AV-8B Design, Development, Integration and Test of the following improvements: The Engine Life Management Program (ELMP), Harrier 2.0 (H20), Escape System, Joint Mission Planning System (JMPS), Tactical Aircraft Moving Map Capability (TAMMAC) and Aircraft Handling . The ELMP is a comprehensive plan to increase safety of flight and operational readiness of the AV-8B F402-RR-408 Engine. PMA-257 will accomplish this mission by conducting Engineering Project Description (EPD) investigations and performing a series of planned Accelerated Simulated Mission Tests (ASMET) to derive engineering improvements to the engine. H20 corrects deficiencies & adds enhancements to the Open System Core Avionics Requirement software (OC1.2). Litening Pilot Vehicle Interface (PVI) (funded separately with APN-5, OSIP 23-00) will be integrated simultaneously with H20. The Escape System qualifies an improved ejection seat to reduce the risk of injury to aircrew. The JMPS is required as part of the DON directed migration to a common Navy and Marine Corps mission planning system. The TAMMAC is the avionics system that will replace the aging/obsolete AN/ASQ-196 digital map set and the AN/ASQ-194 data storage set presently installed. A/C Handling and peformance is all engineering activities for development and design to support aircraft safety flight clearance and concept exploration to support POM objectives.

(U) (H2634) The program provides AV-8B Integration and Test of the following improvements, including: Open System Core Avionics Requirement (OSCAR), Joint Direct Attack Munition (JDAM), HAVEQUICK SINCGARS, and Advanced Mission Computer (AMC). OSCAR is a form-fit-function replacement of the existing AV-8B mission and stores management computers that would capitalize on commercial-off-the-shelf hardware components and modular high order software language which will provide the necessary computer memory and throughput to integrate current modifications such as JDAM and HAVEQUICK/SINCGARS. On 7 Oct 96 ASN (RD&A) directed the Program Manager to proceed immediately with the OSCAR initiative. On 4 Sep 98, Special Assistant to ASN(RDA) approved OSCAR program restructuring with capitalization on the Advanced Mission Computer (AMC). The title of the Operational Flight Program (OFP) software development effort which integrates the JDAM and HAVEQUICK/SINCGARS into the AV-8B was changed from C2.0 to OC 1.2 to reflect the change of effort in accordance with the ASN (RDA) approved AV-8B OSCAR initiative. OSCAR completed first flight 29 May 1998. OSCAR successfully completed Iteration 4 and 5 flight testing and commenced Iteration 6 in first quarter FY01 for OC1.1. LRIP approval 2nd quarter of FY2002. Completed developmental testing of OC1.2 fourth quarter FY2002. OTRR approval fourth quarter FY02. OPEVAL commenced 4th QTR FY02. Operational test was decertified 4th QTR FY02 to address software anomalies. Anomalies were corrected and OTRR recertification 1st QTR FY03. OPEVAL commenced 2nd QTR FY03. LRIP II approval received 3rd QTR FY03.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604214N / AV-8B AIRCRAFT				PROJECT NUMBER AND NAME H0652 / AV-8B			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**14.733**	**8.630**	**12.284**	**15.119**	**11.209**	**10.375**	**10.816**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(H0652) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: (H0652) The program provides AV-8B Design, Development, Integration and Test of the following improvements: The Engine Life Management Program (ELMP), Harrier 2.0 (H20), Escape System, Joint Mission Planning System (JMPS), Tactical Aircraft Moving Map Capability (TAMMAC) and Aircraft Handling . The ELMP is a comprehensive plan to increase safety of flight and operational readiness of the AV-8B F402-RR-408 Engine. PMA-257 will accomplish this mission by conducting Engineering Project Description (EPD) investigations and performing a series of planned Accelerated Simulated Mission Tests (ASMET) to derive engineering improvements to the engine. H20 corrects deficiencies & adds enhancements to the Open System Core Avionics Requirement software (OC1.2). Litening Pilot Vehicle Interface (PVI) (funded separately with APN-5, OSIP 23-00) will be integrated simultaneously with H20. The Escape System qualifies an improved ejection seat to reduce the risk of injury to aircrew. The JMPS is required as part of the DON directed migration to a common Navy and Marine Corps mission planning system. The TAMMAC is the avionics system that will replace the aging/obsolete AN/ASQ-196 digital map set and the AN/ASQ-194 data storage set presently installed. A/C Handling and peformance is all engineering activities for development and design to support aircraft safety flight clearance and concept exploration to support POM objectives.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604214N / AV-8B AIRCRAFT	H0652 / AV-8B

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Aircraft Handling		2.879	0.782	0.651
RDT&E Articles Quantity				

Aircraft handling and performance investigations to improve safety and increase operational performance. Conduct study of AV-8B Obsolescense (Laser Maverick & other) issues & continue aircraft handling and performance investigations to improve safety and increase operational performance. Conduct testing and analysis of AV-8B obsolescence (Laser Maverick & other) issues and continue aircraft handling and performance investigations to improve safety and increase operational performance.

		FY 03	FY 04	FY 05
Engine Life Management Plan (ELMP)		7.719	2.294	6.014
RDT&E Articles Quantity				

Testing, analysis and integration to improve safety of flight and operational readiness of the AV-8B Engine. Formalize engine design development efforts to be incorporated into the engine. Complete ASMET III testing of the AV-8B engine and formalize Engine design development efforts based off of ASMET III and incorporate into the engine.

		FY 03	FY 04	FY 05
Joint Mission Planning System (JMPS)		2.723	0.000	0.000
RDT&E Articles Quantity				

Software design, development, and integration of the AV-8B JMPS.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604214N / AV-8B AIRCRAFT	H0652 / AV-8B

B. Accomplishments/Planned Program (Cont.)

		FY 03	FY 04	FY 05
Harrier 2.0 (H20)		1.412	0.000	0.000
RDT&E Articles Quantity				

Conducted design and development, integration of the H20 flight software program, PDR, CDR, Development Test (DT) and Operational Testing (OT).

		FY 03	FY 04	FY 05
Tactical Aircraft Moving Map Capability (TAMMAC)		0.000	5.554	5.619
RDT&E Articles Quantity				

Program initiation and integration of Tactical Aircraft Moving Map Capability (TAMMAC) and PDR /CDR. Development Test (DT) and Operational Testing (OT) of Tactical Aircraft Moving Map Capability (TAMMAC)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604214N / AV-8B AIRCRAFT	H0652 / AV-8B

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:	16.063	10.527	12.365
Current BES/President's Budget	14.733	8.630	12.284
Total Adjustments	-1.330	-1.897	-0.081
Summary of Adjustments			
Congressional program reductions			
Congressional undistributed reductions			
Congressional rescissions		-0.097	
SBIR/STTR Transfer	-0.227		
Economic Assumptions			-0.073
Reprogrammings	-1.103		
Other Adjustments		-1.800	-0.008
Congressional increases			
Subtotal	-1.330	-1.897	-0.081

Schedule:

AVJMPS DT, OTRR, OT & IOC schedule moved to the right 1 QTR due to PMA-233 schedule slip in delivering the JMPS build 5. TAMMAC DT, OTRR, & IOC moved to the right 1QTR due to reliance on AVJMPS completion. H20: DT, OTRR & IOC moved to the right 1 QTR due to OSCAR OT delays. H2O OT moved to the right 2 QTRs due the the addition of requirements and the incorporation of Litening AT. TAMMAC OT moved to the right 2 QTR due to funding constraints.

Technical:

N/A

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604214N / AV-8B AIRCRAFT	H0652 / AV-8B

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
APN BLI 051400, AV-8B Series Modifications	58.561	57.437	20.808	28.656	16.593	16.317	16.612	46.324	261.308

E. ACQUISITION STRATEGY:

All efforts under Aircraft Handling provide investigations and analysis of testing and flight clearance authorization necessary to assess overall system capability and integration of projects. Funding for the Escape System will qualify an improved ejection seat design and will be placed on a cost type fee contract awarded to UPCO and HARCO. Funding for the Engine Life Management Program (ELMP) will be placed on a cost type contract to Rolls Royce to address safety of flight issues, top readiness degraders, engine removal and mission failure drivers in order to improve Fleet readiness and cost of ownership. It is also developed to assess life management program issues and design fixes for any service revealed deficiencies. NAWCWD, China Lake began integration of the AVJMPS program in FY01. Harrier 2.0 (H20) is a follow on to the OSCAR Operational Flight Program (OFP). OC1.2 to be simultaneously integrated into the aircraft with Litening (funded separately with APN-5, OSIP 23-00).

R-1 SHOPPING LIST - Item No. 84

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604214N / AIRCRAFT			PROJECT NUMBER AND NAME H0652 / AV-8B						
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	Various	Various	9.606								9.606	9.606
Primary Hdw Dev. - Ejection Seat	C/CPFF	Various	2.639								2.639	2.639
Primary Hdw Dev. - ELMP	C/CPFF	Rolls Royce	4.993	6.274	03/03	2.294	12/03	4.626	12/04	29.293	47.480	47.480
Primary Hdw Dev. - H20	C/CPFF	Ratheon / Boeing	5.603								5.603	5.603
Primary Hdw Dev. - Other	Various	Various	1,360.587								1,360.587	1,360.587
Systems Engineering	WX	NAWC-WD China Lake	26.442	0.787	02/03	4.435	11/03	4.663	11/04	8.682	45.009	
Systems Engineering	WX	NAWC-AD Pax	2.673			0.637	11/03	1.376	11/04	16.782	21.468	
Systems Engineering	WX	NAWC-AD NADEP	11.104								11.104	
Award Fees	C/CPAF	Various	0.838	0.060	12/02						0.898	0.898
Subtotal Product Development			1,424.485	7.121		7.366		10.665		54.757	1,504.394	
Remarks:												
Software Development - JMPS	WX	NAWC-WD China Lake	2.085	2.723	02/03						4.808	
Development Support												
Integrated Logistics Support												
Configuration Management												
Technical Data												
Studies & Analyses												
GFE												
Award Fees												
Subtotal Support			2.085	2.723		0.000		0.000		0.000	4.808	
Remarks:												

CLASSIFICATION:

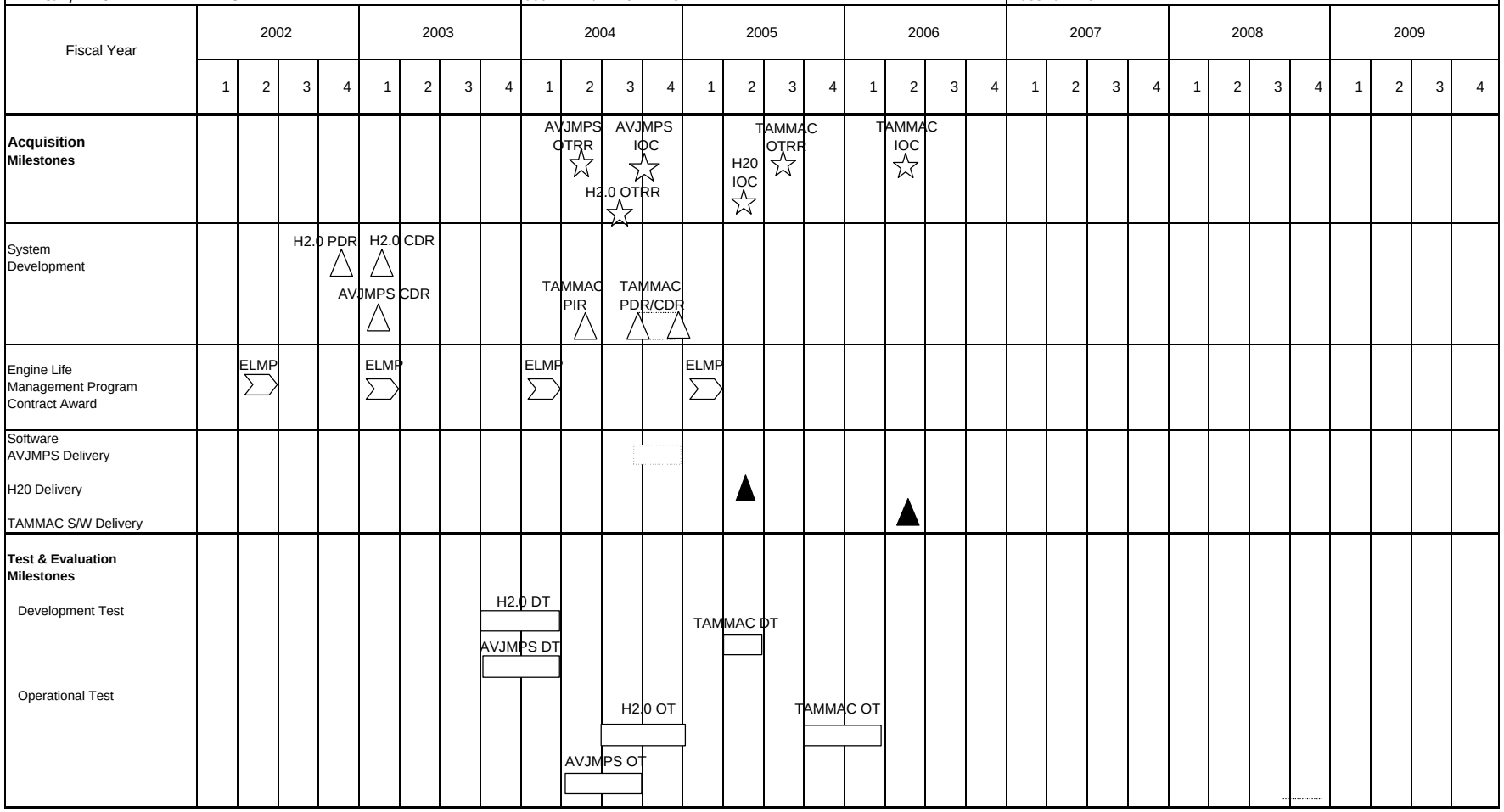
Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604214N / AV-8B AIRCRAFT				PROJECT NUMBER AND NAME H0652 / AV-8B						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 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	NAWC-WD China Lake	33.950	1.033	07/03						34.983	
Operational Test & Evaluation	WX	NAWC-WD China Lake	19.458								19.458	
Subtotal T&E			53.408	1.033		0.000		0.000		0.000	54.441	
Remarks:												
Contractor Engineering Support	C/CPFF	NAWC-AD PAX	47.262	1.264	12/02	0.434	12/03	0.434	12/04	2.359	51.753	51.753
Government Engineering Support	WX	NAWC-AD Pax		2.242	12/02	0.689	10/03	1.071	10/04	13.434	17.436	
Travel	WX	NAWC-AD PAX	0.146	0.350	11/02	0.141	10/03	0.114	10/04	0.442	1.193	
											0.000	
Subtotal Management			47.408	3.856		1.264		1.619		16.235	70.382	
Remarks:												
Total Cost			1,527.386	14.733		8.630		12.284		70.992	1,634.025	
Remarks:												

R-1 SHOPPING LIST - Item No. 84

EXHIBIT R4, Schedule Profile

DATE: **February 2004**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604214N / AV-8B AIRCRAFT	H0652 / AV-8B



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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT 0604214N / AV-8B AIRCRAFT				PROJECT NUMBER AND NAME H0652 / AV-8B			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
ELMP Contract Award	2Q							
H20 PDR	4Q							
H20 CDR		1Q						
ELMP Contract Award		1Q						
AVJMPS Critcial Design Review CDR		1Q						
AVJMPS DT		4Q	1Q					
H20 DT		4Q	1Q					
ELMP Contract Award			1Q					
AVJMPS OTRR			2Q					
TAMMAC PIR			2Q					
H20 OTRR			3Q					
AVJMPS OT			2Q-3Q					
AVJMPS Introduction to Fleet			3Q-4Q					
AVJMPS Delivery			3Q-4Q					
TAMMAC PDR / CDR			3Q-4Q					
H20 OT			3Q-4Q					
ELMP Contract Award				1Q				
H20 Delivery				2Q				
H20 IOC				2Q				
TAMMAC DT				2Q				
TAMMAC OTRR				3Q				
TAMMAC OT				4Q	1Q			
TAMMAC S/W Delivery					2Q			
TAMMAC IOC					2Q			

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604214N / AV-8B AIRCRAFT				PROJECT NUMBER AND NAME H2634 / OSCAR			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**2.979**						
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(H2634) The program provides AV-8B Integration and Test of the following improvements, including: Open System Core Avionics Requirement (OSCAR), Joint Direct Attack Munition (JDAM), HAVEQUICK SINCGARS, and Advanced Mission Computer (AMC). OSCAR is a form-fit-function replacement of the existing AV-8B mission and stores management computers that would capitalize on commercial-off-the-shelf hardware components and modular high order software language which will provide the necessary computer memory and throughput to integrate current modifications such as JDAM and HAVEQUICK/SINCGARS. On 7 Oct 96 ASN (RD&A) directed the Program Manager to proceed immediately with the OSCAR initiative. On 4 Sep 98, Special Assistant to ASN(RDA) approved OSCAR program restructuring with capitalization on the Advanced Mission Computer (AMC). The title of the Operational Flight Program (OFP) software development effort which integrates the JDAM and HAVEQUICK/SINCGARS into the AV-8B was changed from C2.0 to OC 1.2 to reflect the change of effort in accordance with the ASN (RDA) approved AV-8B OSCAR initiative. OSCAR completed first flight 29 May 1998. Successfully completed Iteration 4 and 5 flight testing and commenced Iteration 6 in first quarter FY01 for OC1.1. LRIP approval 2nd quarter of FY2002. Completed developmental testing of OC1.2 fourth quarter FY2002. OTRR approval fourth quarter FY2002. OPEVAL commenced 4th QTR FY02. Operational test was decertified 4th QTR FY02 to address software anomalies. Anomalies were corrected and OTRR recertification 1st QTR FY03. OPEVAL commenced 2nd QTR FY03. LRIP II approval received 3rd QTR FY03.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604214N / AV-8B AIRCRAFT	H2634 / OSCAR

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
OSCAR		2.979		
RDT&E Articles Quantity				

The Open Systems Core Avionics Requirements (OSCAR) initiative replacing the Mission Computer and Store Management System with Commerical components and continued devlopment of the common integrated Night Attack/Radar software to include integration of the 1000lb Joint Direct Attack Munitions (JDAM) weapon.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604214N / AV-8B AIRCRAFT	H2634 / OSCAR

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
APN BLI 051400, AV-8B Series Modifications	58.561	57.437	20.808	28.656	16.593	16.317	16.612	46.324	261.308

E. ACQUISITION STRATEGY:

PEO(A) ADM Ser DPEO(A)-ACQ2/015-97 dated 6 March 1997 approved the MSII acquisition strategy for OSCAR as an ACAT IVT program. OSCAR avionics CDR was held in January 1998 and completed first flight 29 May 1998. Using the NAWC-WD CPAF contract, funds will be used for basic design definition, drawing development, and OFP development and test. Twelve Mission System Computers and fourteen Warfare Management Computer engineering models have been procured for laboratory and flight test. The NAWC-WD/Boeing follow-on CPAF Contract was awarded on 16 December 1998. The period of performance will be for five years based on the need to complete Open System Core Avionics Requirement (OSCAR) and begin follow-on software block upgrade H2.0. As directed during 4 September 1998 program restructuring, an ACAT redesignation letter was approved changing the OSCAR program from an ACAT IVT program to an ACAT II program. The schedule was revised due to impact of AV-8B F402-RR-408 engine red stripe which resulted in a 5-month developmental test impact delay. Revised schedule has been approved and is currently being executed. OTRR approval fourth quarter FY2002. FRP moved to 2Q FY04. OPEVAL commenced 4th QTR FY02. Operational test was decertified 4th QTR FY02 to address software anomalies. Anomalies were corrected and OTRR recertification 1st QTR FY03. OPEVAL commenced 2nd QTR FY03. LRIP II approval received 3rd QTR FY03.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604214N / AV-8B AIRCRAFT	H2634 / OSCAR

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:	2.091	0.000	0.000
Current BES/President's Budget	2.979	0.000	0.000
Total Adjustments	0.888	0.000	0.000
Summary of Adjustments			
Congressional program reductions			
Congressional undistributed reductions			
Congressional rescissions			
SBIR/STTR Transfer	-0.018		
Economic Assumptions			
Reprogrammings	0.906		
Other Adjustments			
Congressional increases			
Subtotal	0.888	0.000	0.000

Schedule:

OTRR approval fourth quarter FY2002. OPEVAL commenced 4th QTR FY02. Operational test was decertified 4th QTR FY02 to address software anomalies. Anomalies were corrected and OTRR recertification 1st QTR FY03. OPEVAL commenced 2nd QTR FY03. LRIP II approval received 3rd QTR FY03. FRP moved to 2Q FY04.

Technical:

N/A

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604214N / AV-8B AIRCRAFT				PROJECT NUMBER AND NAME H2634 / OSCAR						
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	C/CPAF	Boeing St Louis	64.806								64.806	64.806
Primary Hardware Development	C/CPFF	DCMC, Draper Laboratory	0.285								0.285	0.285
Primary Hardware Development	C/FFP	DSC.KMX Norfolk	0.406								0.406	0.406
Systems Engineering	WX	NAWC-WD China Lake	40.893								40.893	
Systems Engineering	WX	NAWC-AD Pax River	3.015	0.224	10/02						3.239	
Systems Engineering	Various	PMA-209	3.518	0.930	02/03						4.448	
Award Fees	C/CPAF	Boeing St Louis	8.967								8.967	8.967
Subtotal Product Development			121.890	1.154		0.000		0.000		0.000	123.044	
Remarks:												
Development Support Equipment	Various	Various	0.284								0.284	
Integrated Logistics Support	Various	Various	0.323								0.323	
Configuration Management	Various	Various	0.143								0.143	
Subtotal Support			0.750	0.000		0.000		0.000		0.000	0.750	
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604214N / AV-8B AIRCRAFT				PROJECT NUMBER AND NAME H2634 / OSCAR						
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	NAWC-WD China Lake	14.553								14.553	
Operational Test & Evaluation	WX	NAWC-WD China Lake	3.001								3.001	
Operational Test & Evaluation	WX	COMOPTEVFOR, Norfolk	1.000	1.813	02/03						2.813	
Subtotal T&E			18.554	1.813		0.000		0.000		0.000	20.367	
Remarks:												
Contractor Engineering Support	C/CPFF	NAWC-AD Patuxent River	0.402								0.402	0.402
Travel	WX	NAWC-AD Patuxent River	0.019	0.012	07/03						0.031	
SBIR Assessment			0.165								0.165	
Subtotal Management			0.586	0.012		0.000		0.000		0.000	0.598	
Remarks:												
Total Cost			141.780	2.979		0.000		0.000		0.000	144.759	
Remarks:												

R-1 SHOPPING LIST - Item No. 84

CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **February 2004**

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

PROGRAM ELEMENT NUMBER AND NAME: 0604214N / AV-8B AIRCRAFT

PROJECT NUMBER AND NAME: H2634 / OSCAR

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										MS III △																						
Software OC1.2 Integration	■	■	■	■																												
Test & Evaluation Milestones																																
DT-IIA / DT-IIB																																
Development Test	■	■	■																													
OT-II																																
Operational Test				■	▭	■	■	■																								
DECERT																																
OTRR ▲ / OTRR RECERT ▲				▲		▲																										
Production Milestones																																
LRIP I Decision ▲ / LRIP II Decision ▲		▲					▲																									
FRP START ▲										▲																						
DELIVERIES (ACFT -CUM)										2	11	20	26	37	43	46	49	52	55	58	61	67	73	79	85	91	94	97	100	105	111	115

R-1 SHOPPING LIST - Item No. 84

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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT 0604214N / AV-8B AIRCRAFT				PROJECT NUMBER AND NAME H2634 / OSCAR			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
LRIP I	2Q							
OC1.2 Integration	1Q-3Q							
OC1.2 DT IIA	1Q-2Q							
OC1.2 DT IIB	3Q							
OC1.2 OTRR	4Q							
Begin OT II	4Q							
OT II Decertification		1Q						
OC1.2 OTRR Recertification		1Q						
OT II		2Q	1Q					
LRIP II		3Q						
MSIII			2Q					
Full Rate Production Start			2Q					

R-1 SHOPPING LIST - Item No. 84

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 Weaponeering 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:

Project E2311, 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 will be delivered on an annual basis starting with v1.0 in September CY03.

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, 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.

CLASSIFICATION:

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

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&E program.

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&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, 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.

R-1 SHOPPING LIST - Item No. 85

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604215N Standard Development				PROJECT NUMBER AND NAME 2311 Navy Stores Planning and Weaponeering 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 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 will be delivered on an annual basis starting with v1.0 in September CY03.

R-1 SHOPPING LIST - Item No. 85

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		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 Weaponeering Module

B. Accomplishments/Planned Program

		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).

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		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 Weaponeering Module

B. Accomplishments/Planned Program (Cont.)

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.113	0.118	0.286
RDT&E Articles Quantity			

Domain engineering support for weapons separation, aircraft loads, flutter, fuzing, safe escape for application to WASP.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	1.124	1.030	1.743
RDT&E Articles Quantity			

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 V1.0, WASP V1.1 and WASP V2.0).

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.265	0.272	1.865
RDT&E Articles Quantity			

Software Configuration Management, Systems Administration, Quality Assurance, documentation, metrics and Risk Management for WASP versions (WASP V1.0, WASP V1.1 and WASP V2.0). Support external Information Technology standards (NMCI, DII COE, IT21, DITSCAP, FAM, D-30).

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604215N Standard Development	2311 Navy Stores Planning and Weaponeering Module

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
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

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		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 Weaponeering Module

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
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: *

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 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: **

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604215N Standard Development				PROJECT NUMBER AND NAME 2311 Navy Stores Planning and Weaponeering 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:												

CLASSIFICATION:

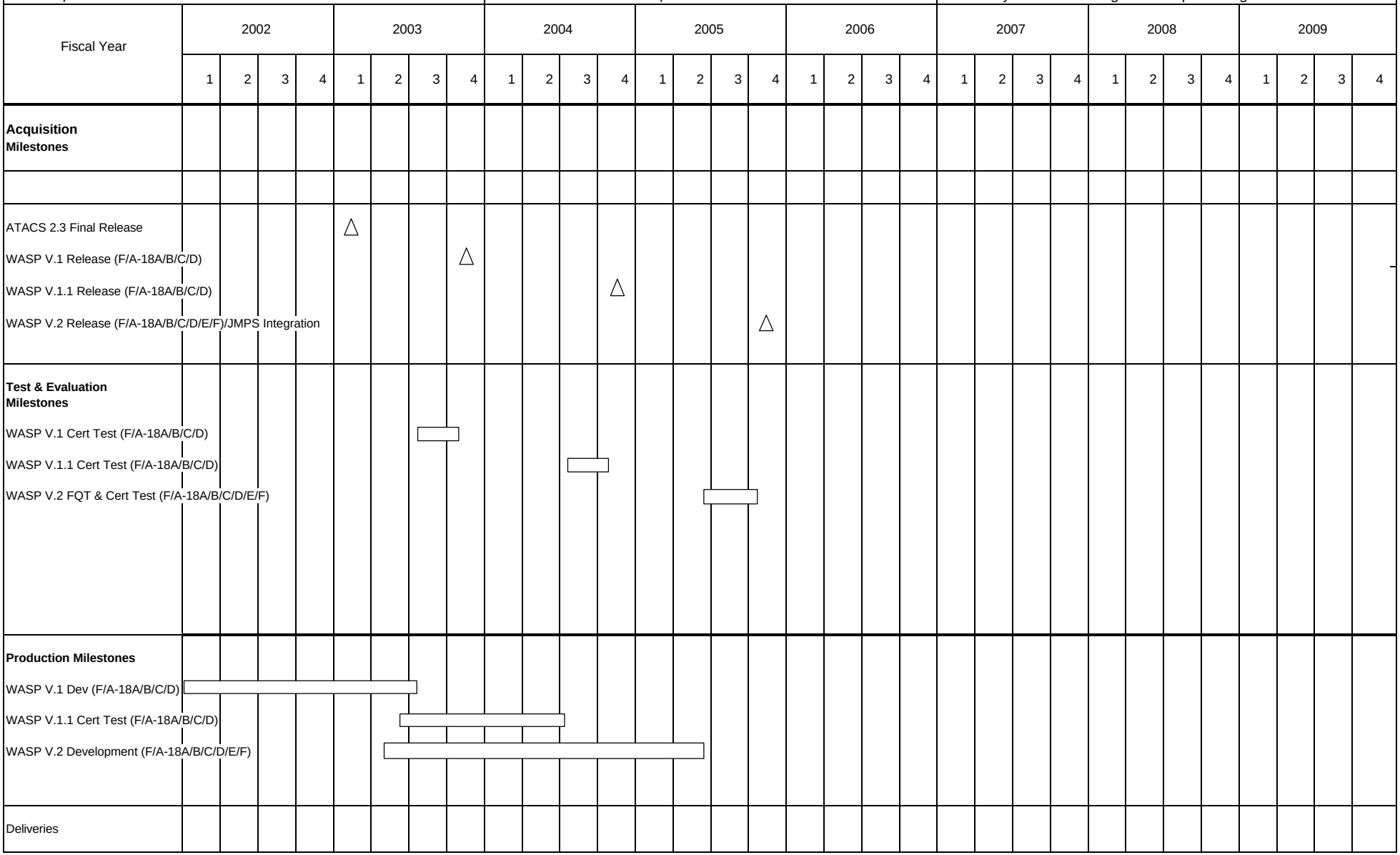
Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604215N Standard Development				PROJECT NUMBER AND NAME 2311 Navy Stores Planning and Weaponeering Module						
Cost Categories	Contract Method & Type	Performing Activity & 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:												

R-1 SHOPPING LIST - Item No. 85

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 Weaponeering Module



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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT 0604215N Standard Development				PROJECT NUMBER AND NAME 2311 Navy Stores Planning and Weaponeering Module			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Acquisition Milestones								
ATACS 2.3 Final Version		1Q						
WASP V.1 Release (F/A-18A/B/C/D)		4Q						
WASP V.1.1 Release (F/A-18A/B/C/D)			4Q					
WASP V.2 Release (F/A-18A/B/C/D/E/F)JMPS Integration				4Q				
Technical Evaluation (TECHEVAL)								
WASP V.1 Cert Test (F/A-18A/B/C/D)		3Q-4Q						
WASP V.1.1 Cert Test (F/A-18A/B/C/D)			3Q-4Q					
WASP V.2 FQT & Cert Test(F/A-18A/B/C/D/E/F)				2Q-4Q				
Production Milestones								
WASP V.1 Dev (F/A-18A/B/C/D)	1Q-4Q	1Q-3Q						
WASP V.1.1 Cert Test (F/A-18A/B/C/D)		2Q-4Q	1Q-3Q					
WASP V.2 FQT & Cert Test(F/A-18A/B/C/D/E/F)		2Q-4Q	1Q-4Q	1Q-2Q				

R-1 SHOPPING LIST - Item No. 85

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604215N Standard Development				PROJECT NUMBER AND NAME 2312 Common Helicopters			
COST ($ in Millions)		FY 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**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

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 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 initital fielding.

R-1 SHOPPING LIST - Item No. 85

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604215N Standard Development	2312 Common Helicopters

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		1.157	0.949	0.772
RDT&E Articles Quantity				

Continue development of Common Helicopter until functionality and implementation into N-PFPS, N-PFPS Version 3.2, 3.3, and 3.4 are to be released.

		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

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604215N Standard Development	2312 Common Helicopters

C. PROGRAM CHANGE SUMMARY:

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

Schedule: Not Applicable

Technical: Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604215N Standard Development	PROJECT NUMBER AND NAME 2312 Common Helicopters

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
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

E. ACQUISITION STRATEGY:

R-1 SHOPPING LIST - Item No. 85

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		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:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			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
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:												

EXHIBIT R4, Schedule Profile

DATE: **February 2004**

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

PROGRAM ELEMENT NUMBER AND NAME: 0604215N Standard Development

PROJECT NUMBER AND NAME: 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					DT																											
PFPS v4.0								DT																								
N-PFPS v4.1												DT																				
CMDL v2.0		DT																														
CMDL v2.01			IOC																													
CMDL v2.1								DT																								
Production Milestones																																
CMDL UPC								DT																								
Deliveries																																

R-1 SHOPPING LIST - Item No. 85

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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT 0604215N Standard Development				PROJECT NUMBER AND NAME 2312 Common Helicopters			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Prototype Phase								
PFPS V3.3	4Q	1Q						
PFPS V4.0	4Q	1Q-3Q						
PFPS V4.1		4Q	1Q-3Q					
CMDL V2.0	1Q-2Q							
CMDL V2.01		1Q-3Q						
CMDL V2.1	4Q	1Q-3Q						
CMDL UPC	4Q	1Q-3Q						
Technical Evaluation (TECHEVAL)								
PFPS V3.3	1Q-4Q	1Q						
PFPS V4.0		4Q	1Q-2Q					
N-PFPS V4.1			3Q-4Q	1Q				
CMDL V2.0	2Q-4Q	1Q-3Q						
CMDL V2.01	2Q-4Q	1Q-4Q						
CMDL V2.1		3Q-4Q	1Q-2Q					
Production Milestones								
CMDL UPC		4Q	1Q-3Q					

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **FEBRUARY 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	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								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

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: **FEBRUARY 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	Program Element (PE) 0604215N Standards Developme	Project Unit (PU) No. S1857, Calibration Standards

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		**4.115**	**4.219**	**1.359**
RDT&E Articles Quantity				

FY 2003 Accomplishments:

(U) ($67,000) Reserved for Small Business Innovation Research assessment in accordance with 15 USC 638.

(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,

(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.

(U) ($ 0) Began no new standards development .

FY 2004 Plan:

(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.

(U) ($ .810) Continue development of 2 standards to reduce crew size initiatives on board ships and a modeling simulation project.

(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.

FY 2005 Plan:

(U) ($ .279) Complete 1 calibration standard (hardware) in support of reduce crew size initiatives.

(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.

(U) ($ 0) Begin no new standards development.

CLASSIFICATION:

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

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
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

CLASSIFICATION:

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

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
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.**

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **FEBRUARY 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT Program Element (PE) 0604215N Standards Development			PROJECT NUMBER AND NAME 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:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: **FEBRUARY 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		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

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	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

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		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

(U) B. Accomplishments/Planned Program

AMC&D		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		22.778	12.222	8.749
RDT&E Articles Quantity				

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.

JSRC		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		1.117	1.005	0.795
RDT&E Articles Quantity				

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.

TAWS		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.549	0.000	0.000
RDT&E Articles Quantity				

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.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		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

(U) B. Accomplishments/Planned Program

JMPS		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.853	1.125	0.000
RDT&E Articles Quantity				

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.

CNS/ATM		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		4.346	11.938	13.435
RDT&E Articles Quantity		3		

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&E articles in FY03 required for Mode S integration and test.

VPF		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.846	3.432	2.362
RDT&E Articles Quantity			1	

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&E of the VPF software in TAMMAC.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		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

(U) B. Accomplishments/Planned Program

AWICS		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.679	2.137	0.750
RDT&E Articles Quantity			15	

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&E articles are used for environmental, integration, EMI, EMC, TEMPEST and flight testing.

JTRS		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.000	7.880	20.005
RDT&E Articles Quantity			2	5

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&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.

R-1 SHOPPING LIST - Item No. 85

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		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

(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 accomodate 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 acquision 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.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		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

(U) D. OTHER PROGRAM FUNDING SUMMARY:

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

(U) E. ACQUISITION STRATEGY: *

Advanced Mission Computer & Display (AMC&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.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604215N, STANDARD DEVELOPMENT				PROJECT NUMBER AND NAME 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

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)											DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604215N, STANDARD DEVELOPMENT				PROJECT NUMBER AND NAME 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
Development Support	WX	NAWCs		0.338	12/02	0.625	12/03	0.259	12/04	Continuing	Continuing	
Software Development	WX	NAWCs		0.557	03/03	0.364	12/03				0.921	0.921
Integrated Logistics Support	WX	NAWCs		0.333	11/02	0.610	11/03	0.298	12/04	Continuing	Continuing	
Configuration Management												
Technical Data												
Studies & Analysis	WX	NAWCs		2.623	11/02	0.266	11/03	0.266	11/04	Continuing	Continuing	
GFE												
Award Fees												
Misc			21.486								21.486	
Subtotal Support			21.486	3.851		1.865		0.823		Continuing	Continuing	

Remarks:

R-1 SHOPPING LIST - Item No. 85

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604215N, STANDARD DEVELOPMENT			PROJECT NUMBER AND NAME 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:												

R-1 SHOPPING LIST - Item No. 85

CLASSIFICATION:

EXHIBIT R4, Schedule Profile — **AMC&D** — DATE: **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	1	2	3	4
Acquisition Milestones											MS III (F/A-18) & AV-8B																						
Test & Evaluation Milestones	DT-IIA-2				DT-IIA-3				DT-IIA-4																							
Development Test	DT-IIB-2								F/A-18 OPEVAL																							
Operational Test			OT-IIA-1									Operational Test																				
							AV-8B OPEVAL																											
Production Milestones																																
LRIP I FY02 (39)	◇																															
LRIP II FY02 (48)				◇																												
LRIP III FY03 (45)								◇																								
FRP FY04											◇																					
Deliveries		LRIP 1 QTY - 39			LRIP 2 QTY - 48				LRIP 3 QTY - 45																							

R-1 SHOPPING LIST - Item No. 85

CLASSIFICATION:

Exhibit R-4a, Schedule Detail **AMC&D**					DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT 0604215N, Standards Development				PROJECT NUMBER AND NAME W0572, Joint Services/Navy Standard Avionics Components			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Operational Testing (OT-IIA-1) F/A-18E/F	3Q							
Developmental Testing (DT-IIA-3) F/A-18E/F	3Q-4Q	1Q-2Q						
Operational Evaluation (OPEVAL) AV-8B		2Q-4Q	1Q					
MSIII (AV-8B)			3Q					
Operational Evaluation (OPEVAL) F/A-18E/F		3Q-4Q	1Q					
Developmental Testing (DT-IIA-4) F/A-18E/F		3Q-4Q	1Q-2Q					
MSIII (F/A-18E/F)			3Q					
Operational Testing F/A-18E/F			3Q-4Q					
LRIP I	1Q							
LRIP II	4Q							
LRIP III		3Q						
FRP			3Q					

R-1 SHOPPPING LIST - Item No. 85

CLASSIFICATION:

EXHIBIT R4, Schedule Profile — **JMPS** — DATE: **February 2004**

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

PROGRAM ELEMENT NUMBER AND NAME: 0604215N, Standards Development

PROJECT NUMBER AND NAME: 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																																
TAMMAC JUMPS UPC Development		SDR △	PDR △	CDR △		SRR △																										
Test & Evaluation Milestones																																
Development Test									DT																							
Operational Test												OT																				
Production Milestones																																

R-1 SHOPPING LIST - Item No. 85

CLASSIFICATION:

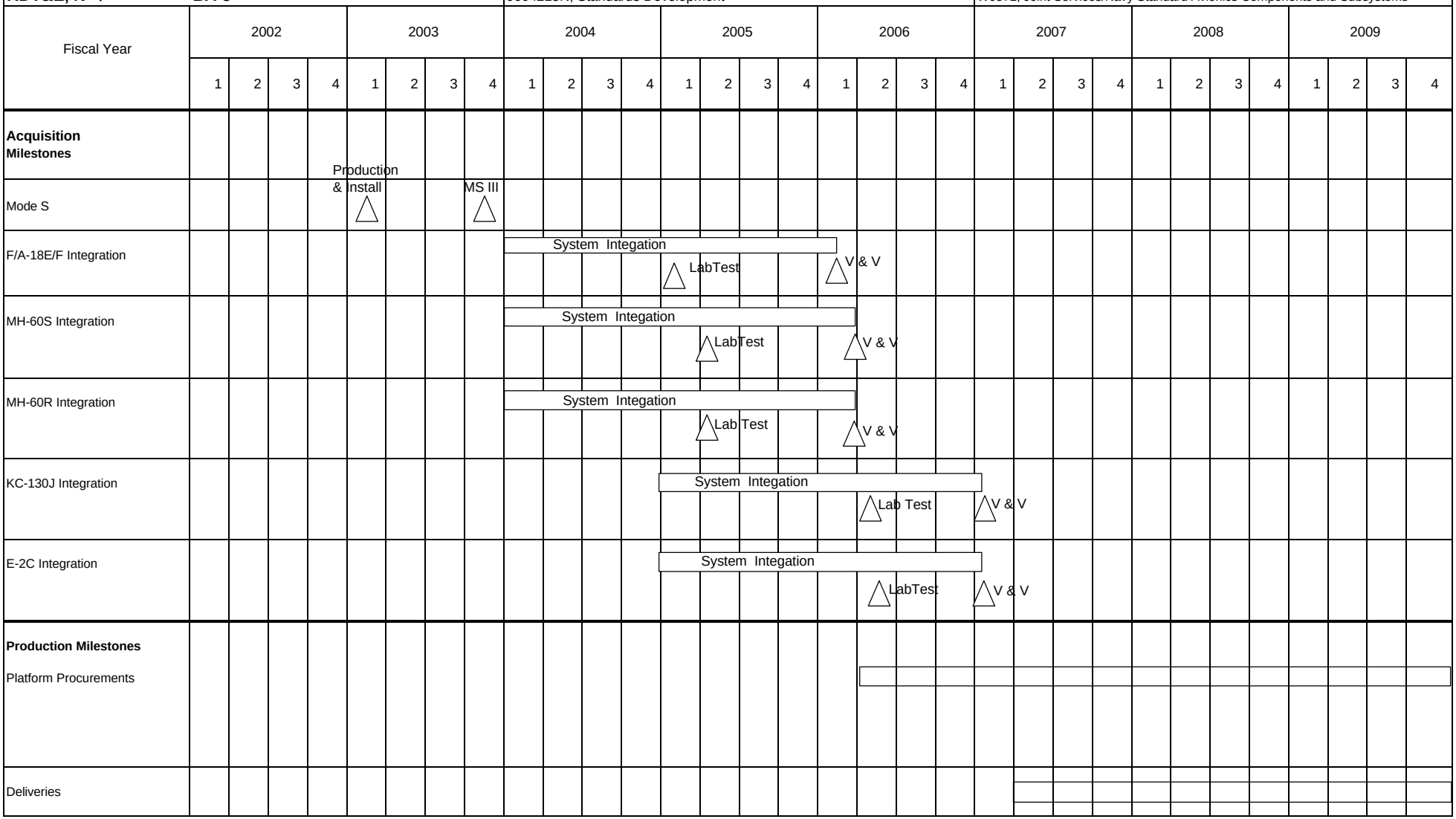
Exhibit R-4a, Schedule Detail **JMPS**					DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT 0604215N, Standards Development				PROJECT NUMBER AND NAME W0572, Joint Services/Navy Standard Avionics Components			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
System Design Review (SDR)	2Q							
Preliminary Design Review (PDR)	3Q							
Critical Design Review (CDR)	3Q							
Systems Requirements Review (SRR)		2Q						
Developmental Testing (DT)		4Q	1Q-2Q					
Operational Testing (OT)			3Q-4Q					

R-1 SHOPPING LIST - Item No. 85

CLASSIFICATION:

EXHIBIT R4, Schedule Profile — **CNS/ATM** — 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



CLASSIFICATION:

Exhibit R-4a, Schedule Detail **CNS/ATM**					DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT 0604215N, Standards Development				PROJECT NUMBER AND NAME W0572, Joint Services/Navy Standard Avionics Components			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Milestone III (For Mode S)		4Q						
F18 System Integration			1Q-4Q	1Q-4Q	1Q			
MH-60S System Integration			1Q-4Q	1Q-4Q	1Q			
MH-60R System Integration			1Q-4Q	1Q-4Q	1Q			
F18 Lab Integration Test				1Q				
KC-130J System Integration				1Q-4Q	1Q-4Q	1Q		
E2C System Integration				1Q-4Q	1Q-4Q	1Q		
MH-60S Lab Integration Test				2Q				
MH-60R Lab Integration Test				2Q				
KC-130J Lab Integraion Test					2Q			
E-2C Lab Integration Test					2Q			
Platform Procurements					2Q-4Q	1Q -4Q	1Q-4Q	1Q - 4Q

R-1 SHOPPING LIST - Item No. 85

CLASSIFICATION:

EXHIBIT R4, Schedule Profile

VECTOR PRODUCT FORMAT

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																		Fleet Introduction △														
VPF Integration Study							▭	▭	▭	▭																						
Contract Award △								△																								
Vector Product Development									SDR/SRR △		PDR △	CDR △																				
Software VPF S/W to H/W Integration											▭	▭	▭																			
Test & Evaluation Milestones														DT/SQT ▭	▭	▭																
Development Test																OT ▭	▭															
Operational Test																																
Production Milestones																																

R-1 SHOPPING LIST - Item No. 85

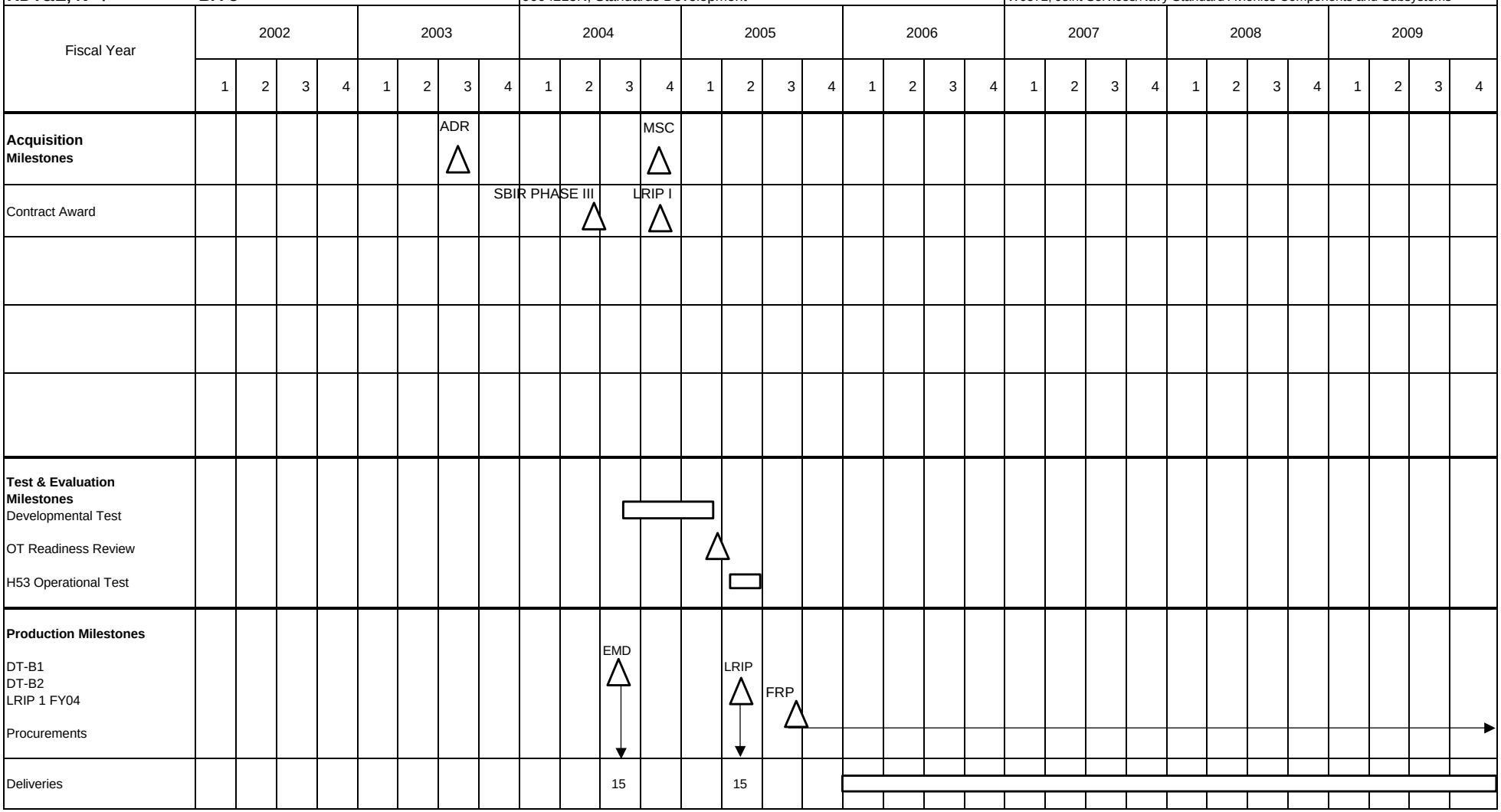
CLASSIFICATION:

Exhibit R-4a, Schedule Detail **VECTOR PRODUCT FORMAT**					DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT 0604215N, Standards Development				PROJECT NUMBER AND NAME W0572, Joint Services/Navy Standard Avionics Components			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
VPF Integration Study		3Q- 4Q	1Q					
VPF Development Contract Award		4Q						
System Design Review (SDR)			2Q					
System Requirements Review (SRR)			2Q					
Preliminary Design Review (PDR)			3Q					
VPF S/W to H/W Integration Starts			3Q					
Critical Design Review (CDR)			4Q					
Developmental Testing (DT)				2Q-3Q				
System Qualification Testing (SQT)				2Q-3Q				
Operational Testing (OT)				3Q-4Q				
Fleet Introduction					2Q			

CLASSIFICATION:

EXHIBIT R4, Schedule Profile — **AWICS** — 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



R-1 SHOPPING LIST - Item No. 85

CLASSIFICATION:

Exhibit R-4a, Schedule Detail **AWICS**						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT 0604215N, Standards Development				PROJECT NUMBER AND NAME W0572, Joint Services/Navy Standard Avionics Components			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
ADR		3Q						
Contract Award - SBIR Phase III			2Q					
Developmental Testing (DT-IIA)			3Q-4Q	1Q				
Milestone C (MS C)			4Q					
Operational Test Readiness Review (OTRR)				1Q				
Low-Rate Initial Production (LRIP 1)			4Q					
LRIP 1 Deliveries				2Q				
FRP				3Q				

R-1 SHOPPING LIST - Item No. 85

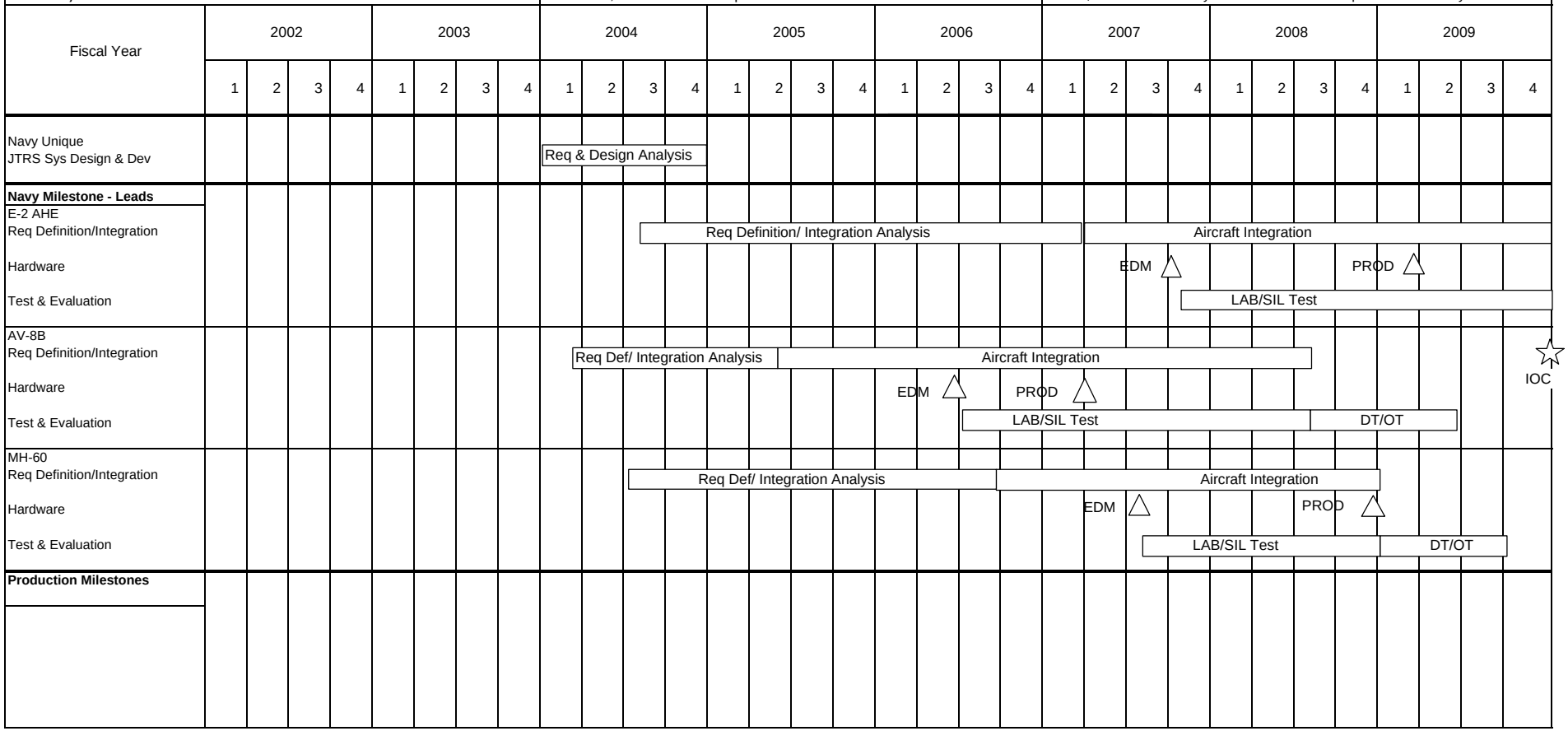
CLASSIFICATION:

EXHIBIT R4, Schedule Profile — **JTRS** — DATE: **February 2004**

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

PROGRAM ELEMENT NUMBER AND NAME: 0604215N, Standards Development

PROJECT NUMBER AND NAME: W0572, Joint Services/Navy Standard Avionics Components and Subsystems



R-1 SHOPPING LIST - Item No. 85

CLASSIFICATION:

Exhibit R-4a, Schedule Detail **JTRS**					DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT 0604215N, Standards Development				PROJECT NUMBER AND NAME W0572, Joint Services/Navy Standard Avionics Components			
	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Schedule Profile - Navy Unique/Lead Platforms								
Design Analysis			1Q-4Q					
Integration Analysis - Navy Lead Platforms			3Q-4Q	1Q-4Q	1Q-4Q	1Q		
Aircraft Integration				2Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Eng Dev Model (EDM) - Lab					2Q-4Q	1Q-4Q		
Eng Dev Model (EDM) - Flt Test						1Q-4Q	1Q-4Q	1Q
Combined DT/OT							3Q-4Q	1Q-4Q

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 0604216N Multi-Mission Helicopter Upgrade Development			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost		**89.943**	**76.141**	**78.757**	**48.224**	**18.912**	**14.037**	**0.000**
H1707 MMH Upgrade Development		**84.250**	**76.141**	**78.757**	**48.224**	**18.912**	**14.037**	**0.000**
H3053 MH-60S AMCM								
H9215 MH-60 PMLCC		**3.251**						
H9216 MH-60 Helicopter FLIR		**2.442**						

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

From program inception through FY99, Project H1707 was funded under P.E. 0604212N, ASW & Other Helo Development, Project Unit H1707.

H1707 - The MH-60R Multi-Mission Helicopter provides battle group protection and adds significant capability in coastal littorals and regional conflicts. The MH-60R Multi-Mission Helicopter represents a significant avionics improvement to the H-60 series helicopters by enhancing primary mission areas of Undersea Warfare (USW) and Surface Warfare (SUW). Airborne Low Frequency Sonar (ALFS) will be added to enhance the existing acoustic suite. An added Multi-Mode Radar includes an Inverse Synthetic Aperture Radar mode (ISAR) (permits stand-off classification of hostile threats). An improved Electronics Surveillance Measures system (ESM) will enable passive detection and targeting of radar sources not currently detectable. Integration of Tactical Common Data Link (TCDL) , will be incorporated into the MH-60R as part of Block-I. FY03 and out reflects a new production procurement strategy.

H9215 - The MH-60R Multi-Mission Helidcopter Preventative Maintenance Life Cycle Criteria (PMLCC) (Congressional Add)).

H9216 - The MH-60R Multi-Mission Helicopter FLIR housing configuration (Congressional Add).

R-1 SHOPPING LIST - Item No. 86

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2004	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**				PROJECT NUMBER AND NAME H1707 MMH Upgrade Development			
COST ($ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost	**84.250**	**76.141**	**78.757**	**48.224**	**18.912**	**14.037**	**0.000**
RDT&E Articles Qty							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

From program inception through FY99, the program was funded under P.E. 0604212N, ASW & Other Helo Development, Project Unit H1707.

The MH-60R Multi-Mission Helicopter provides battle group protection and adds significant capability in coastal littorals and regional conflicts. The MH-60R Multi-Mission Helicopter represents a significant avionics improvement to the H-60 series helicopters by enhancing primary mission areas of Undersea Warfare (USW) and Surface Warfare (SUW). Airborne Low Frequency Sonar (ALFS) will be added to enhance the existing acoustic suite. An added Multi-Mode Radar includes an Inverse Synthetic Aperture Radar mode (ISAR) (permits stand-off classification of hostile threats). An improved Electronics Surveillance Measures system (ESM) will enable passive detection and targeting of radar sources not currently detectable. Integration of Tactical Common Data Link (TCDL) , will be incorporated into the MH-60R as part of Block-I. FY03 and out reflects a new production procurement strategy.

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROJECT NUMBER AND NAME H1707 MMH Upgrade Development

B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	59.050	26.400	8.800
RDT&E Articles Quantity			

Avionics system software and hardware development and integration to include: RADAR mode development, ESM development, acoustics and post processing, mission planning, weapons, stores and self defense, data fusion, logistics products including Integrated ElectronicTechnical Manuals, boresighting equipment and integration. Support aircraft integration, problem investigation and resolution, lab management and upgrades, hardware investigations, and repairs in support of the test program. ILS support, Program Management support, Risk Management Board support, and subvendor support.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	4.600	5.825	0.926
RDT&E Articles Quantity			

Completed and delivered Airframe test articles (FY02). Airframe test articles engineering support, GFE repair, and risk management board support. Procurement of Digital Mock-up and weight reduction studies, Integrated Self Detection integration development and vibration testing.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	5.274	5.586	4.315
RDT&E Articles Quantity			

Avionics engineering specialties, Integrated Logistics Support, Contractor Services Support, System Engineering, Program Management and Travel as required to support the MH-60R developmental program and test activities (DT-IIC).

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	14.882	11.130	4.316
RDT&E Articles Quantity			

MH-60R Mission Avionics testing.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROJECT NUMBER AND NAME H1707 MMH Upgrade Development

B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.444	0.400	0.400
RDT&E Articles Quantity			

Avionics Acoustics (including ALFS) processor development, integration and testing. Correct deficiencies encountered during testing and integration in

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost			
RDT&E Articles Quantity			

Airframe Dynamic Component engineering and Logistics evaluation and analysis of impacts to the MH-60R design. Continued to build test coupons and perform certification testing.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		17.500	40.600
RDT&E Articles Quantity			

Avionics Block I Upgrade software and hardware development and integration effort to include: digital torpedo, integrated Satellite Communication Demand Assign Multiple Access Waveform (SATCOM DAMA), low light Multi-Specral Targeting System Forward Looking Infrared (MTS FLIR) system, RADAR Low Probability of Intercept (LPI) mode development, Link 16, and Joint Mission Planning System (JMPS) migration.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		1.800	2.600
RDT&E Articles Quantity			

Airframe Block I Upgrade software and hardware development and integration for the right hand extended pylon.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROJECT NUMBER AND NAME H1707 MMH Upgrade Development

B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		2.500	6.800
RDT&E Articles Quantity			

Avionics Block I Upgrade engineering specialties, Integrated Logistics Support, Contractor Services Support, Systems Engineering, and Program Management as required.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		5.000	10.000
RDT&E Articles Quantity			

Avionics Mission Block I Upgrade Mission Testing and Evaluation efforts.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604216N Multi-Mission Helicopter Upgrade Dev	H1707 MMH Upgrade Development

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:	87.012	76.998	79.152
Current BES/President's Budget	84.250	76.141	78.757
Total Adjustments	-2.762	-0.857	-0.395
Summary of Adjustments			
Congressional program reductions			
Congressional undistributed reductions		-0.857	
Congressional rescissions			
SBIR/STTR Transfer	-1.625		
Economic Assumptions			-0.166
Reprogrammings	-1.137		
Other Navy/OSD Adjustments			-0.229
Congressional increases			
Subtotal	-2.762	-0.857	-0.395

Schedule:

Milestone III (MS-III) was changed from 3Q/05 to 2Q/05 in accordance with the approved Acquistion Program Baseline (APB) dated 14 October 2003. The current schedule reflects the addition of Lockheed Martin contract award for the Block-I Upgrade effort planned for 2Q/04, the Sikorsky contract award planned for 2Q/04, the addition of Block-I DT-IIIA testing planned for 2Q/04-3Q/06, and OT-IIIA testing planned for 4Q/06-2Q/07.

Technical:

Not Applicable.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	PE 0604216N Multi-Mission Helicopter Upgrade Dev	H1707 MMH Upgrade Development

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
APN-1 (BLI - 018200)	117.238	385.645	409.095	613.456	816.527	1,135.673	1,167.362	4,066.131	8,711.127
APN-6 Initial Spares (BLI-060510)	0.000	49.579	45.253	74.843	0.774	5.787	0.773	0.000	189.272

Related RDT&E

(U) PE 0604507N Enhanced Modular Signal Processor
(U) PE 0604212N ASW & Other Helo Development (LAMPS MK-III Data Link)
(U) PE 0604261N Acoustic Search Sensors
(U) PE 0604216N H-60 Helicopter ComponentsPreventative Maintenance Life Cycle Criteria (PMLCC). PU: H9215
(U) PE 0604216N H-60 Helicopter FLIR Housing Configuration. PU:9216

E. ACQUISITION STRATEGY:

The MH-60R acquistion strategy has been revised based on the program restructure, which ocurred in FY2002. The restructure encompassed a replan of the EMD-II contract resulting in a change in contract type from Cost Plus Fixed Fee (CPFF) to Cost Plus Award Fee (CPAF) and inclusion of Sikorsky in development efforts. The restructure also extended the test schedule, which will culminate in a Milestone III (MS-III) and Initial Operating Capability (IOC) in FY2005. The program includes an evolutionary acquisition Block I Upgrade effort which is scheduled to begin in FY2004.

F. MAJOR PERFORMERS:

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604216N Multi-Mission Helicopter Upgrade Dev			PROJECT NUMBER AND NAME H1707 MMH Upgrade 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
Pri Hdw Dev, Avionics	SS/CPAF	Lockheed Martin, Owego NY	517.475	59.050	12/02	26.400	12/03	8.800	12/04		611.725	611.725
Ancillary Hdw Dev, ALFS	SS/CPIF	Raytheon, Rhode Island	27.952								27.952	27.952
Pri Hdw Dev, Avionics Common Cockpit	SS/CPIF	Lockheed Martin, Owego NY	70.530								70.530	70.530
Pri Hdw Dev, Avionics Acoustics	SS/CPIF	Lockheed Martin, Owego NY	10.618	0.444	02/03	0.400	02/04	0.400	02/05		11.862	11.862
Pri Hdw Dev, Airframe TA	SS/CPAF	Sikorsky, Stratford, CT	52.047	4.600	02/03	5.825	02/04	0.926	01/05		63.398	63.398
Pri Hdw Dev, Airframe PADS	SS/CPIF	Sontech, Bedford, NH	17.769								17.769	17.769
GFE	BOA	Sikorsky, Stratford, CT	4.238								4.238	4.238
Pri Hdw Dev, Airframe Dyn Com Analysis	SS/CPIF	Sikorsky, Stratford, CT	10.999								10.999	10.999
Aircraft Integration (ATIRCM)	SS/CPFF	Lockheed Martin, Owego NY	3.964								3.964	3.964
Pri Hdw Dev, Avionics Block I	SS/CPAF	Lockheed Martin, Owego NY				17.500	01/04	40.600	01/05	28.600	86.700	86.700
Pri Hdw Dev, Airframe Block I	SS/CPAF	Sikorsky, Stratford, CT				1.800	01/04	2.600	01/05	0.400	4.800	4.800
Subtotal Product Development			715.592	64.094		51.925		53.326		29.000	913.937	

Remarks:

R-1 SHOPPING LIST - Item No. 86

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604216N Multi-Mission Helicopter Upgrade Dev			PROJECT NUMBER AND NAME H1707 MMH Upgrade 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
Development Support	Various	Various	101.443	1.358	Various	2.524	12/03	7.594	TBD	13.105	126.024	
Software Development											0.000	
Integrated Logistics Support	Various	Various	12.566			1.712	12/03	0.441	TBD		14.719	
GFE	Various	Various	7.138								7.138	
Subtotal Support			121.147	1.358		4.236		8.035		13.105	147.881	

Remarks:

R-1 SHOPPING LIST - Item No. 86

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604216N Multi-Mission Helicopter Upgrade Dev			PROJECT NUMBER AND NAME H1707 MMH Upgrade 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	WX	Various	41.151	12.975	Various	9.279	12/03				63.405	
Operational Test & Evaluation	WX	NAWC-AD, Pax River	0.961	1.705	01/03	1.755	03/04	4.316	TBD		8.737	
Live Fire Test & Evaluation	WX	NAWC-WD, China Lake	1.752	0.339	02/03	0.096	12/03				2.187	
Block I Test & Evalutation	WX	NAWC-AD, Pax River				5.000	12/03	10.000	TBD	37.400	52.400	
Subtotal T&E			43.864	15.019		16.130		14.316		37.400	126.729	
Remarks:												
Contractor Engineering Support	MIPR	CECOM, Ft. Monmouth, NJ	3.296								3.296	
Government Engineering Support	RX	NAWC-AD Pax River	5.233	2.822	Various	1.462	12/03	0.938	TBD	0.868	11.323	
Program Management Support	RX	MISC Activities	5.870	0.039	04/03	0.688	12/03	0.442	TBD	0.300	7.339	
Travel	WX	NAWC-AD Pax River	4.200	0.918	Various	1.700	Various	1.700	TBD	0.500	9.018	
SBIR Assessment												
Subtotal Management			18.599	3.779		3.850		3.080		1.668	30.976	
Remarks:												
Total Cost			899.202	84.250		76.141		78.757		81.173	1,219.523	
Remarks:												

R-1 SHOPPING LIST - Item No. 86

CLASSIFICATION:

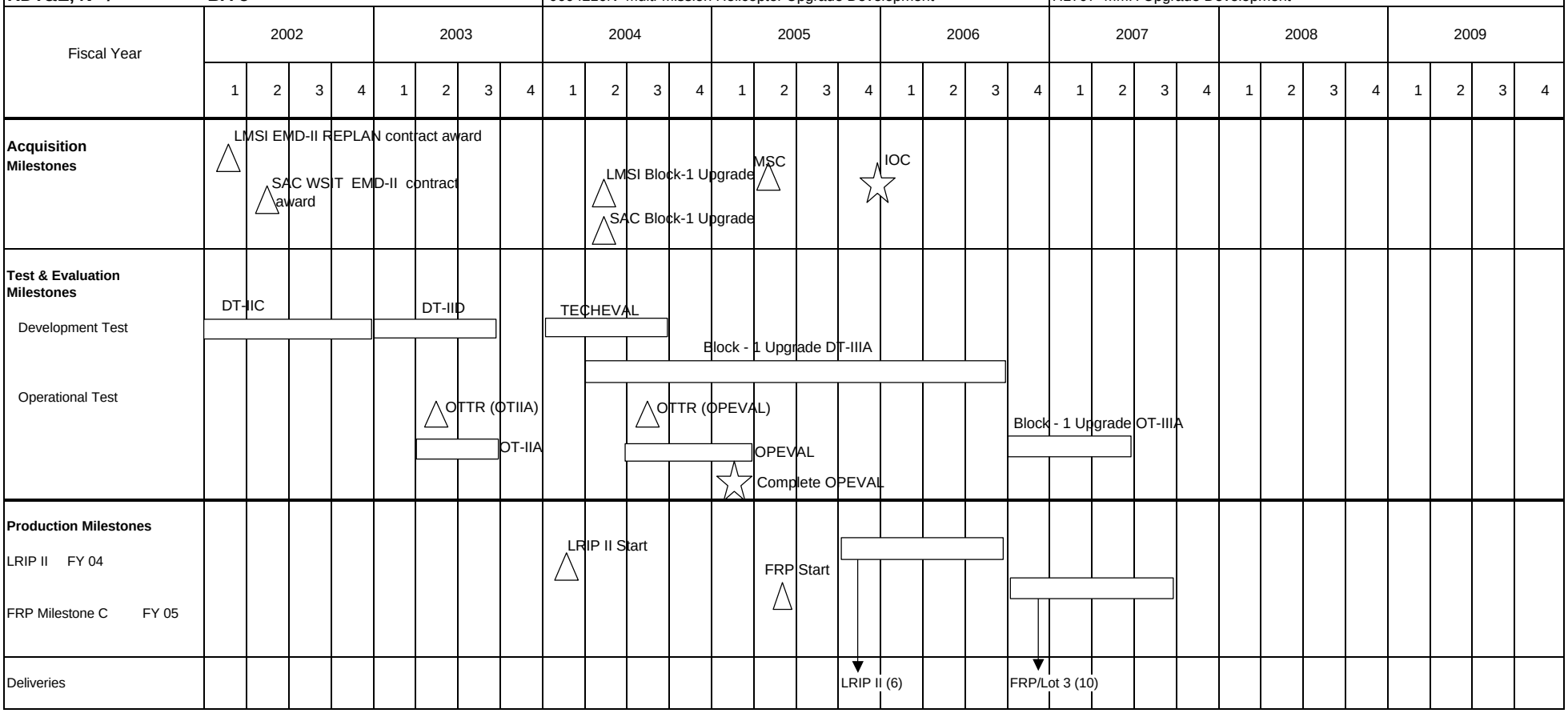
EXHIBIT R4, Schedule Profile

DATE: **February 2004**

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

PROGRAM ELEMENT NUMBER AND NAME: 0604216N Multi-Mission Helicopter Upgrade Development

PROJECT NUMBER AND NAME: H1707 MMH Upgrade Development



R-1 SHOPPING LIST - Item No. 86

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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT 0604216N Multi-Mission Helicopter Upgrade Developmen				PROJECT NUMBER AND NAME H1707 MMH Upgrade Development			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Complete DT-IIC	1Q-4Q							
LMSI EMD-II Contract Award	1Q							
SAC WSIT EMD II Contract Award	2Q							
OTRR (OTIIA)		2Q						
DT-IID		1Q-3Q						
OTIIA		2Q-3Q						
LMSI Block-1 Upgrade Contract Award			2Q					
SAC Block-1 Upgrade Contract Award			2Q					
TECHEVAL			1Q-3Q					
OTRR (OPEVAL)			3Q					
OPEVAL			3Q	1Q				
Complete OPEVAL				1Q				
Milestone III (MS-III)				2Q				
IOC				4Q				
Start Low-Rate Initial Production II (LRIP II)			1Q					
FRP (LRIP III/FRP)				2Q				
Low-Rate Initial Production II Delivery				4Q	1Q-3Q			
FRP Delivery					4Q	1Q-3Q		
Block 1 Upgrade DTIIIA			2Q-4Q	1Q-4Q	1Q-3Q			
Block 1 Upgrade OTIIIA					4Q	1Q-2Q		

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 0604217N S-3 Weapon System Improvement			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost		**0.398**						
H0489 S-3 WSIP		**0.398**						

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The current program provides continuation of a series of progressive modular improvements which began with the S-3 Weapons System Improvement Progam (WSIP) Phase I (S-3A modified to S-3B configuration). Based upon the S-3 WSIP Operational Requirement, the full program achieves the required multi-mission operational capability through continuous time-phased, selective mission avionics processing upgrades that are pursued in priority order. Initial Nunn-funded development focused on the Co-Processor Memory Unit (CPMU) hardware, a joint U.S./Canadian industrial base development program which provides the core processing capability and open architecture required for future modular S-3B modification. This program will complete CPMU integration and test and rewrite existing Tactical Mission Program (TMP) code into Ada higher-order language. Ada TMP development and CPMU integration will be leveraged to provide for sensor and connectivity enhancements in conjunction with the S-3B Surveillance System Upgrade (SSU) Project.

CLASSIFICATION:

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 0604218N Air/Ocean Equipment Engineering					
COST ($ in Millions)	Prior Years Cost		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Total Program
Total PE Cost			**7.332**	**3.041**	**4.506**	**4.563**	**5.696**	**5.813**	**5.931**	**CONT**	**CONT**
2345 Fleet METOC Equipment			**3.964**	**3.041**	**3.176**	**3.193**	**4.037**	**4.120**	**4.205**	**CONT**	**CONT**
2346 METOC Sensor Engineering			**1.463**	**0.000**	**1.330**	**1.370**	**1.659**	**1.693**	**1.726**	**CONT**	**CONT**
9217 SPY-1 Radar Tactical Environmental Processor (TEP)			**1.905**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**		**1.905**
Quantity of RDT&E Articles											

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Air/Ocean Equipment Engineering (AOEE) Program Element provides future mission capabilities to support Naval combat forces. This program engineers and developmentally tests organic and remote sensors, communication interfaces, and processing and display devices. These equipments are engineered to measure, ingest, store, process, distribute and display conditions of the physical environment that are essential to the optimum employment and performance of Naval warfare systems. AOEE also engineers capabilities for shipboard and shore-based tactical systems. A major thrust area for the AOEE program is to provide the engineering development of specialized equipment and measurement capabilities that are intended to monitor specific conditions of the physical environment in hostile and remote areas. With such capabilities, the warfighters' situational awareness of the operational effects of the physical environment are made more certain.

(U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under ENGINEERING & MANUFACTURING DEVELOPMENT because it encompasses engineering and manufacturing development of new end-items prior to production approval decision. A congressional plus up for SPY-1 Radar Tactical Environmental Processor (TEP) was provided in FY03.

R-1 SHOPPING LIST - Item No. 88

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification									DATE: FEBRUARY 2004	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604218N Air/Ocean Equipment Engineering					PROJECT NUMBER AND NAME 2345 Fleet METOC Equipment				
COST ($ in Millions)	Prior Years Cost		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Total Program
Project Cost			**3.964**	**3.041**	**3.176**	**3.193**	**4.037**	**4.120**	**4.205**	**Continuing**	**Continuing**
RDT&E Articles Qty											**0**

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project provides for the engineering and manufacturing development of sensors, communication interfaces, and processing and display equipment. This equipment is designed to provide future mission capabilities for warfighters to measure, ingest, store, process, distribute and display meteorological and oceanographic (METOC) parameters and derived products. Major emphasis areas include the Tactical Environmental Support System (TESS), and the associated Navy Integrated Tactical Environmental Subsystem (NITES), the Marine Corps Meteorological Mobile Facility (METMF), the AN/SMQ-11 satellite data receiver/recorder, shipboard weather radar capabilities, and the development of new sensors such as active and passive atmospheric profilers. This project also exploits new GOTS/COTS technologies and web enablement for the Navy's computer-based tactical shipboard and shore capability used to predict and assess the operational effects of the physical environment on the performance of platforms, weapons and sensor systems.

R-1 SHOPPING LIST - Item No. 88

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA 5	0604218N Air Ocean Equipment Engineering	2345 Fleet METOC Equipment

(U) B. Accomplishments/Planned Program

Object Oriented Data base Management	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	1.166	0.781	0.918
RDT&E Articles Quantity			

FY03: Completed engineering development of an object oriented database management system employing artificial intelligence technology Began transition to web-enabled high-speed battlegroup data server.
FY04: Continue transition to web-enabled high-speed battlegroup data server. Deliver technical report.
FY05: Complete transition and deliver final version to web-enabled high-speed battlegroup data server. Continue development of Object Oriented Database Management engineering for next generation data server employing expert system techniques.

Fleet System Engineering	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	1.090	0.916	0.748
RDT&E Articles Quantity			

FY03: Continued engineering development of fleet systems. Delivered NITES IV V1.0
FY04: Continue development of fleet systems. Deliver test report for NITES I Upgrade.
FY05: Continue development of fleet systems. Deliver Alternatives Study for the Next Generation Meteorolgical Mobile Facility.

Lead Laboratory	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.631	0.539	0.627
RDT&E Articles Quantity			

FY03: Continued Lead Laboratory tasks of software integration, assisted model developers and provided technical assistance to other activities. Delivered Quarterly Reports.
FY04: Continue Lead Laboratory tasks of software integration, assisting model developers and provide technical assistance to other activities. Deliver Quarterly Reports.
FY05: Continue Lead Laboratory tasks of software integration, assisting model developers and provide technical assistance to other activities. Deliver Quarterly Reports.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA 5	0604218N Air Ocean Equipment Engineering	2345 Fleet METOC Equipment

(U) B. Accomplishments/Planned Program

Off-the-Shelf Technology	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	1.077	0.805	0.883
RDT&E Articles Quantity			

FY03: Continued exploitation of off-the-shelf prototype hardware and other emerging technologies. Delivered Test Report for next generation antenna.
FY04: Continue exploitation of off-the-shelf prototype hardware and other emerging technologies. Deliver TEDServices Initial Report.
FY05: Continue exploitation of off-the-shelf prototype hardware and other emerging technologies. Deliver Evaluation Report for COTS Database.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000
RDT&E Articles Quantity			

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000
RDT&E Articles Quantity			

EXHIBIT R-2a, RDT&E Project Justification		DATE: FEBRUARY 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604218N Air Ocean Equipment Engineering	2345 Fleet METOC Equipment

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
FY'04 President's Budget	4.090	3.079	3.443
FY'05 President's Budget	3.964	3.041	3.176
Total Adjustments	(0.126)	(0.038)	(0.267)
Summary of Adjustments			
68849 FY 2003 Update	(0.042)	-	-
66556 FY03_SBIR	(0.084)	-	-
68041 Section 8094: Management Improvements	-	(0.008)	-
68060 Sec. 8029: FFRDC Reduction	-	(0.002)	-
68066 Sec. 8126: Efficiencies/Revised Econ. Assumptions	-	(0.026)	-
66961 SPAWAR Service Cost Center Adjustments	-	(0.002)	-
69025 WCF - R&D - SPAWAR	-	-	(0.001)
69026 WCF - R&D - NRL	-	-	(0.001)
69045 Rates - SSC	-	-	0.002
69046 Rates - NRL	-	-	0.001
69241 JBMC2	-	-	(0.200)
69492 Inflation	-	-	(0.008)
69512 Non purchase inflation	-	-	(0.002)
69606 Offset for Civpers FY04 Payrais	-	-	-
69707 FY 05 RDTEN Balancing	-	-	(0.002)
67689 MANPOWER	-	-	(0.051)
66961 SPAWAR Service Cost Center Adjustments	-	-	(0.002)
67766 NWCF Rates - NRL Rates	-	-	(0.001)
67767 NWCF Rates - SPAWAR SSC Rates	-	-	(0.002)
Subtotal	(0.126)	(0.038)	(0.267)

(U) Schedule:

Not Applicable

(U) Technical:

Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604218N Air Ocean Equipment Engineering	PROJECT NUMBER AND NAME 2345 Fleet METOC Equipment

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
OPN 4226 METEOROLOGICAL EQUIPMENT	27.142	25.393	20.134	25.851	22.647	27.357	30.69	CONT	CONT

Related RDT&E: PE 0603207N, Air/Ocean Tactical Applications.

(U) E. ACQUISITION STRATEGY:

Acquisition, management and contracting strategies are to support engineering and manufacturing development by providing funds to Naval Research Laboratories and miscellaneous contractors, with management oversight by SPAWAR.

(U) F. MAJOR PERFORMERS:

N/A

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)											DATE: **FEBRUARY 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604218N Air Ocean Equipment Engineering			PROJECT NUMBER AND NAME 2345 Fleet METOC Equipment						
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
Software Development	WX	NRL		1.215	NA	0.862	NA	1.110	NA	CONT	CONT	
	WX	SSCs		0.775	NA	0.439	NA	0.446	NA	CONT		
	CP	RAYTHEON		0.235	NA	0.221	NA	0.224	NA	CONT		
	NA	MISC		1.521	NA	1.301	NA	1.178	NA	CONT		
Subtotal Product Development			0.000	3.746		2.823		2.958		CONT	CONT	
Remarks:												
Development Support	CP	SSA	1.000	0.156	TBD	0.156	TBD	0.156	TBD	CONT	CONT	
Subtotal Support			1.000	0.156		0.156		0.156		CONT	CONT	
Remarks:=												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **FEBRUARY 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604218N Air Ocean Equipment Engineering			PROJECT NUMBER AND NAME 2345 Fleet METOC Equipment						
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	PD	OPTEVFOR		0.062	N/A	0.062	N/A	0.062	N/A	CONT	CONT	
Subtotal T&E			0.000	0.062		0.062		0.062		CONT	CONT	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support											0.000	
Travel											0.000	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost				3.964		3.041		3.176		CONT	CONT	
Remarks:												

R-1 SHOPPING LIST - Item No. 88

CLASSIFICATION:

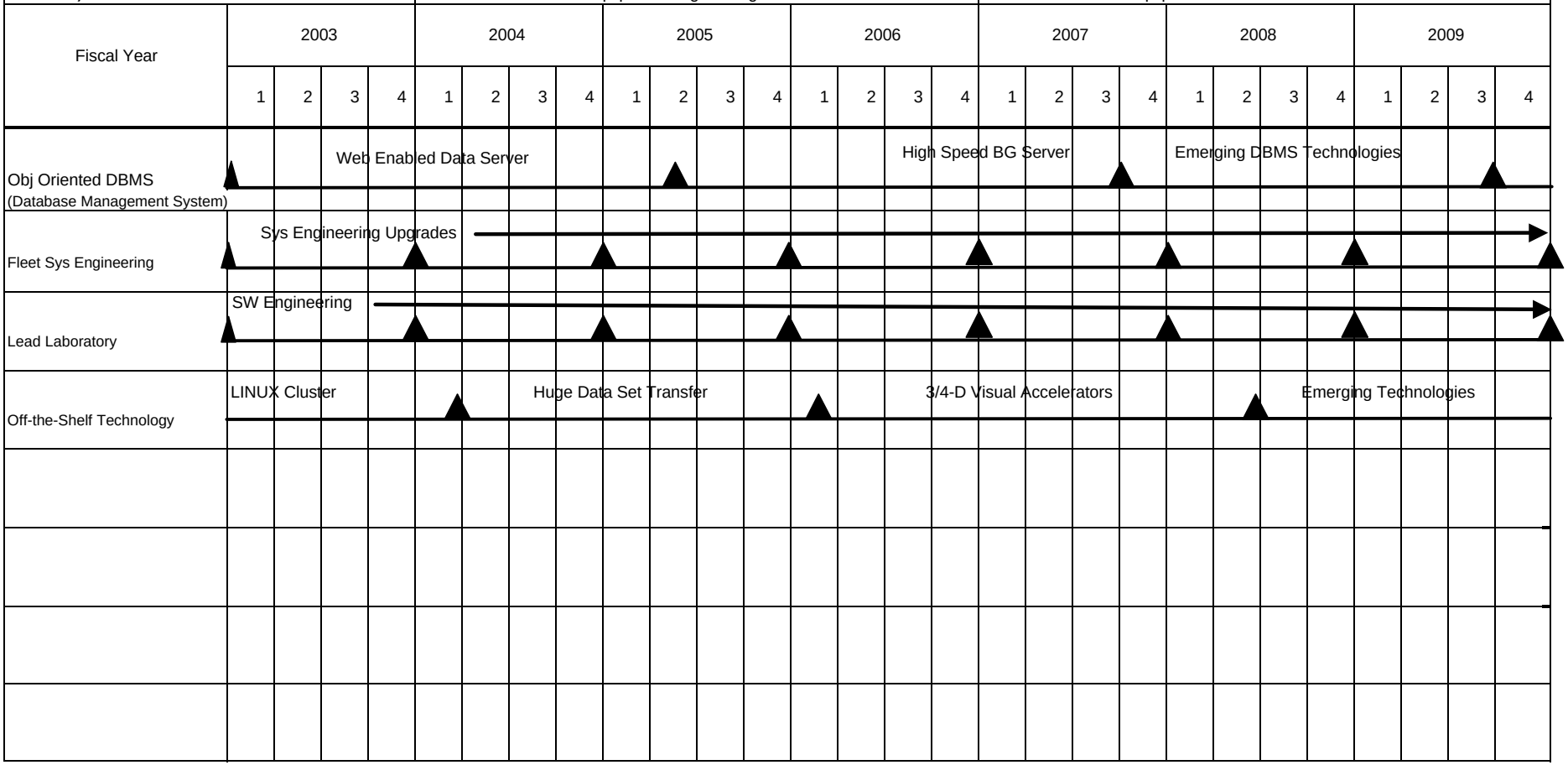
EXHIBIT R4, Schedule Profile

DATE: **FEBRUARY 2004**

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

PROGRAM ELEMENT NUMBER AND NAME: 0604218N Air Ocean Equipment Engineering

PROJECT NUMBER AND NAME: 2345 Fleet METOC Equipment



R-1 SHOPPING LIST - Item No. 88

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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **FEBRUARY 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT& BA-5**	PROGRAM ELEMENT 0604218N Air Ocean Equipment Engineerin			PROJECT NUMBER AND NAME 2345 Fleet METOC Equipment			
Schedule Profile	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Obj Oriented Database Management System (DBMS)			2Q		3Q		3Q
Fleet Sys Engineering	4Q	4Q	4Q	4Q	4Q	4Q	4Q
Lead Laboratory	4Q	4Q	4Q	4Q	4Q	4Q	4Q
Off-the-Shelf Technology		1Q		1Q		2Q	

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: FEBRUARY 2004			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604218N Air/Ocean Equipment Engineering					PROJECT NUMBER AND NAME 2346 METOC Sensor Engineering					
COST ($ in Millions)	Prior Years Cost		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Total Program
Project Cost			**1.463**	**0.000**	**1.330**	**1.370**	**1.659**	**1.693**	**1.726**	**Continuing**	**Continuing**
RDT&E Articles Qty											**0**

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project provides for the engineering and manufacturing development of specialized, high resolution instrumentation systems and measurement capabilities for obtaining near real-time, in-situ meteorological and oceanographic (METOC) data in hostile and remote areas. The project's objectives are to provide near-term future mission capabilities that are intended to ruggedize and package systems, sensors and instruments to survive the harsh littoral and deep-strike environments and also to meet demanding requirements for timeliness and accuracy. Engineering is performed within this project to ensure that air and safety certification for deployment from fleet aircraft or ships is met and that the proper data formats are employed for integration into existing or planned communications and displays. The end products are sensors and systems that will provide the tactical commander with near real-time, in-situ METOC data for operational use. In addition, this difficult to obtain data will provide important inputs for predictive models in areas of potential interest.

R-1 SHOPPING LIST - Item No. 88

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA 5	0604218N Air Ocean Equipment Engineering	2346 METOC Sensor Engineering

(U) B. Accomplishments/Planned Program

Unmanned Aerial Vehicle METOC Sensors	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.360	0.000	0.000
RDT&E Articles Quantity			

FY03: Continued engineering development of METOC sensors for ultra-light Unmanned Airborne Vehicles. Delivered Test report.

Clandestine Sensors	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.400	0.000	0.463
RDT&E Articles Quantity			

FY03: Continued development of micro sensor based miniature weather stations and engineering development to include autonomous clandestine sensors for measurements in denied areas. Delivered preliminary evaluation report.
FY04: Project not funded in FY04
FY05: Continue development of micro sensor based miniature weather stations and engineering development to include autonomous clandestine sensors for measurements in denied areas. Deliver Final Report.

MEASURE (Battlespace devices)	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.383	0.000	0.462
RDT&E Articles Quantity			

FY03: Continued development of Metoc Air, Surface, Undersea Reporting Equipment (MEASURE) including sensors and processing/distribution devices that detect, characterize, and distribute meteorological and oceanographic data from the battlespace. Delivered Test Reports.
FY04: Project not funded in FY04
FY05: Continue development of Metoc Air, Surface, Undersea Reporting Equipment (MEASURE) including sensors and processing/distribution devices that detect, characterize and distribute meteorological and oceanographic data from the battlespace. Deliver Technical Reports.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA 5	0604218N Air Ocean Equipment Engineering	2346 METOC Sensor Engineering

(U) B. Accomplishments/Planned Program

Unmanned Underwater Vehicle Sensors	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.320	0.000	0.405
RDT&E Articles Quantity			

FY03: Completed engineering development of intelligent sensor suite for Unmanned Undersea Vehicles. Continued development of Unmanned Underwater Vehicle Sensors engineering for tactical acoustic measurement buoy.
FY04: Project not funded in FY04
FY05: Continue development of Unmanned Underwater Vehicle Sensors engineering for tactical acoustic measurement buoy. Deliver Technical Reports.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000
RDT&E Articles Quantity			

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000
RDT&E Articles Quantity			

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604218N Air Ocean Equipment Engineering	2346 METOC Sensor Engineering

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
FY'04 President's Budget	1.509	1.230	1.336
FY'05 President's Budget	1.463	-	1.330
Total Adjustments	(0.046)	(1.230)	(0.006)
Summary of Adjustments			
68423 Integration of Metrological and Oceanographic Se	-	(1.230)	-
65724 Inflation Savings	(0.016)	-	-
69492 PBD-604 Inflation	-	-	(0.004)
69512 PBD604 non purchase inflation	-	-	(0.001)
69707 FY 05 ITR RDTEN Balancing	-	-	(0.001)
66556 FY03_SBIR_5-May-03	(0.030)	-	-
Subtotal	(0.046)	(1.230)	(0.006)

(U) Schedule:

Not Applicable

(U) Technical:

Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604218N Air Ocean Equipment Engineering	2346 METOC Sensor Engineering

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Related RDT&E: PE 0603207N (Air/Ocean Tactical Applications), PE0602435N (Ocean and Atmospheric Technology)

(U) E. ACQUISITION STRATEGY:

Acquisition and contracting strategies are to support engineering and manufacturing development of specialized, high resolution instrumentation systems and measurement techniques for obtaining near real-time in-situ meteorological and oceanographic (METOC) data in denied or remote areas by providing funds to NAVAIR and miscellaneous contractors, with management oversight by SPAWAR.

(U) F. MAJOR PERFORMERS:

N/A

R-1 SHOPPING LIST - Item No. 88

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: **FEBRUARY 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604218N Air Ocean Equipment Engineering				PROJECT NUMBER AND NAME 2346 METOC Sensor Engineering						
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
Software Development	WX	NRL		0.053	NA	0.000	NA	0.053	NA	CONT	CONT	
	NA	MISC		1.410	NA	0.000	NA	1.277	NA		2.687	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			0.000	1.463		0.000		1.330		CONT	CONT	
Remarks:												
Development Support				0.000		0.000		0.000			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:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: **FEBRUARY 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604218N Air Ocean Equipment Engineering				PROJECT NUMBER AND NAME 2346 METOC Sensor Engineering						
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	0.000		0.000		0.000			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											0.000	
Program Management Support											0.000	
Travel											0.000	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			0.000	1.463		0.000		1.330		CONT	CONT	
Remarks:												

R-1 SHOPPING LIST - Item No. 88

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile — DATE: **FEBRUARY 2004**

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

PROGRAM ELEMENT NUMBER AND NAME: 0604218N Air Ocean Equipment Engineering

PROJECT NUMBER AND NAME: 2346 METOC Sensor Engineering

Fiscal Year	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
UAV METOC Sensors (Unmanned Aerial Vehicle)	Ultralight UAV Sensors																											
Clandestine Sensors					Autonomous Sensor Engineering												Air Deployed Micro-sensors											
MEASURE	MEASURE Interface								Wave Buoy Upgrades								Tactical Acoustic Buoy											
UUV Sensors Unmanned Underwater Vehicle					ARIES AUV (Autonomous Unmanned Vehicle)						Micro AUV								Stealth AUV						Next Generation ROV			

R-1 SHOPPING LIST - Item No. 88

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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail				DATE: **FEBRUARY 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT 0604218N Air Ocean Equipment Engineeri			PROJECT NUMBER AND NAME 2346 METOC Sensor Engineering			
Schedule Profile	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Unmanned Aerial Vehicle (UAV) METOC Sensors		1Q					
Clandestine Sensors			4Q			4Q	
MEASURE	3Q		4Q			1Q	
Unmanned Underwater Vehicle (UUV) Sensors		1Q		1Q		2Q	

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification									DATE: FEBRUARY 2004	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604218N Air/Ocean Equipment Engineering				PROJECT NUMBER AND NAME 9217 SPY-1 Tactical Environmental Processor (TEP)					
COST ($ in Millions)	Prior Years Cost		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Total Program
Project Cost	**0.000**		**1.905**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**1.905**
RDT&E Articles Qty											**0**

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: A congressional plus up for SPY-1 Radar Tactical Environmental Processor (TEP) was provided in FY03. This project provides for the SPY-1 Tactical Environmental Processor (TEP) , an operational system which provides timely characterization of rapidly changing environment surrounding the battlegroup, to automatically optimize weapon and sensor performance and to supply the tactical decision maker with accurate assessment of the capability for the weapon system to complete its mission. The U.S. Navy in partnership has developed an advanced radar processor that extracts detailed environmental weather measurements (currently considered radar clutter) from existing surveillance radars. Using normally scheduled radar dwells, TEP simultaneously generates both real spectral moment measurements of the environment surrounding the battlegroup to create high-resolution weather radar data comparable to that of NEXRAD, the National Weather Service's most advanced Doppler radar. It also generates real-time clutter characterization for use in optimizing weapons and sensors, and for identifying factors limiting their performance.

R-1 SHOPPING LIST - Item No. 88

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA 5	0604218N Air Ocean Equipment Engineering	9217 SPY-1 Tactical Environmental Processor (TEP)

(U) B. Accomplishments/Planned Program

SPY-1 Tactical Environmental Processor (TEP)	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	1.905	0.000	0.000
RDT&E Articles Quantity			

FY03: Complete upgrade for prototype hardware and software to operational status to provide operational status for meteorological conditions.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000
RDT&E Articles Quantity			

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000
RDT&E Articles Quantity			

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604218N Air Ocean Equipment Engineering	9217 SPY-1 Tactical Environmental Processor (TEP)

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
Congressional Add	2.000	-	-
FY'05 President's Budget	1.905	-	-
Total Adjustments	(0.095)	0.000	0.000
Summary of Adjustments			
64822 Business Reform (SEC 8100)	(0.008)	-	-
64823 Economic Assumptions (SEC 8135)	(0.011)	-	-
64971 IT Cost Growth	(0.004)	-	-
65724 Inflation Savings	(0.021)	-	-
66556 FY03_SBIR	(0.051)	-	-
Subtotal	(0.095)	0.000	0.000

(U) Schedule:

Not Applicable

(U) Technical:

Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604218N Air Ocean Equipment Engineering	9217 SPY-1 Tactical Environmental Processor (TEP)

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Related RDT&E: PE 0603207N (Air/Ocean Tactical Applications), PE0602435N (Ocean and Atmospheric Technology)

(U) E. ACQUISITION STRATEGY:

Acquisition and contracting strategies are to support engineering and manufacturing development of specialized, high resolution instrumentation systems and measurement techniques for obtaining near real-time in-situ meteorological and oceanographic (METOC) data in denied or remote areas by providing funds to NAVAIR and miscellaneous contractors, with management oversight by SPAWAR.

(U) F. MAJOR PERFORMERS:

N/A

R-1 SHOPPING LIST - Item No. 88

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **FEBRUARY 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604218N Air Ocean Equipment Engineering			PROJECT NUMBER AND NAME 9217 SPY-1 Tactical Environmental Processor (TEP)							
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
Software Development	WX	SSC SD	0.000	0.200	NA	0.000	NA	0.000	NA		0.200	
Software Engineering	PD	NAVSEA/LOCKHEED MART	0.000	1.705	NA	0.000	NA	0.000	NA		1.705	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			0.000	1.905		0.000		0.000		0.000	1.905	
Remarks:												
Development Support				0.000		0.000		0.000			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:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: **FEBRUARY 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604218N Air Ocean Equipment Engineering				PROJECT NUMBER AND NAME 9217 SPY-1 Tactical Environmental Processor (TEP)						
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	0.000		0.000		0.000			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											0.000	
Program Management Support											0.000	
Travel											0.000	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			0.000	1.905		0.000		0.000		#VALUE!	#VALUE!	

R-1 SHOPPING LIST - Item No. 88

2

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																													DATE: **FEBRUARY 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**					PROGRAM ELEMENT NUMBER AND NAME 0604218N Air Ocean Equipment Engineering												PROJECT NUMBER AND NAME 9217 SPY-1 Tactical Environmental Processor (TEP)											
Fiscal Year	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
Spy-1 Tactical Environmental Processor		SYSTEM ENGINEERING AND DESIGN																										

R-1 SHOPPING LIST - Item No. 88

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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **FEBRUARY 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT 0604218N Air Ocean Equipment Engineeri			PROJECT NUMBER AND NAME 9217 SPY-1 Tactical Environmental Processor (TEP)			
Schedule Profile	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
SPY-1 Tactical Environmental Processor (TEP)	4Q						

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 0604221N P-3 Modernization Program			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost		**0.887**	**14.593**	**9.554**	**5.244**	**5.281**	**5.332**	**5.382**
H1152 P-3 Sensor Integration		**0.887**	**7.225**	**6.566**	**2.252**	**2.287**	**2.334**	**2.380**
H3016 Fatigue Life Management Program				**2.988**	**2.992**	**2.994**	**2.998**	**3.002**
H9368 ALR-95 SEI Networking Program			**1.286**					
H9369 P-3 AIP Phase Capability Upgrade			**6.082**					

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This program provides upgrades to P-3C aircraft systems to enhance surface and subsurface tracking and classification; attack capabilities including Specific Emmitter Identification (SEI); improved APS-137 radar tracking and upgrades; and P-3 Critical Obsolescence Program. The P-3C Sensor Integration project provides for the technology insertion support necessary to integrate advanced sensors into embedded P-3C Update III computer systems. Also, P-3 Sensor Integration will expand software technology of P-3 systems to integrate additional sensors, tactical decision aids, and color capabilities to improve aircrew tactical proficiency and awareness. Sensor Integration is a continuous effort to integrate and test newly evolving ASW technologies under the "Extended Echo Ranging (EER) family of Mulit-Static active sensor systems".

Fatigue Life Management Program is required to manage P-3/EP-3 inventory fatigue life and includes ongoing structural analysis, analyzing emergent structural issues, conducting engineering studies, assessing Fleet impact, and applying new technologies such as Non-Destructive Inspection (NDI) techniques.

ALR-95 SEI Networking Program will provide Specific Emitter Identification (SEI) connectivity to common tactical networks.

P-3 AIP Phased Capability Upgrade will integrate LINK-16 into P-3C AIP aircraft.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604221N P-3 Modernization Program				PROJECT NUMBER AND NAME H1152 P-3 Sensor Integration			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		0.887	7.225	6.566	2.252	2.287	2.334	2.380
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This program provides upgrades to P-3C aircraft systems to enhance surface and subsurface tracking and classification; attack capabilities including Specific Emitter Identification (SEI); improved APS-137 radar tracking and upgrades; and P-3 Critical Obsolescence Program. The P-3C Sensor Integration project provides for the technology insertion support necessary to integrate advanced sensors into embedded P-3C Update III computer systems. Also, P-3 Sensor Integration will expand software technology of P-3 systems to integrate additional sensors, tactical decision aids, and color capabilities to improve aircrew tactical proficiency and awareness. Sensor Integration is a continuous effort to integrate and test newly evolving ASW technologoes under the "Extended Echo Ranging (EER) family of Multi-Static active sensor systems".

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604221N P-3 Modernization Program	H1152 P-3 Sensor Integration

(U) B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.887	2.725	1.068
RDT&E Articles Quantity				

System engineering support for integration of EER family of Multi-Static active sensor system.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost			4.500	5.498
RDT&E Articles Quantity				

P-3 Critical Obsolescence Program (COP): Integration, prototyping, testing, aircraft support, logistics, contracting, engineering, and program management of the five COP systems (HF Radio, Data Link, Infrared Detection, Tactical ASW Auto-Pilot, and Inter Communications).

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604221N P-3 Modernization Program	H1152 P-3 Sensor Integration

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:	2.297	7.306	6.785
Current BES/President's Budget	0.887	7.225	6.566
Total Adjustments	-1.410	-0.081	-0.219
Summary of Adjustments			
Congressional program reductions			
Congressional undistributed reductions		-0.081	
Congressional rescissions			
SBIR/STTR Transfer	-0.052		
Economic Assumptions			-0.015
Reprogrammings	-1.358		
Other Navy/OSD Adjustments			
Reprioritization of requirements			-0.204
Congressional Increases			
Subtotal	-1.410	-0.081	-0.219

(U) Schedule:

The following milestones were reported incorrectly and are not included in this submission: IEER operational assessment (OA), AEER P-3C software development, IEER DT/OT and Swalas/Tamda. They are related to the ASW Sensor & processing development efforts. The P-3 Sensor integration takes the developed technologies and integrates them into the P-3. The milestones now reflect this integrated support and insertion of technology under "Extended Echo Ranging (EER) family of multi-static active sensor systems".

(U) Technical:

Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604221N P-3 Modernization Program	PROJECT NUMBER AND NAME H1152 P-3 Sensor Integration

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
BLI#36 P-3 Critical Obsolescence Program (COP) (OSIP 04-04)		15.902	19.904	43.024	44.255	42.620	42.973	36.468	245.146

(U) E. ACQUISITION STRATEGY:

The Air Deployable Active Receiver/Improved Extended Echo Ranging (IEER) Operational Requirements Document (Ser# 297(1)-05-97)) for H1152 was approved on 29 December 1997. The P-3 ASUW Improvement Program (AIP) ORD (Ser#355-88-94) for H2417 was approved on 30 March 1994. The Acquisition Plan (AIR-93-08A Rev 2) was approved on 30 March 1998.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)											DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604221N P-3 Modernization Program				PROJECT NUMBER AND NAME H1152 P-3 Sensor Integration							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total Pys 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 (EER)	C/FP	Raytheon, McKinney, TX	6.425								6.425	6.425	
Systems Engineering	Various	Various	28.160	0.362	01/03	1.181	01/04	0.695	01/05	Continuing	Continuing		
Systems Engineering	Various	Various				0.729	01/04	1.132	01/05	0.755	2.616		
Subtotal Product Development			34.585	0.362		1.910		1.827		Continuing	Continuing		
Remarks:													
Software Development	C/FP	Raytheon, McKinney, Tx	5.781								5.781	5.781	
Software Development	C/FP	Raytheon, McKinney, Tx	1.998								1.998	1.998	
Software Development	SS/FP	LMNESS, Egan, MN	14.561								14.561	14.561	
Software Development	WX	NAWCAD, Pax River, MD	2.266	0.307	01/03	0.324	01/04	0.392	01/05	Continuing	Continuing		
Subtotal Support			24.606	0.307		0.324		0.392		Continuing	Continuing		
Remarks:													

R-1 SHOPPING LIST - Item No. 89

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604221N P-3 Modernization Program			PROJECT NUMBER AND NAME H1152 P-3 Sensor Integration							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total Pys 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
Test Support	WX	NAWCAD, Pax River, MD				2.241	01/04	2.255	01/05	2.351	6.847	
Subtotal T&E						2.241		2.255		2.351	6.847	
Remarks:												
Government Engineering Support	WX	NAWCAD, Pax River, MD	11.758	0.218	01/03	1.220	01/04			Continuing	Continuing	
Program Management Support	WX	NAWCAD, Pax River, MD				0.794	01/04	0.985	01/05	Continuing	Continuing	
Government Technical Support	WX	NAWCAD, Pax River, MD				0.366	01/04	0.444	01/05	Continuing	Continuing	
Logistics Support	WX	NAWCAD, Pax River, MD				0.370	01/04	0.663	01/05	Continuing	Continuing	
SBIR												
Subtotal Management			11.758	0.218		2.750		2.092		Continuing	Continuing	
Remarks:												
Total Cost			70.949	0.887		7.225		6.566		Continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 89

CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **February 2004**

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

PROGRAM ELEMENT NUMBER AND NAME: 0604221N P-3 Modernization Program

PROJECT NUMBER AND NAME: H1152 P-3 Sensor Integration

Fiscal Year	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
EER Multi-Static Active Sensor System Support				△																								
EER Fleet Technology Insertion						△																						
P-3 Critical Obsolesence Program Integration & Test										△						▽												
P-3 Critical Obsolesence Program Kits & Installation										△																		

R-1 SHOPPING LIST - Item No. 89

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT 0604221N P-3 Modernization Program				PROJECT NUMBER AND NAME H1152 P-3 Sensor Integration			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
EER Multi-Static Active Sesnor System Support								
EER Multi-Static Fleet Technology Insertion		2Q						
P-3 Critical Obsolescence Program (COP) Commence Test/Integration			2Q					
P-3 Critical Obsolescence Program Complete Test/Integration					4Q			
P-3 Critical Obsolescence Prog. Commence APN Procurement			2Q					

R-1 SHOPPING LIST - Item No. 89

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604221N P-3 Modernization Program			PROJECT NUMBER AND NAME H3016 Fatigue Life Management Program				
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost				2.988	2.992	2.994	2.998	3.002
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Fatigue Life Management Program is required to manage P-3/EP-3 inventory fatigue life and includes ongoing structural analysis, analyzing emergent structural issues, conducting engineering studies, assessing Fleet impact, and applying new technologies such as Non-Destructive Inspection (NDI) techniques.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604221N P-3 Modernization Program	H3016 Fatigue Life Management Program

(U) B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost				2.988
RDT&E Articles Quantity				

Fatigue Life Management Program : Manage P-3/EP-3 inventory fatigue life including conducting structural analysis, analyzing structural issues, conducting engineering studies, assessing Fleet impact. Research, test and apply new Fatigue Inspection techniques to the P-3/EP-3 Fleet.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604221N P-3 Modernization Program	H3016 Fatigue Life Management Program

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:	0.000	0.000	0.000
Current BES/President's Budget	0.000	0.000	2.988
Total Adjustments	0.000	0.000	2.988
Summary of Adjustments			
Congressional program reductions			
Congressional undistributed reductions			
Congressional rescissions			
SBIR/STTR Transfer			
Economic Assumptions			-0.010
Reprogrammings			
Other Navy/OSD Adjustments			2.998
Reprioritization of requirements			
Congressional Increases			
Subtotal	0.000	0.000	2.988

(U) Schedule:

(U) Technical:

Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA-5	0604221N P-3 Modernization Program	H3016 Fatigue Life Management Program	

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
N/A									

(U) E. ACQUISITION STRATEGY:

The Fatigue Life Management Program leverages off of prior work done under P-3 SLAP (H2451). The ASUW Improvement Program (AIP) ORD 355-88-94 was approved 30 March 94. PMP #0526 Ser 902D1/6U324405 was approved on 6 Feb 1986. Navy Decision Coordination Paper W-0484-AS was signed 23 Jun 1984. Work will be performed by LMAS and other industry participants along with the NAVAIR Structural Engineering Dept, AIR-4.3. This program supports the 7 June 2003 CNO approved P-3/EP-3 Sustainment Bridge to MMA.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604221N P-3 Modernization Program				PROJECT NUMBER AND NAME H3016 Fatigue Life Management Program						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total Pys 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
Systems Engineering	C/CPIF	LMAS, Marietta, GA						2.288	01/05	10.186	12.474	12.474
Subtotal Product Development			0.000	0.000		0.000		2.288		10.186	12.474	12.474
Remarks:												
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												

R-1 SHOPPING LIST - Item No. 89

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604221N P-3 Modernization Program				PROJECT NUMBER AND NAME H3016 Fatigue Life Management Program						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total Pys 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
Subtotal T&E						0.000		0.000		0.000	0.000	
Remarks:												
Govt Engineering Support	WX	NAWCAD, Pax River						0.700	12/04	1.800	2.500	
Subtotal Management			0.000	0.000		0.000		0.700		1.800	2.500	
Remarks:												
Total Cost			0.000	0.000		0.000		2.988		11.986	14.974	
Remarks:												

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																															DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**									PROGRAM ELEMENT NUMBER AND NAME 0604221N P-3 Modernization Program												PROJECT NUMBER AND NAME H3016 Fatigue Life Management Program											
Fiscal Year					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
Inventory Fatigue Life Management/Sustainment																																

R-1 SHOPPING LIST - Item No. 89

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT 0604221N P-3 Modernization Program				PROJECT NUMBER AND NAME H3016 Fatigue Life Management Program			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Commence Inventory Fatigue Life Management/Sustainment				2Q				
Complete Inventory Fatigue Life Management/Sustainment								4Q

R-1 SHOPPING LIST - Item No. 89

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604221N P-3 Modernization Program				PROJECT NUMBER AND NAME H9368 ALR-95 SEI Networking Program			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost			1.286					
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The The U.S. Navy P-3C "Orion" is increasingly being tasked to conduct long-endurance standoff maritime surveillance operations. In support of these missions, the P-3C is being upgraded with the Anti-Surface Warfare Improvement Program (AIP). AIP incorporates a number of sensor system additions to the aircraft. Among these enhancements are a SAR/ISAR radar for high resolution target identification, a long range electro-optical surveillance system, communications and survivability enhancements and the new ALR-95 electronic support measures (ESM) system. Phased Capability Upgrade (PCU), encompasses improvements to the aircraft including Link 16, Global Command and Control System-Maritime (GCCS-M), Integrated Tactical Picture (ITP) Precision Targeting Workstation (PTW), Architecture Upgrade, ALR 95 Geo-Location, ALR 95 Networking, and Tactical Common Data Link (TCDL). PCU will provide sensor and C4I modernization which will enhance the Carrier Strike Group/ Expeditionary Strike Group (CSG/ESG) integration and a bridge to the Multi-Mission Maritime Aircraft (MMA) architecture. The new ESM System includes Specific Emitter Identification (SEI) capability that permits the P-3 to passively detect, identify and track high interest targets at extremely distant ranges. Currently, the P-3 shares intelligence associated with SEI contacts only with ground-based Tactical Support Center. There is an urgent fleet requirement to ensure the P-3 can connect with other fleet and ISR platforms to exchange SEI contact information in real time.

This Congressional Add will upgrade the system to conform to the Navy's standard tactical message format.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604221N P-3 Modernization Program	H9368 ALR-95 SEI Networking Program

(U) B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost			1.286	
RDT&E Articles Quantity				

The SEI system as deployed is not equipped to handle the large increase of high interest targets that have resulted from the wide-ranging war on terrorism. These shortcomings can be addressed with upgrades to the system. The system will be upgraded to conform to the Navy's standard tactical message format. In addition, upgraded CPU cards and SEI card sets will be selected and tested to change significantly the ability to handle many targets in a single area.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604221N P-3 Modernization Program	H9368 ALR-95 SEI Networking Program

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:	0.000	0.000	0.000
Current BES/President's Budget	0.000	1.286	0.000
Total Adjustments	0.000	1.286	0.000
Summary of Adjustments			
Congressional program reductions			
Congressional undistributed reductions		-0.014	
Congressional rescissions			
SBIR/STTR Transfer			
Economic Assumptions			
Reprogrammings			
Other Navy/OSD Adjustments			
Reprioritization of requirements			
Congressional Increases		1.300	
Subtotal	0.000	1.286	0.000

(U) Schedule:

(U) Technical:

Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA-5	0604221N P-3 Modernization Program	H9368 ALR-95 SEI Networking Program	

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
N/A									

(U) E. ACQUISITION STRATEGY:

Existing Sole Source FFP contract to EDO

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604221N P-3 Modernization Program				PROJECT NUMBER AND NAME H9368 ALR-95 SEI Networking Program						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total Pys 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
Systems Engineering	SS/FFP	EDO Morgan Hill Ca.				1.157	04/04				1.157	1.157
Subtotal Product Development			0.000	0.000		1.157		0.000			1.157	

Remarks:

Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	

Remarks:

R-1 SHOPPING LIST - Item No. 89

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604221N P-3 Modernization Program			PROJECT NUMBER AND NAME H9368 ALR-95 SEI Networking Program							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total Pys 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
Subtotal T&E						0.000		0.000		0.000	0.000	
Remarks:												
Govt Engineering Support	WX	NAWCAD Patuxent River, MD				0.129	02/04				0.129	
Subtotal Management			0.000	0.000		0.129		0.000		0.000	0.129	
Remarks:												
Total Cost			0.000	0.000		1.286		0.000		0.000	1.286	
Remarks:												

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																																DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**									PROGRAM ELEMENT NUMBER AND NAME 0604221N P-3 Modernization Program														PROJECT NUMBER AND NAME H9368 ALR-95 SEI Networking Program												
Fiscal Year					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
ALR 95 Networking Engineering Development																																

R-1 SHOPPING LIST - Item No. 89

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT 0604221N P-3 Modernization Program				PROJECT NUMBER AND NAME H9368 ALR-95 SEI Networking Program			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Commence ALR 95 Networking Engineering Development			3Q					
Complete ALR 95 Networking Engineering Development				2Q				

R-1 SHOPPING LIST - Item No. 89

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604221N P-3 Modernization Program				PROJECT NUMBER AND NAME H9369 P-3 AIP Phase Capability Upgrade			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost			6.082					
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The U.S. Navy P-3C "Orion" is increasingly being tasked to conduct long-endurance standoff maritime surveillance operations. In support of these missions, the P-3C is being upgraded with the Anti-Surface Warfare Improvement Program (AIP). AIP incorporates a number of sensor system additions to the aircraft. Among these enhancements are a SAR/ISAR radar for high resolution target identification, a long range electro-optical surveillance system, communications and survivability enhancements and the new ALR-95 electronic support measures (ESM) system. Phased Capability Upgrade (PCU), encompasses improvements to the aircraft including Link 16, Global Command and Control System-Maritime (GCCS-M), Integrated Tactical Picture (ITP) Precision Targeting Workstation (PTW), Architecture Upgrade, ALR 95 Geo-Location, ALR 95 Networking, and Tactical Common Data Link (TCDL). PCU will provide sensor and C4I modernization which will enhance the Carrier Strike Group/ Expeditionary Strike Group (CSG/ESG) integration and a bridge to the Multi-Mission Maritime Aircraft (MMA) architecture.

This Congressional Add includes the Engineering Development, integration and test of Link-16. LINK 16 will provide the communications path to enable AIP's mission critical role in Sea Power 21 (Forcenet,Sea Control, Persistent Intellegence, Surveillanc,and Reconnaisance (ISR), and Common Operational Picture (COP)).

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604221N P-3 Modernization Program	H9369 P-3 AIP Phase Capability Upgrade

(U) B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost			6.082	
RDT&E Articles Quantity				

LINK 16 is a secure Tactical Data Link (TDL) that provides secure information, voice distribution and position location within a common position reference grid (i.e., intrinsic identification capability through the dissemination of secure position and identification information).
LINK 16:
- Provides capability to interconnect multiple sources and users of information with data and voice communication.
- Distributes information at high data rates, encrypted in such a way as to provide security and with sufficient jam resistance to yield highly reliable communications in a hostile electromagnetic environment.
- Allows the P-3 AIP platform interoperability between USN and Joint Operations, increasing the AIP communication exchange opportunities with U.S. and allied forces

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604221N P-3 Modernization Program	H9369 P-3 AIP Phase Capability Upgrade

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:	0.000	0.000	0.000
Current BES/President's Budget	0.000	6.082	0.000
Total Adjustments	0.000	6.082	0.000
Summary of Adjustments			
Congressional program reductions			
Congressional undistributed reductions		-0.068	
Congressional rescissions			
SBIR/STTR Transfer			
Economic Assumptions			
Reprogrammings			
Other Navy/OSD Adjustments			
Reprioritization of requirements			
Congressional Increases		6.150	
Subtotal	0.000	6.082	0.000

(U) Schedule:

(U) Technical:

Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604221N P-3 Modernization Program	H9369 P-3 AIP Phase Capability Upgrade

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
N/A									

(U) E. ACQUISITION STRATEGY:

Sole source FFP to an existing contract

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604221N P-3 Modernization Program				PROJECT NUMBER AND NAME H9369 P-3 AIP Phase Capability Upgrade						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total Pys 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
Systems Engineering	SS/FFP	Lockheed Martin, Eagan Mn.				5.474	06/04				5.474	5.474
Subtotal Product Development			0.000	0.000		5.474		0.000		0.000	5.474	5.474
Remarks:												
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604221N P-3 Modernization Program			PROJECT NUMBER AND NAME H9369 P-3 AIP Phase Capability Upgrade							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total Pys 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
Subtotal T&E						0.000		0.000		0.000	0.000	
Remarks:												
Govt Engineering Support	WX	NAWCAD Patuxent River, MD				0.608	2/04				0.608	
Subtotal Management			0.000	0.000		0.608		0.000		0.000	0.608	
Remarks:												
Total Cost			0.000	0.000		6.082		0.000		0.000	6.082	
Remarks:												

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																																DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**									PROGRAM ELEMENT NUMBER AND NAME 0604221N P-3 Modernization Program														PROJECT NUMBER AND NAME H9369 P-3 AIP Phase Capability Upgrade													
Fiscal Year					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
Link 16 Engineering and integration											△				▽																	

R-1 SHOPPING LIST - Item No. 89

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT 0604221N P-3 Modernization Program				PROJECT NUMBER AND NAME H9369 P-3 AIP Phase Capability Upgrade			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Commence Link 16 Engineering and integration			3Q					
Complete Link 16 Engineering and integration				4Q				

R-1 SHOPPING LIST - Item No. 89

CLASSIFICATION:

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 0604230N Naval Support System				
COST ($ in Millions)	Prior Years Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Total Program
Total PE Cost	**0.000**	**0.000**	**1.976**	**5.201**	**4.279**	**3.272**	**2.402**	**1.405**	**Continuing**	**Continuing**
4011 Naval Coastal Warfare	**0.000**	**0.000**	**0.000**	**5.201**	**4.279**	**3.272**	**2.402**	**1.405**	**Continuing**	**Continuing**
9370 Deployable Autonomous Distribution Systems	**0.000**	**0.000**	**0.988**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.988**
9371 Integrated Condition Assessment System	**0.000**	**0.000**	**0.988**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.988**
Quantity of RDT&E Articles										

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

The Naval Coastal Warfare (NCW) community consists of 22 Mobile Inshore Undersea Warfare (MIUW) units and 8 Harbor Defense Command (HDC) units operating Reserve Mobile Ashore Support Terminals (RMAST). NCW also includes 14 Inshore Boat Units (IBU) comprised of 6 small craft (boats) each on which are installed C4I systems .

The Mobile Inshore Undersea Warfare - System Upgrade (MIUW-SU), the primary system used by the NCW MIUW Units, is the only land-based and rapidly deployable mobile Navy system with the ability to conduct surface and subsurface surveillance in coastal and littoral areas. The system provides detailed contact information via various C4I systems to the tactical area commander based on radar, visual, thermal, electronic, and underwater acoustic sensor information. Missions supported with the MIUW-SU's are: OCONUS and INCONUS Force Protection, protecting port areas, high value assets, and surveilling the near shore areas. The RMAST is the C4ISR hub for the NCW Commander. RMASTs deploy to support Force Protection/Force Security Officer for Commander, Amphibious Group in its Harbor Defense and Coastal Sea Control missions.

In the aftermath of the attack on USS COLE and particularly post 11 SEP, the role, structure, and utilization for the NCW program has changed appreciably and continues to evolve in the face of developing world events. However, the core competencies resident in expeditionary NCW forces to conduct surveillance, C4I and patrol/interdiction have not changed. NCW remains a specialized force constituted to accomplish specific tasks under specific conditions, but also agile enough to fill emergent and non-traditional roles. Post 11 SEP, NCW Groups and Units have been mobilized to perform force protection missions at different levels in all CinC AOR's and within the continental United States in support of Maritime Homeland Security.

R-1 SHOPPING LIST - Item No. 90

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**	R-1 ITEM NOMENCLATURE 0604230N Naval Support System

This RDT&E exhibit supports the future direction of Naval Coastal Warfare as it is being determined externally by world events and internally by the progress of DoD initiatives to replace Cold War forces and capabilities with 21st century “transformational” forces and capabilities. NCW forces currently field legacy systems designed to counter more traditional military threats in a two Major Theater War scenario. Future NCW forces will develop in to a highly effective, relatively low cost transformational force capable of operating anywhere in the world to perform a spectrum of force protection missions ranging from full scale port security/harbor defense operations during wartime to short duration point defense of high value units or facilities in operations other than war. This transformational force will be agile, tailorable, and scalable and will use applied technology to quickly detect, deter or interdict potential threats to DoN assets in the littoral environment. Next generation surface and subsurface surveillance systems, as well as enhanced C4I capabilities, are required to meet these operational objectives. These capabilities must be interoperable with higher and adjacent echelons of command (to include coalition allies) as well as with supporting elements to include joint forces.

FY04 includes two $1M Congressional Adds:

- Deployable Autonomous Distribution Systems (DADS) - This effort will test the DADS sensors and technologies for Naval Coastal Warfare applicability, in particular, harbor mouth tripwire against the mini-sub threat. As part of this evaluation, the contractor will develop 2 to 3 sensor prototypes for operational evaluation. If laboratory and field testing prove successful, these prototypes could be used as the pre-production engineering models for follow-on production and fielding in Naval Coastal Warfare.

- Integrated Condition Assessment System (ICAS) - This effort provides for "data mining" of ICAS data. Data mining is the processing of raw data into useful information to determine system anomalies. The funds will be used for development and testing data mining tools to extract meaningful data, develop rules for diagnostics and prognostics then present this information and results to the user in an easy to understand format using the existing ICAS system and development and testing advanced diagnostics and prognostics tools for ICAS equipped ship's machinery faults by exploiting existing data from the Navy's Maintenance Engineering Library Server (MELS). These tools will enable the reduction of maintenance requirements on auxiliary machinery and alert the crew to impending failures.

(U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under SYSTEMS DEVELOPMENT AND DEMONSTRATION because it encompasses development and demonstration of new end-items prior to production approval decision .

R-1 SHOPPING LIST - Item No. 90

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**	PROGRAM ELEMENT NUMBER AND NAME 0604230N Naval Support System					PROJECT NUMBER AND NAME 4011 Naval Coastal Warfare					
COST ($ in Millions)	Prior Years Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		Cost to Complete	Total Program
Project Cost	**0.000**	**0.000**	**0.000**	**5.201**	**4.279**	**3.272**	**2.402**	**1.405**		**Continuing**	**Continuing**
RDT&E Articles Qty											**0**

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

The Naval Coastal Warfare (NCW) community consists of 22 Mobile Inshore Undersea Warfare (MIUW) units and 8 Harbor Defense Command (HDC) units operating Reserve Mobile Ashore Support Terminals (RMAST). NCW also includes 14 Inshore Boat Units (IBU) comprised of 6 small craft (boats) each on which are installed C4I systems .

The Mobile Inshore Undersea Warfare - System Upgrade (MIUW-SU), the primary system used by the NCW MIUW Units, is the only land-based and rapidly deployable mobile Navy system with the ability to conduct surface and subsurface surveillance in coastal and littoral areas. The system provides detailed contact information via various C4I systems to the tactical area commander based on radar, visual, thermal, electronic, and underwater acoustic sensor information. Missions supported with the MIUW-SU's are: OCONUS and INCONUS Force Protection, protecting port areas, high value assets, and surveilling the near shore areas. The RMAST is the C4ISR hub for the NCW Commander. RMASTs deploy to support Force Protection/Force Security Officer for Commander, Amphibious Group in its Harbor Defense and Coastal Sea Control missions.

In the aftermath of the attack on USS COLE and particularly post 11 SEP, the role, structure, and utilization for the NCW program has changed appreciably and continues to evolve in the face of developing world events. However, the core competencies resident in expeditionary NCW forces to conduct surveillance, C4I and patrol/interdiction have not changed. NCW remains a specialized force constituted to accomplish specific tasks under specific conditions, but also agile enough to fill emergent and non-traditional roles. Post 11 SEP, NCW Groups and Units have been mobilized to perform force protection missions at different levels in all CinC AOR's and within the continental United States in support of Maritime Homeland Security.

This RDT&E exhibit supports the future direction of Naval Coastal Warfare as it is being determined externally by world events and internally by the progress of DoD initiatives to replace Cold War forces and capabilities with 21st century "transformational" forces and capabilities. NCW forces currently field legacy systems designed to counter more traditional military threats in a two Major Theater War scenario. Future NCW forces will develop in to a highly effective, relatively low cost transformational force capable of operating anywhere in the world to perform a spectrum of force protection missions ranging from full scale port security/harbor defense operations during wartime to short duration point defense of high value units or facilities in operations other than war. This transformational force will be agile, tailorable, and scalable and will use applied technology to quickly detect, deter or interdict potential threats to DoN assets in the littoral environment. Next generation surface and subsurface surveillance systems, as well as enhanced C4I capabilities, are required to meet these operational objectives. These capabilities must be interoperable with higher and adjacent echelons of command (to include coalition allies) as well as with supporting elements to include joint forces.

R-1 SHOPPING LIST - Item No. 90

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA 5	0604230N Naval Support System	4011 Naval Coastal Warfare

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.640	
RDT&E Articles Quantity				

FY05: Perform systems engineering analysis and integration activities associated with next generation surveillance and C4I systems with focus on integration of existing joint, service, and non – DoD systems.

	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	0.000	0.000	4.091	
RDT&E Articles Quantity				

FY05: Begin analysis, architectural design, and design review processes. Conduct requirements traceability analysis to ensure operational requirements are adequately captured in performance and design specifications. Develop acquisition strategy based on requirements. Conduct Preliminary Design Review (PDR) on hardware and software components.

	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.470	
RDT&E Articles Quantity				

FY05: Perform initial development testing of hardware and software components.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA 5	0604230N Naval Support System	4011 Naval Coastal Warfare

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
FY04 President's Budget	0.000	1.466	1.958
FY05 President's Budget	0.000	0.000	5.201
Total Adjustments	0.000	-1.466	3.243
Summary of Adjustments			
Congressional Reduction of Naval Coastal Warfare		-1.466	
NCW/MSF Technical Adjusment			1.294
Program change			2.000
SPAWAR Service Cost Center Adjustment			-0.024
NWCF Rates - SPAWAR SSC Rate			-0.020
WCF-R&D-SPAWAR			-0.010
Rates - SSC			0.023
Inflation			-0.014
Non Purchase Inflation			-0.003
FY 05 ITR RDTEN Balancing			-0.003
Subtotal	0.000	-1.466	3.243

(U) Schedule:

Schedule slip due to FY04 Congressional Reduction.

(U) Technical:

Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA 5	0604230N Naval Support System	4011 Naval Coastal Warfare	

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
OPN 8120 Naval Coastal Warfare	8.392	35.909	27.142	31.327	13.382	13.014	12.796	CONT	CONT
Related RDT&E:									
PE 604230N/9370 Deployable Autonomous Distribution Systems	0.000	0.988	0.000	0.000	0.000	0.000	0.000	0.000	0.988
PE 604230N/9371 Integrated Condition Assessment System	0.000	0.988	0.000	0.000	0.000	0.000	0.000	0.000	0.988

(U) E. ACQUISITION STRATEGY:

Not Applicable

R-1 SHOPPING LIST - Item No. 90

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**			PROGRAM ELEMENT 0604230N Naval Support System			PROJECT NUMBER AND NAME 4011 Naval Coastal Warfare						
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
Product Development	WX	SSC CH/SSC SD						2.293	10/04	Continuing	Continuing	
Systems Engineering	WX	SSC CH/SSC SD						2.258	10/04	Continuing	Continuing	
Training Development	WX	SSC CH/SSC SD						0.200	10/04	Continuing	Continuing	
Subtotal Product Development			0.000	0.000		0.000		4.751		Continuing	Continuing	
Remarks:												
Technical Data	WX	SSC CH/SSC SD						0.100	10/04	Continuing	Continuing	
Subtotal Support			0.000	0.000		0.000		0.100		Continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 90

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**		PROGRAM ELEMENT 0604230N Naval Support System			PROJECT NUMBER AND NAME 4011 Naval Coastal Warfare							
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
Program Management Support	WX	SSC CH/SSC SD						0.300	10/04	Continuing	Continuing	
Travel	Various	Various						0.050	10/04	Continuing	Continuing	
Subtotal Management			0.000	0.000		0.000		0.350		Continuing	Continuing	
Remarks:												
Total Cost			0.000	0.000		0.000		5.201	VARIOUS	Continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 90

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																															DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**									PROGRAM ELEMENT NUMBER AND NAME 0604230N Naval Support System														PROJECT NUMBER AND NAME 4011 Naval Coastal Warfare											
Fiscal Year					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																																
Engineering Milestones														▲ PDR				▲ CDR														
Prototype Phase																																
Development																																
Delivery																																
Test & Evaluation Milestones																	▲ DT															
Development Test																																
Operational Test																																

R-1 SHOPPING LIST - Item No. 90

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**	PROGRAM ELEMENT 0604230N Naval Support System				PROJECT NUMBER AND NAME 4011 Naval Coastal Warfare			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Preliminary Design Review (PDR)				Q2				
Critical Design Review (CDR)					Q2			
Developmental Test and Evaluation					Q1			

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**	PROGRAM ELEMENT NUMBER AND NAME 0604230N Naval Support System					PROJECT NUMBER AND NAME 9370 Deployable Autonomous Distribution Systems					
COST ($ in Millions)	Prior Years Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		Cost to Complete	Total Program
Project Cost	**0.000**	**0.000**	**0.988**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**		**0.000**	**0.988**
RDT&E Articles Qty											**0**

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

Deployable Autonomous Distribution Systems (DADS) - This effort will test the DADS sensors and technologies for Naval Coastal Warfare applicability, in particular, harbor mouth tripwire against the mini-sub threat. As part of this evaluation, the contractor will develop 2 to 3 sensor prototypes for operational evaluation. If laboratory and field testing prove successful, these prototypes could be used as the pre-production engineering models for follow-on production and fielding in Naval Coastal Warfare.

R-1 SHOPPING LIST - Item No. 90

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA 5	0604230N Naval Support System	9370 Deployable Autonomous Distribution Systems

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	0.000	0.119	0.000	
RDT&E Articles Quantity				

FY04: Perform systems engineering analysis and integration activities associated with next generation surveillance and C4I systems with focus on integration of existing joint, service, and non – DoD systems. Refine configuration management baselines and acquistion strategy to ensure cost effective solutions are transitioned into production.

	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	0.000	0.799	0.000	
RDT&E Articles Quantity				

FY04: Begin analysis, architectural design, and design review processes. Conduct requirements traceability analysis to ensure operational requirements are adequately captured in performance and design specifications. Develop acquisition strategy based on requirements. Conduct Preliminary Design Review (PDR) on hardware and software components. Utilize analysis, architectural design, and design review processes to design, develop, document, and implement surface / surveillance sensors and C4I system upgrades. Conduct Critical Design Review (CDR) on hardware and software components.

	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	0.000	0.070	0.000	
RDT&E Articles Quantity				

FY04: Perform initial development testing of hardware and software components.

R-1 SHOPPING LIST - Item No. 90

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA 5	0604230N Naval Support System	9370 Deployable Autonomous Distribution Systems

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
FY04 President's Budget	0.000	0.000	0.000
FY05 President's Budget	0.000	0.988	0.000
Total Adjustments	0.000	0.988	0.000
Summary of Adjustments			
Congressional Add		1.000	
Section 8094 Management Improvements		-0.003	
Section 8094 Efficiencies/Revised Econ. Assumptions		-0.009	
Subtotal	0.000	0.988	0.000

(U) Schedule:

Not Applicable

(U) Technical:

Not Applicable

R-1 SHOPPING LIST - Item No. 90

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**	PROGRAM ELEMENT NUMBER AND NAME 0604230N Naval Support System	PROJECT NUMBER AND NAME 9370 Deployable Autonomous Distribution Systems

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
OPN 8120 Naval Coastal Warfare	8.392	35.909	27.142	31.327	13.382	13.014	12.796	CONT	CONT
Related RDT&E:									
PE 604230N/4011 Naval Coastal Warfare	0.000	0.000	5.201	4.279	3.272	2.402	1.405	CONT	CONT

(U) E. ACQUISITION STRATEGY:

Not Applicable

R-1 SHOPPING LIST - Item No. 90

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**		PROGRAM ELEMENT 0604230N Naval Support System				PROJECT NUMBER AND NAME 9370 Deployable Autonomous Distribution Systems						
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
Product Development	Cost Plus	USSI				0.799	04/04		VARIOUS	Continuing	Continuing	
Systems Engineering	WX	SSC SD				0.040	04/04		VARIOUS	Continuing	Continuing	
Training Development	WX	SSC SD				0.010	04/04		VARIOUS	Continuing	Continuing	
Subtotal Product Development			0.000	0.000		0.849		0.000	VARIOUS	Continuing	Continuing	
Remarks:												
Development Support	WX	SSC SD				0.030	04/04		VARIOUS	Continuing	Continuing	
Software Development	WX	SSC SD				0.009	04/04		VARIOUS	Continuing	Continuing	
Configuration Management	WX	SSC SD				0.020	04/04		VARIOUS	Continuing	Continuing	
Technical Data	WX	SSC SD				0.010	04/04		VARIOUS	Continuing	Continuing	
Subtotal Support			0.000	0.000		0.069		0.000	VARIOUS	Continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 90

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**		PROGRAM ELEMENT 0604230N Naval Support System				PROJECT NUMBER AND NAME 9370 Deployable Autonomous Distribution Systems						
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	SSC SD				0.070	04/04		VARIOUS	Continuing	Continuing	
Subtotal T&E			0.000	0.000		0.070		0.000	VARIOUS	Continuing	Continuing	
Remarks:												
Total Cost			0.000	0.000		0.988		0.000	VARIOUS	Continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 90

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																															DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**									PROGRAM ELEMENT NUMBER AND NAME 0604230N Naval Support System												PROJECT NUMBER AND NAME 9370 Deployable Autonomous Distribution Systems											
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																																
Engineering Milestones											▲ PDR			▲ CDR																		
Prototype Phase																																
Development																																
Delivery																																
Test & Evaluation Milestones													▲																			
Development Test													DT																			
Operational Test																																

R-1 SHOPPING LIST - Item No. 90

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**	PROGRAM ELEMENT 0604230N Naval Support System				PROJECT NUMBER AND NAME 9370 Deployable Autonomous Distribution Systems			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Preliminary Design Review (PDR)			Q3					
Critical Design Review (CDR)				Q2				
Developmental Test and Evaluation				Q1				

R-1 SHOPPING LIST - Item No. 90

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**	PROGRAM ELEMENT NUMBER AND NAME 0604230N Naval Support System					PROJECT NUMBER AND NAME 9371 Integrated Condition Assessment System					
COST ($ in Millions)	Prior Years Cost	FY 2003	FY 2004	FY 2005	FY 2006		FY 2008	FY 2009		Cost to Complete	Total Program
Project Cost	**0.000**	**0.000**	**0.988**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**		**0.000**	**0.988**
RDT&E Articles Qty											**0**

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

Integrated Condition Assessment System(ICAS) $1.0M Congressional Add provides for "data mining" of ICAS data. Data mining is the processing of raw data into useful information to determine system anomalies. The funds will be used for:

Development and testing data mining tools to extract meaningful data, develop rules for diagnostics and prognostics then present this information and results to the user in an easy to understand format using the existing ICAS system. Development and testing advanced diagnostics and prognostics tools for ICAS equipped ship's machinery faults by exploiting existing data from the Navy's Maintenance Engineering Library Server (MELS). These tools will enable the reduction of maintenance requirements on auxiliary machinery and alert the crew to impending failures.

R-1 SHOPPING LIST - Item No. 90

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA 5	0604230N Naval Support System	9371 Integrated Condition Assessment System

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	0.000	0.988	0.000	
RDT&E Articles Quantity				

Development and testing data mining tools to extract meaningful data from ICAS, develop rules for diagnostics and prognostics then present this information and results to the user in an easy to understand format using the existing ICAS system. Development and testing advanced diagnostics and prognostics tools for ICAS equipped ship's machinery faults by exploiting existing data from the Navy's Maintenance Engineering Library Server (MELS). These tools will enable the reduction of maintenance requirements on auxiliary machinery and alert the crew to impending failures.

R-1 SHOPPING LIST - Item No. 90

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA 5	0604230N Naval Support System	9371 Integrated Condition Assessment System

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
FY04 President's Budget	0.000	0.000	0.000
FY05 President's Budget	0.000	0.988	0.000
Total Adjustments	0.000	0.988	0.000
Summary of Adjustments			
Congressional Add		1.000	
Section 8094 Management Improvements		-0.003	
Section 8094 Efficiencies/Revised Econ. Assumptions		-0.009	
Subtotal	0.000	0.988	0.000

(U) Schedule:

Not Applicable

(U) Technical:

Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**	PROGRAM ELEMENT NUMBER AND NAME 0604230N Naval Support System	PROJECT NUMBER AND NAME 9371 Integrated Condition Assessment System

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
OPN 8120 Naval Coastal Warfare	8.392	35.909	27.142	31.327	13.382	13.014	12.796	CONT	CONT
Related RDT&E:									
PE 604230N/4011 Naval Coastal Warfare	0.000	0.000	5.201	4.279	3.272	2.402	1.405	CONT	CONT

(U) E. ACQUISITION STRATEGY:

Not Applicable

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 0604231N - TACTICAL COMMAND SYSTEM			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	
Total PE Cost		**68.220**	**65.443**	**49.180**	**56.100**	**57.557**	**60.278**	**63.303**	
2213 MISSION PLANNING		**23.939**	**25.018**	**10.973**	**10.310**	**9.596**	**9.967**	**10.629**	
9123 FORCENET		**12.298**	**7.759**	**15.630**	**17.095**	**19.034**	**21.008**	**22.987**	
0486 GCCS-M TACMOBILE		**1.378**	**1.297**	**1.216**	**1.259**	**1.489**	**1.517**	**1.548**	
0521 GCCS-M INTELLIGENCE APPLICATIONS		**3.048**	**2.567**	**2.967**	**3.295**	**3.978**	**4.058**	**4.140**	
0709 GCCS-M MARITIME APPLICATIONS		**6.282**	**7.364**	**6.046**	**7.907**	**8.530**	**8.702**	**8.878**	
2009 TRUSTED INFORMATION SYSTEMS		**2.876**	**2.122**	**1.482**	**2.137**	**1.828**	**1.654**	**1.479**	
2305 GCCS-M COMMON APPLICATIONS		**12.283**	**10.810**	**9.110**	**12.809**	**11.689**	**11.925**	**12.169**	
2306 NAVAL SIMULATION SYSTEM		**0.008**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	
2307 INTEGRATED SHIPBOARD NETWORK SYSTEM		**1.503**	**1.026**	**1.685**	**1.241**	**1.366**	**1.393**	**1.421**	
3032 NTCSS ENTERPRISE DATABASE AND MLDN		**4.605**	**3.277**	**0.071**	**0.047**	**0.047**	**0.054**	**0.052**	
9372 3D COMMON OPERATIONAL PICTURE		**0.000**	**1.682**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	
9373 AN/UYQ-70 BASED IT-21 C4SIR UPGRADES		**0.000**	**2.521**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	

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

The Tactical Command System (TCS) upgrades the Navy's Command, Control, Computer and Intelligence (C3I) systems and processes C3I information for all warfare mission areas including planning, direction and reconstruction of missions for peacetime, wartime and times of crises. A major component of the TCS is the Global Command and Control System - Maritime (GCCS-M). GCCS-M is the Navy's fielded Command and Control system, a key component of the Copernicus ... Forward C4I strategy, and is the Navy's tactical implementation of the Global Command and Control System (GCCS). GCCS-M has aggressively pursued an evolutionary acquisition strategy in rapidly developing and fielding new C4I capabilities for GCCS-M Afloat, GCCS-M Ashore, GCCS-M Tactical/Mobile and TIS users. GCCS-M current phase includes continued usage of the Defense Information Infrastructure Common Operating Environment (DII COE), as stipulated by the Joint Technical Architecture, incorporation of Fleet requirements for merging tactical and non-tactical networks, and application of mature Web and Personal Computer (PC) technologies to provide required information/capabilities. This phase will provide, in the short term, deployment of an integrated UNIX/PC/COTS based Naval implementation of GCCS-M which will provide the warfighter with a cost-effective, user-friendly, comprehensive C4I solution and, in the long-term, a continuous, integrated Command and Control link from sensor to shooter, including full-range real-time or near-real-time information to weapon systems for decision makers. In FY05, GCCS-M will begin migration to Joint Command and Control (JC2) development in coordination with the Joint Command and Control (JC2) Program. The Naval Simulation System (NSS) provides a capability to simulate the execution of all Naval Warfare including Operations Other Than War to be used for a number of related purposes. Fleet Command Centers use this capability for Course of Action Assessment. NSS is a multi-warfare, object oriented, Monte Carlo simulation system. NSS provides the Fleet a capability to evaluate alternate Courses of Action (COA) and C4ISR architectures and supports the Joint Forces Air Component Commander (JFACC) process by optimizing target/weapon solutions. NSS also injects simulated platform, system and commander level entities into real world C4ISR systems. NSS simulated each Warfare Area Commander's perceived tactical picture and performs Measures of Effectiveness against ground truth. Currently there are over 40 government and private industry sites using NSS. NSS has been made part of many HLA Federations and is also DII COE Level 7 Compliant. **(CONTINUED ON NEXT PAGE)**

CLASSIFICATION:

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 0604231N - TACTICAL COMMAND SYSTEM

(CONTINUED FROM PREVIOUS PAGE)

The Integrated Shipboard Network System (ISNS) program provides every Navy ship, including submarines, with a reliable, high-speed Local Area Network (LAN) that will provide LAN and Wide Area Network (WAN) access to the DISN WAN (Secure and Nonsecure Internet Protocol Router Network -SIPRNet and NIPRNet). It provides real-time information exchange between afloat units, Component Commanders, numbered Fleet Commanders and Fleet CINCs through the migration of existing legacy systems into the IT-21 strategy and is a key factor in the implementation of the Navy's portion of Joint Vision 2010. Additionally, this RDT&E Project funding supports design, development and testing of two components of the Navy Tactical Command Support Systems (NTCSS) web initiative, NTCSS Enterprise Database and Maritime Logistics Data Network (MLDN). The development of a web-enabled enterprise database for NTCSS application will place all NTCSS databases into a similar structure, allowing greater interoperability between applications. MLDN will facilitate the movement of administrative workload from ships to shore. FORCEnet initiatives include the necessary Transformation Master Planning required across all management execution horizons (Near/Mid/Long-Term) to evolve towards a fully-netted human-centrically optimized combat force structure. FORCEnet efforts will serve as the transformational change agent for the integration of all Navy and Marine Corps mission capabilities, system and human-centric architectures coupled with enabling technologies grounded in a business-based program order-of-buy approach combined with the technical program management/execution responsibilities leading Navy and Marine Corps transformational capabilities towards a fully netted combat force. FORCEnet is the architecture and building blocks of sensors, networks, decision aids, weapons, warriors and supporting systems integrated into a highly adaptive, human-centric, comprehensive system that operates from seabed to space, from sea to land. The goal of the NavMPS Program Team is to develop scaleable, extensible, and configurable planning systems to meet a full range of automated mission planning needs. NavMPS products (includes the Joint Mission Planning System (JMPS)) provides the information, automated tools, and decision aids needed to rapidly plan aircraft, weapon, or sensor missions and post-mission analysis of recorded data. JMPS is a co-development effort between the USN, USAF, USA, and SOCOM under the Multi-Service Joint Enterprise Management Team (JEMT). Requirements are identified and capabilities are developed in an evolutionary concept in order to address world situation requirements for mission planning and precision guided missile deployment.

FY04 includes Congressional Adds for 3D Common Operational Picture (COP) $1.7M and AN/UYQ-70 Based IT-21 C4ISR upgrades $2.5M.

R-1 SHOPPING LIST - Item No. 91

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604231N Tactical Command System				PROJECT NUMBER AND NAME 2213 Mission Planning			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**23.939**	**25.018**	**10.973**	**10.310**	**9.596**	**9.967**	**10.629**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Joint Mission Planning System (JMPS) is a co-development program with the Navy, Air Force, United States Special Operations Command (USSOCOM), and Army to develop a scaleable, extensible, and configurable open architecture to meet a full range of Joint automated planning needs. The JMPS mission planning system will provide the information, automated tools, and decision aids needed to rapidly plan for aircraft, weapon, or sensor missions as well as post-mission analysis of recorded data. JMPS will be a Defense Information Infrastructure/Common Operating Environment (DII/COE) complaint mission planning system, which will meet future DOD requirements for interoperability within and across DOD C4I systems while reducing life-cycle cost. As a key net-centric warfare enabler, JMPS will provide seamless interoperability, improved data availability and flexibility. JMPS accomplishes these goals by establishing a standardized environment for mission planning systems (the Joint Mission Planning Environment (JMPE) that provides a DII COE/Joint Technical Architecture (JTA) compliant Windows 2000 core, a mission planning infrastructure of basic databases, management tools, and framework services, and set a common mission planning components. A JMPS mission planning system is a combination of the JMPE together with platform/Service unique components and the necessary system hardware to meet user mission planning needs and constraints. The Navy and Air Force will co-develop the common software, while individual platforms programs will develop platform specific functionality, similar to what is being done in both Tactical Automated Mission Planning System (TAMPS) and Air Force Mission Support System (AFMSS) programs. JMPS has adopted an evolutionary acquisition approach which will allow the warfighter to seamlessly perform basic-level flight planning with the JMPS Version 1 system, unit-level mission/combat planning with the JMPS Combat 1 system, and multi-unit/strike planning and force-level decision aids with the JMPS Follow-On Components system. The JMPS Version 1 system will provide basic flight planning, route planning/editing, file calculations, mapping, 3-D visualization, Common Mission Data Load (CMDL), and Intel interface. The JMPS Combat 1system is planned to be an enhanced version of JMPS Version 1 and will replace TAMPS in the fleet. JMPS Combat 1 will provide unit level planning, Precision Targeting Workstation (PTW) Imagery Interface, Global Command and Control System-Maritime (GCCS-M) interface, GPS Crypto Keys, Program Guided Munitions (PGM) planning, weather interface, Global Positions Systems (GPS), Prediction, Server Implementation. The JMPS Combat One will also serve as a common foundation to support mission planning for all legacy platforms. JMPS will evolve architecturally as necessary to support future platforms and weapons such as the Joint Strike Fighter (JSF) and Joint Air to Surface Standoff Missile (JASSM) . The JMPS Follow-On Components system will be an enhanced version of JMPS Combat 1 to provide additional components and capabilities including a multi-unit level mission planning capability, Theater Ballistics Missile Command System (TBMCS) interface, route deconfliction, stores planning and weapon effectiveness, and Littoral Mission Planning Tools.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604231N Tactical Command System	2213 Mission Planning

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		18.322	13.401	0.000
RDT&E Articles Quantity				

JMPS Version 1 and Combat 1 Development Effort- JMPS Version 1 and Combat 1 support during D/T & O/T. Nomination and assessment of JMPS Combat 1 contract incentive fees. Continue JMPS Combat 1 fix builds for any discrepancies identified during systems testing. Continue systems testing, start Unique Planning Component (UPC) testing, System of Systems testing, and Unique Planning Component (UPC) validations. Contract incentive fee. D/T Support--JMPS Combat 1 Pre-O/T Readiness Review and begin JMPS Combat 1 O/T late in FY03. Engineering Logistics & Management support. Provide collaboration support across platforms and weapons programs w/ Navy, Air Force, Army, and Marines.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		5.069	10.712	10.073
RDT&E Articles Quantity				

JMPS Follow-On Components Effort--Start JMPS Follow-On development planning effort. Coordinate and plan the development of additional mission planning components and capabilities including a multi-unit level mission planning capability, TBMCS interface, route deconfliction, stores planning and weapon effectiveness. Operational Test support for JMPS Follow -On development planning effort. Coordinate and plan the development of additional mission planning components and capabilities including a multi-unit level mission planning capability, TBMCS Interface, route deconfliction, stores planning and weapon effectiveness. JMPS Follow-On support during Operational testing. Nomination and assessment of JMPS Follow-On contract incentive fees. Continue JMPS Combat 1 fix builds for any discrepancies identified during systems testing. Continue systems testing, start UPC testing, System of Systems testing, and UPC validations. Develop Betas & Version Releases for Framework components & enhanced operability. Transition S&T (Science and Technology) initiatives into JMPS Follow-On.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.548	0.905	0.900
RDT&E Articles Quantity				

PFPS Component Migration to JMPS--Continue component development encompassed functionality, full documentation, User help-online support, component installation, developer and/or user training/CBT, and maintenance. PFPS Component Migration to JMPS Follow-On.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604231N Tactical command System	2213 Mission Planning

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:	24.099	25.300	18.759
Current BES/President's Budget	23.939	25.018	10.973
Total Adjustments	-0.160	-0.282	-7.786
Summary of Adjustments			
SBIR/STTR Transfer	-0.031		
Reprogrammings	-0.129		
Congressional Undistributed Reductions		-0.215	
Reprioritization		-0.067	-7.749
Economic Assumptions			-0.037
Reprioritization			
	-0.160	-0.282	-7.786

Schedule: Acquisition Milestones from PB04

JC-1 program identified an IBR in 2Q & 4Q FY03. The 2nd Qtr was not required and was inadvertently added.
H2E OTRR changed to JC-1 OTRR. H2E was a mistake, should always have read JC-1 OTRR.
UPC Validation moved from 4Q FY03 & 4Q FY04 to 1Q & 4Q FY04 due to change in delivery schedule of products from the UPC platforms and programs.

Test & Evaluation Milestones

UPC Integration and Validation was changed to meet the delivery schedules of products from the UPC platforms and programs.
PresBud 04 identified BETA test and this budget shows FQT - Beta test is complete and the program has now moved into Formal Qualification Testing (FQT).

Production Milestones

JMPS IOC slid 1 month from 4Q FY04 to 1Q FY05 due to carrier deployment shift arrangement. The original plan was to IOC on the Nimitz but due to Fleet Readiness Plan (FRP) IOC will now take place on the Lincoln.

Technical: Not applicable

R-1 SHOPPING LIST - Item No. 91

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604231N Tactical Command System	PROJECT NUMBER AND NAME 2213 Mission Planning

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
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
Related RDT&E:									
PE 0208006F Air Force Mission Support System (Total)	16.540	62.348	144.059	144.544	247.154	98.609	96.164	Continuing	Continuing

(U) E. ACQUISITION STRATEGY:

The JMPS Acquisition strategy will evolve as the program matures but initially will cover the Engineering and Manufacturing Development (EMD) effort. The strategy entails a two-phased evolutionary approach to acquire the initial JMPS development effort. The combined USAF/USN Phase I of this effort obtained various technical studies, segment architect concept, design to cost estimate, and an architecture development statement of work. Phase I was added to the program to determine reduced cost strategies through software reuse from both USN TAMPS and USAF AFMSS programs. Additionally, this phase provided a risk reduction plan for the most effective migration of existing mission planning systems, Phase I was awarded to two contractors. In Phase II, one contractor was selected to develop the JMPS architecture work and version 1 mission planning components. Post version I component development will be broken into two phases. Components required to retire TAMPS and meet F-16 planning requirements will be developed under a modification to the existing architecture framework contract. All other combat and force level components will be acquired through a follow-on full and open competition.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604231N Tactical Command System				PROJECT NUMBER AND NAME 2213 Mission Planning						
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 Dev JV-1	SS/CPIF	NGIT, VA	29.655	3.022	11/02						32.677	32.677
Primary Software Dev JC-1	SS/CPIF	NGIT, VA	11.400	10.021	11/02	2.730	11/03				24.151	24.151
Primary Software Dev N-PFPS	MP	Eglin AFB. Florida	6.315	1.090	11/02	0.500	11/03	0.500	11/04		8.405	
Primary Software N-PFPS	MP	Hill AFB, Utah	1.212	0.000	11/02	0.210	11/03	0.200	11/04		1.622	
Primary Software Dev Follow-on	MP	Hascom, MA		3.050	11/02	10.201	11/03	3.693	11/04		16.944	
Systems Engineering	MP	FEDISM (GSA)	0.200	0.200	11/02	0.200	11/03			Continuing	Continuing	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees			4.395			2.310	11/03				6.705	6.705
Subtotal Product Development			53.177	17.383		16.151		4.393		Continuing	Continuing	
Remarks:												
Development Support											0.000	
Software Development											0.000	
Integrated Logistics Support	WX	SPAWAR, Phil. PA	1.116	0.973	11/02	1.773	11/03	1.506	11/04	Continuing	Continuing	
Integrated Logistics Support	WX	NAWCAD, Pax River, MD	0.679	0.699	11/02	1.200	11/03	1.300	11/04	Continuing	Continuing	
Technical Data											0.000	
Studies & Analyses											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			1.795	1.672		2.973		2.806		Continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 91

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604231N Tactical Command System				PROJECT NUMBER AND NAME 2213 Mission Planning						
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	SPAWAR, Phil, PA		0.859	11/02						0.859	
Operational Test & Evaluation	WX	OPTEVFOR, VA	0.272	0.000	11/02	0.384	11/03			Continuing	Continuing	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.272	0.859		0.384		0.000		Continuing	Continuing	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support	WX	NAWCAD, Pax River, MD	1.016	0.975	11/02	1.820	11/03	1.006	11/04	Continuing	Continuing	
Program Management Support	RX	Various	1.370	0.300	11/02	0.770	11/03	0.556	11/04	Continuing	Continuing	
Travel	WX	NAWCAD, Pax River, MD	0.480	0.150	11/02	0.190	11/03	0.200	11/04	Continuing	Continuing	
Transportation											0.000	
Government Engineering Support		NAWCWD, Pt Mugu, CA	3.375	2.600	11/02	2.730	11/03	2.012	11/04	Continuing	Continuing	
Subtotal Management			6.241	4.025		5.510		3.774		Continuing	Continuing	
Remarks:												
Total Cost			61.485	23.939		25.018		10.973		Continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 91

CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **February 2004**

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

PROGRAM ELEMENT NUMBER AND NAME: 0604231N Tactical Command System

PROJECT NUMBER AND NAME: 2213 Naval Mission Planning

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																																
JC-1 PROGRAM IBR ITCRR			▲					▲																								
UPC RR									△																							
JC1 OTRR										△																						
UPC VALIDATION Delivery										▭																						
Software Software Delivery PFPS Version 3.3 PFPS Version 4.0 PFPS Version 4.1 JC1 0.1 Delivery JC1 0.2 Delivery				▬ ▬ ▲			▲		▭																								
Test & Evaluation Milestones																																
JMPS Framework				JC1 0.1 BUILD ▬			JC1 0.2 BUILD ▬																										
PQT1 PQT2 FQT							▲	▲ ▲																								
System Test									▭																							
UPC Integration/Validation									▭																							
Production Milestons																																
JMPS IOC													△																			
Deliveries																																

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT 0604231N Tactical Command System				PROJECT NUMBER AND NAME 2213 Naval Mission Planning			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Acquisition Milestones								
JC1 Program IBR/ITCRR	3Q	4Q						
UPC RR			1Q					
JC1 OTRR			2Q					
UPC Validation Delivery			1Q-2Q					
Software Delivery								
PFPS Version 3.3	4Q	1Q						
PFPS Version 4.0	4Q	1Q-2Q						
PFPS Version 4.1		4Q	1Q-2Q					
JC1 0.1 Delivery	4Q							
JC1 0.2 Delivery		3Q						
Test & Evaluation Milestones								
JMPS Framework								
JC1 0.1 Build	4Q	1Q-2Q						
JC1 0.2 Build		2Q-4Q						
PQT1 & PQT2		3Q-4Q						
FQT		4Q						
System Test		4Q	1Q-2Q					
UPC Integration/Validation		4Q	1Q-2Q					
Production Milestones								
JMPS IOC				1Q				

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2004			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM					PROJECT NUMBER AND NAME 0486 GCCS-M TACMOBILE					
COST ($ in Millions)	Prior Years Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		Cost to Complete	Total Program
Project Cost	**65.281**	**1.378**	**1.297**	**1.216**	**1.259**	**1.489**	**1.517**	**1.548**		**Continuing**	**Continuing**
RDT&E Articles Qty											**0**

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

The Global Command and Control System-Maritime (GCCS-M) Tactical/Mobile program provides evolutionary systems and equipment upgrades to support Maritime Sector Commanders with the capability to plan, direct and Control the tactical operations of Joint and Naval Expeditionary Forces and other assigned units within their respective area of responsibility. These operations include littoral, open ocean, and over land all-sensor surveillance, anti-surface warfare, over-the-horizon targeting, counter-drug operations, power projection, antisubmarine warfare, mining, search and rescue, and special operations.

The missions are supported by the Tactical Support Centers (TSCs) and the Mobile Operations Control Centers (MOCCs). Services provided include analysis and correlation of diverse sensor information; data management support; command decision aids; rapid data communication; mission planning and evaluation and dissemination of surveillance data and threat alerts to operational users ashore and afloat. All Tactical/Mobile systems are based on the GCCS-M architecture, which is Defense Information Infrastructure (DII) Common Operating Environment (COE) compliant.

TSCs provide C4I capability, air-ground, satellite and point-to-point communications systems; sensor analysis capabilities; avionics and weapons system interfaces and facilities equipment. MOCC is a scalable and mobile version of the TSC for operations from airfields that do not have TSC support. This program assures that existing TSCs and MOCCs are modernized to fulfill their operational requirements. TSC/MOCC will continue to support P-3C/S-3B aircraft updates to sensors and weapons systems, such as the Anti-Surface Warfare Improvement Program (AIP), as well as develop emergent, ground support capabilities for the Multi-Mission Aircraft (MMA) and Broad Area Maritime Unmanned Aerial Vehicle BAMS UAV).

GCCS-M Tac/Mobile R&D efforts are developed in agreement with and in mutual support of OPNAV N62 and N78. These efforts are required to provide support for the N78 platforms as related to the non-C2 aspects of the program. In FY05, GCCS-M will begin migration to Joint Command and Control (JC2) development in coordination with the Joint Command and Control (JC2) Program.

R-1 SHOPPING LIST - Item No. 91

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA5	0604231N - TACTICAL COMMAND SYSTEM	0486 GCCS-M TACMOBILE	

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	0.330	0.227	0.199	
RDT&E Articles Quantity				

Develop interface documentation based on joint and coalition SATCOM and line of site radios, cryptographic units and antenna technology. Ensure interoperability in a land, sea, air, and mobile environment. Investigate and initiate development of Digital Modular Radio (DMR) interface requirements between other TSC/MOCC elements. Design and test new interfaces between UHF SATCOM Digital Modular Radio (DMR) (as replacement for obsolete VICS radio) and legacy system. Continue development activities necessary to stay current with joint and coalition SATCOM and line of site radios, cryptographic units, antenna technology and the USN/DoD satellite replacement programs. Ensure interoperability in a land, sea, air and mobile environment. Conduct testing of air platform support systems and data exchange devices for incorporation into baseline systems for deployment.

	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	0.453	0.463	0.453	
RDT&E Articles Quantity				

Improve the acoustic Fast Time Analysis System (FTAS) to increase reliability of the obsolete proprietary hardware, by incorporating Commercial Off The Shelf (COTS) technology, and by incorporating new functionality in support of emerging aircraft acoustic replay capabilities. Develop a detailed set of requirements for follow-on system.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA5	0604231N - TACTICAL COMMAND SYSTEM	0486 GCCS-M TACMOBILE

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	0.317	0.414	0.408	
RDT&E Articles Quantity				

Develop new capabilities to support emerging aircraft weapons and non-acoustic sensors on P-3C ASUW Improvement Program (AIP), P-3C Baseline Modification Upgrade Program (BMUP), and other derivative aircraft. Analyze Multi-mission Maritime Aircraft (MMA) aircraft specifications and concept documents for impact on TSC and MOCC systems. Develop ATOS interfaces for emerging aircraft data transport devices. Perform testing on new software and hardware components. Continue development of aircraft status to a web-enabled segment and combined with Aircraft Brief to form a single segment.

	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	0.278	0.193	0.156	
RDT&E Articles Quantity				

Analyze TSC/MOCC requirements for advanced data links such as LINK-16, Common Data Link (CDL) and other high bandwidth data transmission paths. Migrate two-way LINK-11 to new platform. Develop new ground workstation software for new and upgraded aircraft sensors. Continue to develop interfaces for emerging aircraft data transport devices. Perform testing on new software and hardware components. Develop and document ground support systems and associated interfaces to support various data exchange devices for air platforms. Develop new ground workstation software for new and upgraded aircraft sensors. Continue to develop interfaces for emerging aircraft data transport devices. Perform testing on new software and hardware components.

R-1 SHOPPING LIST - Item No. 91

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604231N - TACTICAL COMMAND SYSTEM	0486 GCCS-M TACMOBILE

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
FY04 President's Budget	1.437	1.317	1.229
FY05 President's Budget	1.378	1.297	1.216
Total Adjustments	-0.059	-0.020	-0.013
Summary of Adjustments			
FY2003 Update	-0.057		
Section 8094: Management Improvements		-0.003	
Sec. 8126: Efficiencies/Revised Econ. Assumptions		-0.011	
WCF - R&D - SPAWAR			-0.002
Rates - SSC			0.005
Inflation			-0.003
Non Purchase Inflation			-0.001
FY05 ITR RDTEN Balancing			-0.001
FY03 SBIR	-0.002		
SPAWAR Service Cost Center Adjustments		-0.006	-0.006
NWCF Rates - SPAWAR SSC Rates			-0.005
Subtotal	-0.059	-0.020	-0.013

(U) Schedule:

Previous versions of the GCCS-M 4.X development schedule were defined prior to designation of the OT platform. The USS Nimitz, CVN-68, was recently named as the OT platform (Ref: COMPACFLT PEARL HARBOR HI message R 261653Z AUG 03). Due to increased operations, ship availability schedules have been unstable. Based on the current, published ship availability schedule for the CVN-68, the OT process is now scheduled to begin in 4th Qtr FY04. There are no technical issues causing the schedule slip and there is no impact to future software development. In FY05, GCCS-M will begin migration to Joint Command and Control (JC2) development in coordination with the Joint Command and Control (JC2) Program.

(U) Technical:

N/A.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604231N - TACTICAL COMMAND SYSTEM	0486 GCCS-M TACMOBILE

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
GCCS-M TACMOBILE (OPN - BLI 2246)	5.060	9.422	5.100	5.309	5.314	5.427	5.543	Continuing	Continuing

(U) E. ACQUISITION STRATEGY:

N/A

R-1 SHOPPING LIST - Item No. 91

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604231N - TACTICAL COMMAND SYSTEM			PROJECT NUMBER AND NAME 0486 GCCS-M TACMOBILE						
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											0.000	
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	VARIOUS	VARIOUS	18.729	0.221	VARIOUS	0.378	VARIOUS	0.338	VARIOUS	Continuing	Continuing	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			18.729	0.221		0.378		0.338		Continuing	Continuing	
Remarks:												
Development Support											0.000	
Software Development	VARIOUS	VARIOUS	33.255	0.785	VARIOUS	0.632	VARIOUS	0.618	VARIOUS	Continuing	Continuing	
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			33.255	0.785		0.632		0.618		Continuing	Continuing	
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604231N - TACTICAL COMMAND SYSTEM			PROJECT NUMBER AND NAME 0486 GCCS-M TACMOBILE						
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	WR	OPTEVFOR	3.084	0.070	VARIOUS	0.071	VARIOUS	0.060	VARIOUS	Continuing	Continuing	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			3.084	0.070		0.071		0.060		Continuing	Continuing	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support	VARIOUS	VARIOUS	10.213	0.302	VARIOUS	0.216	VARIOUS	0.200	VARIOUS	Continuing	Continuing	
Travel											0.000	
Transportation											0.000	
											0.000	
Subtotal Management			10.213	0.302		0.216		0.200		Continuing	Continuing	
Remarks:												
Total Cost			65.281	1.378		1.297		1.216		Continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 91

CLASSIFICATION:

EXHIBIT R4, Schedule Profile — DATE: **February 2004**

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

PROGRAM ELEMENT NUMBER AND NAME: 0604231N - TACTICAL COMMAND SYSTEM

PROJECT NUMBER AND NAME: 0486 GCCS-M TACMOBILE

Fiscal Year	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										GCCS-M 4.X MS C						GCCS-M 4.1 (JC2 Migration Bld) MS C								JC2 / 5.X MS C			
Prototype Phase																												
Development																												
Delivery																												
Software Deliveries					GCCS-M Ver 4.X DELIVERY								GCCS-M 4.1 (JC2 Migration Build)									JC2 / 5.X						
Test & Evaluation Milestones																												
Development Test								GCCS-M Ver 4.X OT								GCCS-M 4.1 (JC2 Migration Build) OT								JC2 / 5.X OT			
Operational Test																												
Production Milestones																												
Deliveries																												

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT 0604231N - TACTICAL COMMAND SYSTEM				PROJECT NUMBER AND NAME 0486 GCCS-M TACMOBILE			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Software Delivery - GCCS-M 4.X			Q2					
Operational Test GCCS-M 4.X			Q2					
Milestone C GCCS-M 4.X				Q2				
Software Delivery GCCS-M 4.1 (JC2/ 5.X Migration Build)					Q2			
Operational Test GCCS-M 4.1 (JC2/ 5.X Migration Build)					Q3			
Milestone C GCCS-M 4.1 (JC2/ 5.X Migration Build)					Q4			
Software Delivery JC2/ 5.X							Q2	
Operational Test JC2/ 5.X							Q3	
Milestone C JC2/5.X							Q4	

R-1 SHOPPING LIST - Item No. 91

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM					PROJECT NUMBER AND NAME 0521 GCCS-M INTELLIGENCE APPLICATIONS					
COST ($ in Millions)	Prior Years Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		Cost to Complete	Total Program
Project Cost	**44.336**	**3.048**	**2.567**	**2.967**	**3.295**	**3.978**	**4.058**	**4.140**		**Continuing**	**Continuing**
RDT&E Articles Qty											

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

GCCS-M Intelligence Applications are an integrated set of Defense Information Infrastructure Common Operating Environment (DII COE) compliant segments designed to support tactical intelligence processing and reside on the Intelligence Shared Data Server (ISDS). The ISDS is the central database server for GCCS-M Afloat, the Command and Control Warfare Commander (C2WC) and tactical mission planning systems. Development of GCCS-M Intelligence applications for this data distribution includes dynamic updates of Naval Intelligence Database (NID) and military integration with digital map and imagery systems. The current GCCS-M Intel Apps effort includes providing intelligence data distribution to multiple shipboard warfighters via an analog video distribution system. Furthermore, the GCCS-M Intel Apps effort will enable the GCCS-M Afloat architecture to meet downgrading and releasability requirements. GCCS-M imagery applications provide for archiving, viewing and mensuration of still and video images. This effort is also continuing the transition to Commercial Off The Shelf (COTS) hardware and software as part of the current GCCS-M initiative to capitalize on the latest Web/PC industry/commercial technology. The GCCS-M Intel Apps effort is part of the Tactical Intelligence and Related Activities (TIARA) program, managed by the Secretary of Defense through the Assistant Secretary of Defense for C4I. In FY05, GCCS-M will begin migration to Joint Command and Control (JC2) development in coordination with the Joint Command and Control (JC2) Program.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA5	0604231N - TACTICAL COMMAND SYSTEM	0521 GCCS-M INTELLIGENCE APPLICATIONS

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	0.000	0.765	0.850	
RDT&E Articles Quantity				

FY04 - C2 FIRES Integration: Develop and improve capability of Intel and Imagery targeting systems. Integrate Joint Targeting Toolbox (JTT) products into GCCS-M. Integrate SCI SIGINT support to GENSER Command and Control capabilities in support of time critical targeting.

FY05 - C2/Intelligence, Surveillance and Reconnaissance (ISR) Integration: Provide a standard set of integrated, linked, tools and services that access existing National, Theater, Service, and Coalition imagery and intelligence resources.

	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	0.189	0.000	0.000	
RDT&E Articles Quantity				

FY03 - Targeting / Land Track: Integrated Joint Targeting Toolbox (JTT) products into GCCS-M. Provided a single set of interfaces within JTT for creation of target lists, selection of imagery, creation of task collection, plans, etc. Integrated SCI SIGINT support to GENSER Command and Control capabilities in support of time critical targeting.

	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	0.189	0.175	0.000	
RDT&E Articles Quantity				

FY03 - Spectral and Environmental Analysis: Developed and enhanced Intel data sources for C2WC, nodal analysis, and other GCCS-M applications.

FY04 - Spectral and Environmental Analysis: Continue to develop and enhance evolving Intel data sources for C2WC, nodal analysis, and other GCCS-M applications.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA5	0604231N - TACTICAL COMMAND SYSTEM	0521 GCCS-M INTELLIGENCE APPLICATIONS

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	1.010	0.593	0.661	
RDT&E Articles Quantity				

FY03 - Imagery / Video Processing: Continued migration of imagery applications that support the Integrated Imagery and Intelligence (I3) product line to the Windows 2000 platform. Integrated capability to support UAV data visualization and analysis.

FY04 - Imagery / Video Processing: Develop software to implement fleet requirements for integrating order of battle maintenance, imagery analysis, and intelligence support to the Common Operational Picture (COP) into commercial COTS environments to facilitate easy integration with IT-21 platforms and products. Develop interfaces to other imagery archives.

FY05 - Imagery Exploitation. Provide the capability to access and perform manual and automated correlation of national, organically collected, and other imagery and full motion imagery with multiple, dissimilar sources.

	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	1.660	1.034	1.456	
RDT&E Articles Quantity				

FY03 - Threat OOB and C&P: Met fleet requirements for integrating Order of Battle maintenance, and intelligence support to the COP. Provided data fills for the Intel database. Implemented and enhanced a fully functional Military Intelligence Data Base (MIDB) interface mechanism that enables GCCS-M intelligence applications, combat systems, and mission planning systems to access data within the MIDB without having to change the software architecture with each MIDB release from the Defense Intelligence Agency (DIA).

FY04 - Threat OOB and C&P: Provide increased functionality in the Intelligence and Imagery applications to support capabilities in the DII COE, including real-time updates to mapping, communication, and track management tools. Integrate Intel data into the SCI enclave.

FY05 - Intelligence Data & Display. Provide the capability to develop, manage and disseminate the Order of Battle and weapons systems characteristics and performance parameters including integration of tactical and near real-time revisions to the Order of Battle. Provide the capability to perform manual and automated correlation of the Order of Battle, weapons systems characteristics and performance parameters with multiple, dissimilar sources.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604231N - TACTICAL COMMAND SYSTEM	0521 GCCS-M INTELLIGENCE APPLICATIONS

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
FY04 President's Budget:	3.033	2.601	2.986
FY05 President's Budget:	3.048	2.567	2.967
Total Adjustments	0.015	-0.034	-0.019
Summary of Adjustments			
FY 2003 Update	0.015		
Section 8094: Management Improvements		-0.007	
Section 8126: Efficiencies /Revised Econ Assumptions		-0.022	
WCF - R&D - SPAWAR -			-0.002
Rates - SSC			0.006
Inflation			-0.008
Non Purchase Inflation			-0.002
FY05 ITR RDTEN Balancing			-0.002
SPAWAR Service Cost Center Adjustments		-0.005	-0.006
NWCF Rates - SPAWAR SSC Rates			-0.005
Subtotal	0.015	-0.034	-0.019

(U) Schedule:

Previous versions of the GCCS-M 4.X development schedule were defined prior to designation of the OT platform. The USS Nimitz, CVN-68, was recently named as the OT platform (Ref: COMPACFLT PEARL HARBOR HI message R 261653Z AUG 03). Due to increased operations, ship availability schedules have been unstable. Based on the current, published ship availability schedule for the CVN-68, the OT process is now scheduled to begin in 4 th Qtr FY04. There are no technical issues causing the schedule slip and there is no impact to future software development. In FY05, GCCS-M will begin migration to Joint Command and Control (JC2) development in coordination with the Joint Command and Control (JC2) Program.

(U) Technical:

N/A.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604231N - TACTICAL COMMAND SYSTEM	0521 GCCS-M INTELLIGENCE APPLICATIONS

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
GCCS-M (OPN - BLI 2608)	36.514	27.894	41.148	81.818	41.400	64.009	75.722	Continuing	Continuing

(U) E. ACQUISITION STRATEGY:

N/A

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604231N - TACTICAL COMMAND SYSTEM			PROJECT NUMBER AND NAME 0521 GCCS-M INTELLIGENCE APPLICATIONS						
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											0.000	
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	VARIOUS	VARIOUS	18.268	0.378	VARIOUS	0.365	VARIOUS	0.381	VARIOUS	Continuing	Continuing	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			18.268	0.378		0.365		0.381		Continuing	Continuing	
Remarks:												
Development Support											0.000	
Software Development	VARIOUS	VARIOUS	21.939	2.629	VARIOUS	2.167	VARIOUS	2.551	VARIOUS	Continuing	Continuing	
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			21.939	2.629		2.167		2.551		Continuing	Continuing	
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604231N - TACTICAL COMMAND SYSTEM			PROJECT NUMBER AND NAME 0521 GCCS-M INTELLIGENCE APPLICATIONS						
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	PD	OPTEVFOR	2.056	0.000		0.000		0.000		Continuing	Continuing	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			2.056	0.000		0.000		0.000		Continuing	Continuing	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support	VARIOUS	VARIOUS	2.073	0.041	VARIOUS	0.035	VARIOUS	0.035	VARIOUS	Continuing	Continuing	
Travel											0.000	
Transportation											0.000	
											0.000	
Subtotal Management			2.073	0.041		0.035		0.035		Continuing	Continuing	
Remarks:												
Total Cost			44.336	3.048		2.567		2.967		Continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 91

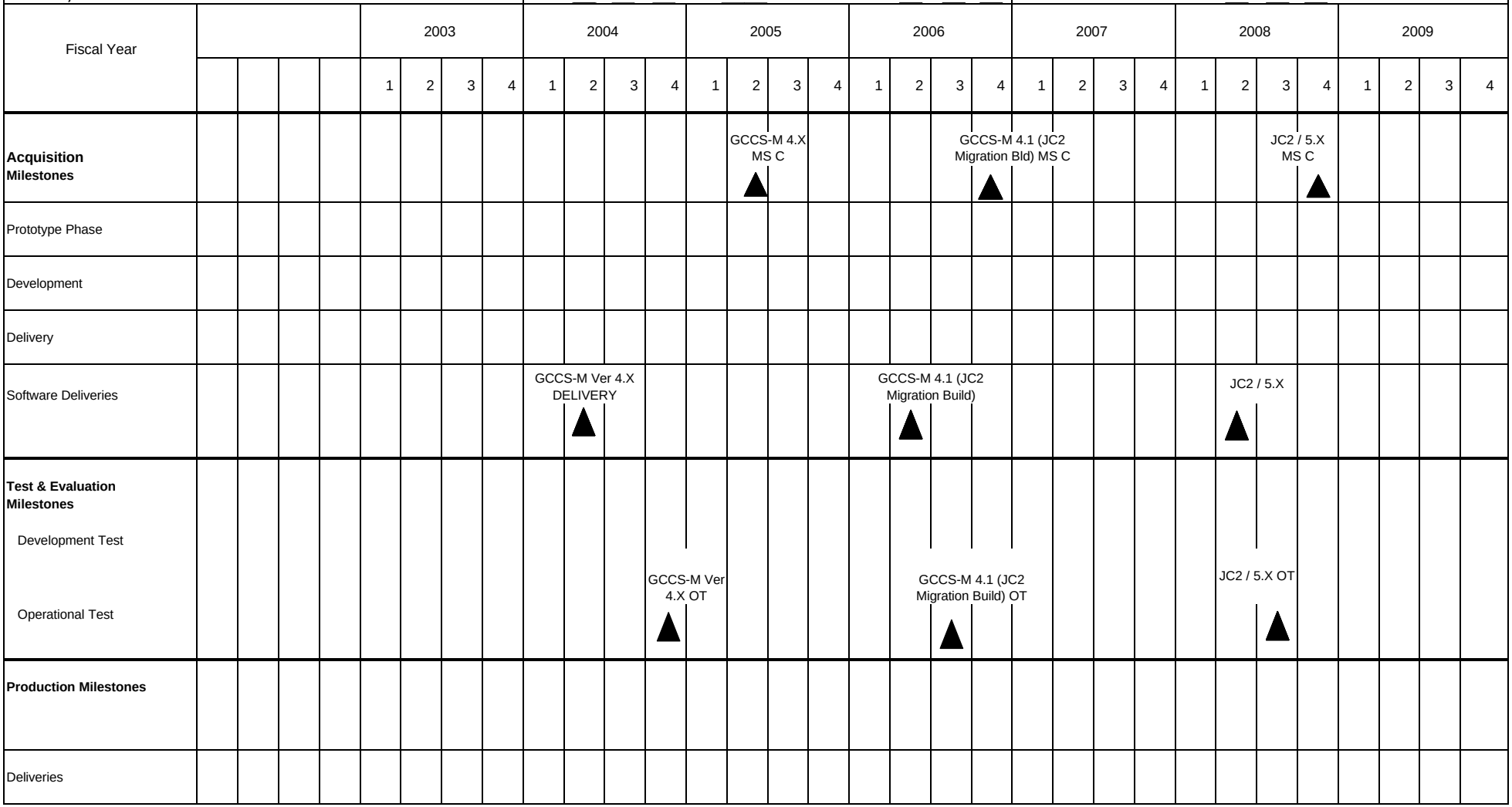
CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **February 2004**

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

PROGRAM ELEMENT NUMBER AND NAME: 0604231N - TACTICAL COMMAND SYSTEM

PROJECT NUMBER AND NAME: 0521 GCCS-M INTELLIGENCE APPLICATIONS



R-1 SHOPPING LIST - Item No. 91

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT 0604231N - TACTICAL COMMAND SYSTEM				PROJECT NUMBER AND NAME 0521 GCCS-M INTELLIGENCE APPLICATIONS			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Software Delivery - GCCS-M 4.X			Q2					
Operational Test GCCS-M 4.X			Q2					
Milestone C GCCS-M 4.X				Q2				
Software Delivery GCCS-M 4.1 (JC2/ 5.X Migration Build)					Q2			
Operational Test GCCS-M 4.1 (JC2/ 5.X Migration Build)					Q3			
Milestone C GCCS-M 4.1 (JC2/ 5.X Migration Build)					Q4			
Software Delivery JC2/ 5.X							Q2	
Operational Test JC2/ 5.X							Q3	
Milestone C JC2/5.X							Q4	

R-1 SHOPPING LIST - Item No. 91

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2004			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM					PROJECT NUMBER AND NAME 0709 GCCS-M MARITIME APPLICATIONS					
COST ($ in Millions)	Prior Years Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		Cost to Complete	Total Program
Project Cost	**61.400**	**6.282**	**7.364**	**6.046**	**7.907**	**8.530**	**8.702**	**8.878**		**Continuing**	**Continuing**
RDT&E Articles Qty											**0**

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

The GCCS-M system is the component of GCCS used in the afloat, ashore and tactical/mobile maritime environments. GCCS-M meets the requirements of the tactical commander for a near real-time, fused common tactical picture with integrated intelligence services and databases. GCCS-M supports the Command, Control, Communication, Computers and Intelligence (C4I) mission requirements of the Chief of Naval Operations (CNO), Fleet Commanders in Chief (CINC), Numbered Fleet Commanders (NFC), Officer in Tactical Command/Composite Warfare Commander (OTC/CWC), Type Commanders (TYCOM), Commander Submarine Operations Authority (COMSUBOPAUTH), Commander Task Force (CTF), Commander Amphibious Task Force (CATF), Commander Landing Force (CLF), Ship's Commanding Officer/Tactical Action Officer (CO/TAO), and Joint Task Force (JTF) Commanders, as well as other functional commanders such as the Command and Control Warfare Commander (C2WC). It also integrates both joint and service-unique Command and Control projects in order to support joint task force and Navy afloat requirements. Efforts include design, integration, and test of Tactical Decision Aids (TDAs), Navy Status of Forces (NSOF), and integration of GCCS-M baselines with weapons systems and Combat Direction Systems. These efforts will provide the battle group/force commanders with the information needed to enhance their warfighting capabilities. GCCS-M is also continuing a transition to Commercial Off The Shelf (COTS) hardware and software as part of the current GCCS-M initiative to capitalize on the latest Web/PC industry/commercial technology. GCCS-M is a key system currently being used to support real world operations afloat, ashore, and with tactical/mobile commanders. In FY05, GCCS-M will begin migration to Joint Command and Control (JC2) development in coordination with the Joint Command and Control (JC2) Program.

R-1 SHOPPING LIST - Item No. 91

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA5	0604231N - TACTICAL COMMAND SYSTEM	0709 GCCS-M MARITIME APPLICATIONS

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	3.879	3.459	3.435	
RDT&E Articles Quantity				

FY03 - Employment Scheduling / WSM / Readiness: Developed, updated, and implemented employment scheduling capabilities in support of Fleet requirements. Integrated WebSked (formerly known as VIPER) with latest versions of COTS/MS Office products. Incorporated WSM requirements identified by CRWG process. Continued to integrate evolving GCCS (Joint) segments into GCCS-M. Provided web-based, graphical entry of Readiness data and developed web-based solutions for viewing archived readiness data in Fleet-specified formats.

FY04 - Readiness/Scheduling/JPN/TADILS/BROADCASTS: Develop and incorporate web-based solutions to satisfy emerging readiness data viewing and archiving requirements identified and prioritized by Fleet users. Link readiness data with track, intelligence, imagery, and other data as required. Integrate GCCS (Joint) segments and other GCCS Family of System segments, as appropriate, with GCCS-M to ensure interoperability. Continue to incorporate WSM requirements as identified by the CRWG process. Develop, enhance, and integrate capabilities to distribute and associate non-track data with track data using mechanisms provided by the Common Operating Environment (COE) and Maritime extensions.

FY05 - Force Readiness/Mission Preparation/Maritime Execution Management/Undersea Warfare (UW): Facilitate access to and display of current ship readiness data including Aviation Maintenance Reports, CASREP and SORTSREP. Address the legislated requirement to access historical unit movement and status data. Provide the capability to report maritime readiness to the appropriate Joint Commander per the Joint Commander's instruction. Provide the capability to manage Maritime assets including deployment scheduling, pre-positioning and repositioning of units and stores, and allocation and reallocation of units to mission. Provide the capability to plan and manage the employment of undersea assets including water-space assignment, de-confliction and simultaneous monitoring of multiple undersea assets. Provide a bi-directional interface between the UW picture and the Common Operational Picture (COP) to facilitate Blue and Red force UW situational awareness.

	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	0.420	0.688	0.526	
RDT&E Articles Quantity				

FY03 - Spectral and Environmental Analysis: Developed capability for automatic interface and update with SPEDS/ICAP Integrated Product (SIIP) and Meteorological and Oceanography (METOC).

FY04 - Spectral and Environmental Analysis: Enhance existing spectral and environmental analysis functionality while developing and incorporating new functionality and capability in response to Fleet requirements. Develop and enhance automatic interface capabilities with METOC functionality as it evolves. Develop and integrate Tactical Decision Aids (TDAs) to support Electronic and Command and Control Warfare at the GENSER and SCI level.

FY05 - Electronic Warfare (EW): Provide EW analytical tools that can access, display and analyze inputs from relevant shipboard sensors. Manage and exploit the electromagnetic spectrum, including the development of electromagnetic exploitation plans using shipboard systems involved in operations against electromagnetic targets.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA5	0604231N - TACTICAL COMMAND SYSTEM	0709 GCCS-M MARITIME APPLICATIONS

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	1.284	2.085	1.552
RDT&E Articles Quantity			

FY03 - Aircraft Mission Planning / TACMOBILE: ProvidedC4I research and product improvement for P-3 mission and other avionics platforms. Provided enhanced capability in support of P-3 aircraft P3I and follow-on initiatives, including interface changes. Provided developmental support to P-3 Tactical Support Center operations by satisfying emerging technology requirements initiated by Fleet operators, developed interfaces to aircraft systems, and increased the interoperability between P-3 support applications and Command and Control systems.

FY04 - Aircraft Mission Planning / TACMOBILE: Provide capabilities to support Maritime Patrol Aircraft (MPA) operations; enhance and improve interfaces between Maritime Patrol Aircraft systems and mission support applications. Continue web enabling of mission support applications and migration of functionality to maintain COE currency.

FY05 - C2/Maritime Patrol Aircraft Ground Station Integration: Facilitate shared situational awareness by integrating information from maritime patrol aircraft sensors, emitters and real time event reporting networks into the COP. Provide a bi-directional interface between the Maritime Patrol Aircraft and the COP, as well as the capability to prepare aircrew briefings, show aircraft status and provide mission reconstruction.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.699	1.132	0.000
RDT&E Articles Quantity			

FY03 - Testing: Performed systems testing on integrated components of the Naval C4I architecture and proof of concept testing in exercise environments of emerging C4I technology.

FY04 - Testing: Conduct end-to-end system testing of components of the Naval C4I architecture in support of developmental, operational, and interoperability test evolutions. Support proof of concept testing of emerging C4I technologies in operational exercise environments.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.533
RDT&E Articles Quantity			

FY05 - Architecture: Mine Counter Measures (MCM) / Naval Coastal Warfare (NCW) Command and Control: Facilitate MCM situational awareness through integration with shipboard mine warfare counter measure systems. Provide a bi-directional interface between the MCM picture and the COP as well as support to the planning, evaluation, and asset management required for MCM operations. Facilitate scaled, shared situational awareness by integrating information from visual observation and other sources into the COP. Provide a bi-directional interface between the visual observation and other sources and the COP.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604231N - TACTICAL COMMAND SYSTEM	0709 GCCS-M MARITIME APPLICATIONS

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
FY04 President's Budget:	5.825	7.468	6.099
FY03 President's Budget:	6.282	7.364	6.046
Total Adjustments	0.457	-0.104	-0.053
Summary of Adjustments			
FY 2003 Update	0.492		
Section 8094: Management Improvements		-0.020	
Section 8126: Efficiencies /Revised Econ Assumptions		-0.063	
WCF - R&D - SPAWAR			-0.007
Rates - SSC			0.017
Inflation			-0.016
Non Purchase Inflation			-0.003
Miscellaneous Adjustment			-0.004
Issue FY03 SBIR	-0.035		
SPAWAR Service Cost Center Adjustments		-0.021	-0.018
NWCF Rates - SPAWAR SSC Rates			-0.015
Manpower			-0.007
Subtotal	0.457	-0.104	-0.053

(U) Schedule:

Previous versions of the GCCS-M 4.X development schedule were defined prior to designation of the OT platform. The USS Nimitz, CVN-68, was recently named as the OT platform (Ref: COMPACFLT PEARL HARBOR HI message R 261653Z AUG 03). Due to increased operations, ship availability schedules have been unstable. Based on the current, published ship availability schedule for the CVN-68, the OT process is now scheduled to begin in 4th Qtr FY04. There are no technical issues causing the schedule slip and there is no impact to future software development. In FY05, GCCS-M will begin migration to Joint Command and Control (JC2) development in coordination with the Joint Command and Control (JC2) Program.

(U) Technical:

N/A.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604231N - TACTICAL COMMAND SYSTEM	0709 GCCS-M MARITIME APPLICATIONS

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
GCCS-M (OPN - BLI 2608)	36.514	27.894	41.148	81.818	41.400	64.009	75.722	Continuing	Continuing

(U) E. ACQUISITION STRATEGY:

N/A

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604231N - TACTICAL COMMAND SYSTEM			PROJECT NUMBER AND NAME 0709 GCCS-M MARITIME APPLICATIONS						
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											0.000	
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	VARIOUS	VARIOUS	11.623	0.466	VARIOUS	0.673	VARIOUS	0.500	VARIOUS	Continuing	Continuing	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			11.623	0.466		0.673		0.500		Continuing	Continuing	
Remarks:												
Development Support											0.000	
Software Development	VARIOUS	VARIOUS	40.301	5.360	VARIOUS	6.003	VARIOUS	5.044	VARIOUS	Continuing	Continuing	
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			40.301	5.360		6.003		5.044		Continuing	Continuing	
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604231N - TACTICAL COMMAND SYSTEM			PROJECT NUMBER AND NAME 0709 GCCS-M MARITIME APPLICATIONS						
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	WX	OPTEVFOR	1.090	0.000		0.000		0.000		Continuing	Continuing	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			1.090	0.000		0.000		0.000		Continuing	Continuing	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support	VARIOUS	VARIOUS	8.386	0.456	VARIOUS	0.688	VARIOUS	0.502	VARIOUS	Continuing	Continuing	
Travel											0.000	
Transportation											0.000	
											0.000	
Subtotal Management			8.386	0.456		0.688		0.502		Continuing	Continuing	
Remarks:												
Total Cost			61.400	6.282		7.364		6.046		Continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 91

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	0604231N - TACTICAL COMMAND SYSTEM	0709 GCCS-M MARITIME APPLICATIONS

Fiscal Year	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										GCCS-M 4.X MS C ▲						GCCS-M 4.1 (JC2 Migration Bld) MS C ▲							JC2 / 5.X MS C ▲						
Prototype Phase																												
Development																												
Delivery																												
Software Deliveries					GCCS-M Ver 4.X DELIVERY ▲								GCCS-M 4.1 (JC2 Migration Build) ▲									JC2 / 5.X ▲							
Test & Evaluation Milestones																												
Development Test																												
Operational Test							GCCS-M Ver 4.X OT ▲								GCCS-M 4.1 (JC2 Migration Build) OT ▲								JC2 / 5.X OT ▲						
Production Milestones																												
Deliveries																												

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT 0604231N - TACTICAL COMMAND SYSTEM				PROJECT NUMBER AND NAME 0709 GCCS-M MARITIME APPLICATIONS			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Software Delivery - GCCS-M 4.X			Q2					
Operational Test GCCS-M 4.X			Q2					
Milestone C GCCS-M 4.X				Q2				
Software Delivery GCCS-M 4.1 (JC2/ 5.X Migration Build)					Q2			
Operational Test GCCS-M 4.1 (JC2/ 5.X Migration Build)					Q3			
Milestone C GCCS-M 4.1 (JC2/ 5.X Migration Build)					Q4			
Software Delivery JC2/ 5.X							Q2	
Operational Test JC2/ 5.X							Q3	
Milestone C JC2/5.X							Q4	

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM				PROJECT NUMBER AND NAME 2009 TRUSTED INFORMATION SYSTEMS						
COST ($ in Millions)	Prior Years Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		Cost to Complete	Total Program
Project Cost	**57.006**	**2.876**	**2.122**	**1.482**	**2.137**	**1.828**	**1.654**	**1.479**		**Continuing**	**Continuing**
RDT&E Articles Qty											

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

(U) Trusted Information Systems (TIS) is a combination of the Ocean Surveillance Information System (OSIS) Evolutionary Development (OED) system and the Radiant Mercury (RM) system incorporating multi-level security (MLS) web technologies. TIS provides the core on-line, automated, near-real time, multi-level secure, information analysis, dissemination, and receipt capabilities that enable Unified Commanders-in-Chief and Joint Task Force Commanders afloat and ashore to disseminate and receive critical operational and intelligence information with own forces and Coalition/Allied forces via tactical and record communications circuits. OED is a designated migration system providing for the analysis of intelligence information from multiple sources to produce a comprehensive report of foreign forces and potential hostile activity. The system is required to be able to generate multiple, automated near-real-time event-by-event (NRT EBE) data streams at various classification/releasability levels, tailorable to unique customer requirements and capable of being transmitted over multiple communications paths (including DSNET) simultaneously. In addition, it is required to provide near-real-time (NRT) all-source fusion, correlation and analysis tools (including robust graphics presentation and geospatial analysis capabilities), directly feeding automated reporting capabilities. OED provides positional data and operational intelligence to commanders at all levels. The data derived from this process is disseminated as an Operation Intelligence (OPINTEL) product to the operating forces for tactical threat warnings, decision making support, and support of Over-the-Horizon-Targeting. Radiant Mercury is a tool for the automated sanitizing, downgrading, and transliteration of formatted message traffic. Radiant Mercury helps ensure critical Indications and Warning intelligence is provided quickly to operational decision-makers. This capability to move all-source intelligence-derived track information into the realm of the operational community significantly improves the situational awareness of tactical operators and planners. Additionally, it assists in providing critical operational information to intelligence and crypto logic analysts. OED and RM are a linchpin of network-centric warfare, supporting joint operations and coalition forces in th War on Terrorism and in Homeland Security operations.

(U) TIS builds upon the foundation set by JMCIS OED project which uses the Joint Logistics Commander's Guidance of March 1987 on Evolutionary Acquisition (EA) as the strategy for future software development which includes a plan for incremental achievement of desired capability building on the core system provided by OBU Phases I and II. TIS is built on the foundation of JMCIS OED Phase III EA strategy, which provides a mechanism for adding future capabilities including the incorporation of proven fleet initiated prototypes.

R-1 SHOPPING LIST - Item No. 91

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA5	0604231N - TACTICAL COMMAND SYSTEM	2009 TRUSTED INFORMATION SYSTEMS

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	1.411	0.760	0.796
RDT&E Articles Quantity			

Continue to implement, accredit and deploy MLS changes needed to support MLS email and Network Guard technology. Continue to develop entrusted client architecture using single level clients to evolve a Multi-Level Security design. Continue to develop entrusted client architecture using single level clients to evolve a Multi-Security Level design in conjunction with network guard, MLS email, and guard/sanitizer development.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.240	0.092	0.091
RDT&E Articles Quantity			

Continue to update message encoders, decoders and correlation algorithms as required to meet formatted message standards and changes in sensor data feeds.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.651	0.303	0.288
RDT&E Articles Quantity			

Continue to automate real time Indications and Warning/Situation Assessment capability to detect and auto alert users concerning movement patterns, complex threat conditions and other pre-defined spatial and data detection events. Continue to develop and implement improved tactical decision aids, and system alerting capabilities.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA5	0604231N - TACTICAL COMMAND SYSTEM	2009 TRUSTED INFORMATION SYSTEMS

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.334	0.202	0.199
RDT&E Articles Quantity			

OED - Plan migration to Network Centric Enterprise Services (NCES) architecture; RM - Plan migration to embedded VME card-like appllications.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.240	0.111	0.108
RDT&E Articles Quantity			

Continue to develop system interface capabilities as required for current releases for record communications systems with in an accreditable MLS baseline.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	0.654	0.000
RDT&E Articles Quantity			

Develop multi-level secure encryption path within shore-to-ship network for direct connectivity to allied networks. Enable Counter Terrorism (CT) data in afloat message handling systems and COP database. Enhance CT data mining and alerting tools at JICs.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA-5	0604231N - TACTICAL COMMAND SYSTEM	2009 TRUSTED INFORMATION SYSTEMS	

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
GCCS-M TIS (OPN - BLI 2608)	1.539	1.529	1.966	3.135	1.751	1.308	3.306	Continuing	Continuing

(U) E. ACQUISITION STRATEGY:

N/A

R-1 SHOPPING LIST - Item No. 91

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604231N - TACTICAL COMMAND SYSTEM	2009 TRUSTED INFORMATION SYSTEMS

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
FY04 President's Budget:	2.906	2.146	1.492
FY05 President's Budget:	2.876	2.122	1.482
Total Adjustments	-0.030	-0.024	-0.010
Summary of Adjustments			
FY 2003 Update	-0.030		
Section 8094: Management Improvements		-0.006	
Section 8126: Efficiencies /Revised Econ Assumptions		-0.018	
Inflation			-0.004
Non Purchase Inflation			-0.001
FY05 ITR RDTEN Balancing			-0.001
Manpower			-0.004
Subtotal	-0.030	-0.024	-0.010

(U) Schedule:

N/A.

(U) Technical:

N/A.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604231N - TACTICAL COMMAND SYSTEM			PROJECT NUMBER AND NAME 2009 TRUSTED INFORMATION SYSTEMS						
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											0.000	
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	VARIOUS	VARIOUS	9.077	0.253	VARIOUS	0.212	VARIOUS	0.152	VARIOUS	Continuing	Continuing	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			9.077	0.253		0.212		0.152		Continuing	Continuing	
Remarks:												
Development Support											0.000	
Software Development	VARIOUS	VARIOUS	45.215	2.568	VARIOUS	1.864	VARIOUS	1.298	VARIOUS	Continuing	Continuing	
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			45.215	2.568		1.864		1.298		Continuing	Continuing	
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604231N - TACTICAL COMMAND SYSTEM			PROJECT NUMBER AND NAME 2009 TRUSTED INFORMATION SYSTEMS						
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	PD	OPTEVFOR	0.630	0.000		0.000		0.000		Continuing	Continuing	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.630	0.000		0.000		0.000		Continuing	Continuing	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support	VARIOUS	VARIOUS	2.084	0.055	VARIOUS	0.046	VARIOUS	0.032	VARIOUS	Continuing	Continuing	
Travel											0.000	
Transportation											0.000	
											0.000	
Subtotal Management			2.084	0.055		0.046		0.032		Continuing	Continuing	
Remarks:												
Total Cost			57.006	2.876		2.122		1.482		Continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 91

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																													DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /**					PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM												PROJECT NUMBER AND NAME 2009 TRUSTED INFORMATION SYSTEMS													
Fiscal Year	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											MILESTONE "C" - VERSION 5.X ▲											MILESTONE "C" - CDS VERSION 1.X ▲								
Prototype Phase																														
Development																														
Delivery																														
Software 5.X SW Delivery									DELIVERY 5X ▲											DELIVERY CDS VERSION 1.X ▲										
Test & Evaluation Milestones																														
Development Test										DT/OT - VERSION 5.X												DT/OT - CDS VERSION 1.X								
Operational Test										▲												▲								
Production Milestones																														
Deliveries																														

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT& BA-5**	PROGRAM ELEMENT 0604231N - TACTICAL COMMAND SYSTEM			PROJECT NUMBER AND NAME 2009 TRUSTED INFORMATION SYSTEMS			
Schedule Profile	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Software Delivery 5.X			Q1				
Developmental/Operational Test 5.X			Q2				
Milestone C 5.X			Q3				
Software Delivery CDS 1.X					Q4		
Developmental/Operational Test CDS 1.X						Q1	
Milestone C CDS 1.X						Q2	

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2004			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM					PROJECT NUMBER AND NAME 2305 GCCS-M COMMON APPLICATIONS					
COST ($ in Millions)	Prior Years Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		Cost to Complete	Total Program
Project Cost	**47.147**	**12.283**	**10.810**	**9.110**	**12.809**	**11.689**	**11.925**	**12.169**		**Continuing**	**Continuing**
RDT&E Articles Qty											

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

The GCCS-M Common Apps program contains the fundamental building blocks and common applications for all fielded Global Command and Control System (Maritime) C4I systems in the Navy, Marine Corps, and Coast Guard. It is the Navy's tactical implementation of the Global Command and Control System (GCCS) which provides the warfighter: (1) timely access to battlefield information, and (2) state-of-the-art information processing capability to support the Command and Control of maritime forces through a combination of communications, intelligence and combat system interfaces.

The Navy Common Operating Environment program is a core function of the GCCS-M Common Apps in that it serves as the system integration point for Command and Control systems in the Naval services. The program has the responsibility of working with developers throughout the Navy to incorporate the requirements of their users so that they might quickly and efficiently integrate and transform present stovepipe capabilities into an interoperable C4I architecture. As the number of legacy systems migrating to the Defense Information Infrastructure Common Operating Environment (DII COE) continues to grow, resources for rapidly folding them into the service extensions must keep pace as the complexity and size of the COE grows. As a product of evolutionary acquisition, the Navy COE will continue to evolve with the DII COE, new technology, and COMMERCIAL-OFF-THE-SHELF (COTS) products. In FY05, GCCS-M will begin migration to Joint Command and Control (JC2) development in coordination with the Joint Command and Control (JC2) Program.

GCCS-M Common Apps includes all C4I applications required to fully support Navy joint interoperability in the littoral environment, and includes all common functions such as track database management, message processing, display implementation, correlation and system architecture migration in order to ensure a coherent and consistent implementation of C4I architectures in the Fleet.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA5	0604231N - TACTICAL COMMAND SYSTEM	2305 GCCS-M COMMON APPLICATIONS

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	0.876	0.765	0.709	
RDT&E Articles Quantity				

FY03 - Aircraft Mission Planning / TACMOBILE: Developed and enhanced interfaces with aircraft mission planning systems. Enabled display of mission planning or mission routes and plans in GCCS-M along with threat and blue force data. Incorporated web-enabled TBMCS and developed required interfaces and procedures to insure interoperability with GCCS-M.

FY04 - Aircraft Mission Planning: Develop and enhance interfaces between GCCS-M and aircraft mission planning systems such as TBMCS and JMPS.

FY05 - Aerospace Operations: Integrate organic situational awareness capabilities with National, theater, and shipboard aerospace operations management systems to plan and execute aerospace operations and promote shared situational awareness.

	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	2.062	1.494	1.874	
RDT&E Articles Quantity				

FY03 - Web-Enabling/IT-21/Readiness: Researched and developed the N-tier architecture to support the transition of the USN C4I from the current client/server model to a web-enabled architecture per commercial e-commerce and e-business standards. Provided security infrastructure that will support SI and Collateral levels. Developed readiness capabilities which will integrate with Joint and coalition forces.

FY04 - Web-Enabling/Readiness: Continue to develop and implement the N-tier architecture. Integrate readiness capabilities that satisfy interoperability requirements of Joint and coalition forces, including web-based integration with GCCS-Joint, JOPES, and similar theater-level C4I systems.

FY05 - User Help and Documentation: Provide an embedded documentation and individual/team user help capability that emphasizes performance of mission capabilities.

	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	2.664	1.960	0.000	
RDT&E Articles Quantity				

FY03 - Testing/Usability (COMEXT/MAREXT): Performed systems testing in support of upcoming developmental and operational test and evaluation evolutions. Conducted proof of concept testing in exercise environments of emerging technology in the C4I arena.

FY04 - Testing/Usability: Continue to conduct proof of concept testing in exercise environments of emerging technology in the C4I arena. Perform systems testing on the integrated components of the Naval C4I architecture developed as part of GCCS-M.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA5	0604231N - TACTICAL COMMAND SYSTEM	2305 GCCS-M COMMON APPLICATIONS

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	0.691	0.760	0.741	
RDT&E Articles Quantity				

FY03 - Combat Systems Interface: Provided C4I support of combat systems interfaces. Developed track management/correlation/merge processing as specified in WS-19702/1 to enable full exchange of tracks between GCCS-M, Aegis, Advanced Combat Direction System (ACDS), Ship Self Defense System (SSDS), and Naval Fire Control System (NFCS).

FY04 - Combat Systems Interface: Evolve combat system interfaces to web-enabled standards (XML) and enable full exchange of tracks between GCCS-M, and combat systems such as Aegis, Common C&D, ACDS, SSDS, and NFCS.

FY05 - C2/Navigation Systems Integration / C2/METOC Integration: Integrate with shipboard navigation systems to provide definitive ship location to the COP in support of shared situational awareness. Provide the capability to geo-register and render digital nautical charts/navigation quality map products. Integrate with shipboard meteorological systems to provide current and forecasted environmental data to execute maritime operations and promote shared situational awareness.

	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	4.627	4.185	4.155	
RDT&E Articles Quantity				

FY03 - JPN / TADILS / BROADCASTS: Supported Joint/coalition warfare by developing an interoperable & scalable C4I system. Implemented emerging TIBS requirements; modernized TIBS to support data feeds provided by advanced receiving systems, including IBS. Integrated and supported interfaces to the Joint Tactical Terminal Control Client. Enhanced and improved COP Sync Tools. Provided an automated mechanism for replicating web and newsgroup data from ship's servers to the Network Operations Centers (NOCs).

FY04 - JPN/TADILS/BROADCASTS: Implement the interoperable & scalable C4I system for managing tracks, data links, communications, and sensors that supports Joint/coalition warfare.

FY05 - Situational Awareness (SA) / Battle Force Command and Control (BFC2): Facilitate shared situational awareness by integrating information from shipboard sensors, emitters and real time event reporting networks into the COP. Provide assured SA and BFC2 by integrating information systems spanning GENSER, SCI, and Coalition security domains. Exchange shared situational awareness information via the COP with Joint and shipboard systems (e.g. combat, weapons control, navigation, cryptologic).

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA5	0604231N - TACTICAL COMMAND SYSTEM	2305 GCCS-M COMMON APPLICATIONS

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	0.000	0.150	0.200	
RDT&E Articles Quantity				

FY04 - Force Protection/Counter-terrorism: Research, develop and integrate tactical decision aides, analytical tools, and decision support tools to satisfy emergent operational C4I requirements for Force Protection and Counter-terrorism missions. Conduct rapid prototyping and end-to-end testing of these solutions to provide “speed of capability” to the warfighter. Ensure current and emergent functionality and capabilities provide improved interoperability with Allied and Coalition partners.

FY 05 - Emergent Capabilities: Provide the capability to rapidly incorporate emergent and transformational C2I capabilities that have been demonstrated through the experimentation process, and that satisfy Naval, Joint and Coalition C2I requirements.

	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	1.363	1.496	1.431	
RDT&E Articles Quantity				

FY03 - Targeting / Land Track: Provided enhanced capability for the Naval JSTARS Interface segment per Fleet direction. Integrated fire control call for fire capability into the JTT/GCCS-M/JSIPS-N targeting architecture. Expanded ELINT data processing in GCCS-M to process specific emitter id data provided by enhanced sensor packages aboard P-3 AIP, U-2 and other national assets.

FY04 - C2 FIRES Integration: Integrate Command and Control systems with targeting systems at the Naval and Joint levels (e.g., Joint Fires Network). Develop and integrate Joint collaborative products into GCCS-M to enable analysts to exchange application and text data over IP communications.

FY05 - Maritime Mission Presentation of COP: Provide the capability to perform unique Shipboard Operations Execution Management tasks (e.g. maritime mission specific overlays/templates).

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604231N - TACTICAL COMMAND SYSTEM	2305 GCCS-M COMMON APPLICATIONS

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
FY04 President's Budget:	12.486	10.964	9.197
FY05 President's Budget:	12.283	10.810	9.110
Total Adjustments	-0.203	-0.154	-0.087
Summary of Adjustments			
FY 2003 Update	-0.001		
Section 8094: Management Improvements		-0.029	
Section 8029: FFRDC Reduction		-0.007	
Section 8126: Efficiencies /Revised Econ Assumptions		-0.093	
WCF - R&D - SPAWAR			-0.008
Rates - SSC			0.021
Inflation			-0.024
Non Purchase Inflation			-0.005
Miscellaneous Adjustment			-0.006
FY 03 SBIR	-0.202		
SPAWAR Service Cost Center Adjustments		-0.025	-0.021
NWCF Rates - SPAWAR SSC Rates			-0.018
Manpower			-0.026
Subtotal	-0.203	-0.154	-0.087

(U) Schedule:

Previous versions of the GCCS-M 4.X development schedule were defined prior to designation of the OT platform. The USS Nimitz, CVN-68, was recently named as the OT platform (Ref: COMPACFLT PEARL HARBOR HI message R 261653Z AUG 03). Due to increased operations, ship availability schedules have been unstable. Based on the current, published ship availability schedule for the CVN-68, the OT process is now scheduled to begin in 4th Qtr FY04. There are no technical issues causing the schedule slip and there is no impact to future software development. In FY05, GCCS-M will begin migration to Joint Command and Control (JC2) development in coordination with the Joint Command and Control (JC2) Program.

(U) Technical:

N/A.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604231N - TACTICAL COMMAND SYSTEM	2305 GCCS-M COMMON APPLICATIONS

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
GCCS-M (OPN - BLI 2608)	36.514	27.894	41.148	81.818	41.400	64.009	75.722	Continuing	Continuing

(U) E. ACQUISITION STRATEGY:

N/A

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604231N - TACTICAL COMMAND SYSTEM			PROJECT NUMBER AND NAME 2305 GCCS-M COMMON APPLICATIONS						
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											0.000	
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	VAR	VAR	5.678	1.175	VAR	1.157	VAR	0.883	VAR	Continuing	Continuing	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			5.678	1.175		1.157		0.883		Continuing	Continuing	
Remarks:												
Development Support											0.000	
Software Development	VAR	VAR	34.239	9.228	VAR	7.800	VAR	6.813	VAR	Continuing	Continuing	
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			34.239	9.228		7.800		6.813		Continuing	Continuing	
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604231N - TACTICAL COMMAND SYSTEM				PROJECT NUMBER AND NAME 2305 GCCS-M COMMON APPLICATIONS						
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	VAR	VAR	4.535	0.956	VAR	0.941	VAR	0.719	VAR	Continuing	Continuing	
Operational Test & Evaluation	VAR	VAR	0.643	0.219	VAR	0.217	VAR	0.165	VAR	Continuing	Continuing	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			5.178	1.175		1.158		0.884		Continuing	Continuing	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support	VAR	VAR	2.052	0.705	VAR	0.695	VAR	0.530	VAR	Continuing	Continuing	
Travel											0.000	
Transportation											0.000	
											0.000	
Subtotal Management			2.052	0.705		0.695		0.530		Continuing	Continuing	
Remarks:												
Total Cost			47.147	12.283		10.810		9.110		Continuing	Continuing	
Remarks:												

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile			DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM	PROJECT NUMBER AND NAME 2305 GCCS-M COMMON APPLICATIONS	

Fiscal Year	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										GCCS-M 4.X MS C ▲						GCCS-M 4.1 (JC2 Migration Bld) MS C ▲							JC2 / 5.X MS C ▲					
Prototype Phase																												
Development																												
Delivery																												
Software Deliveries									GCCS-M Ver 4.X DELIVERY ▲							GCCS-M 4.1 (JC2 Migration Build) ▲						JC2 / 5.X ▲						
Test & Evaluation Milestones																												
Development Test																												
Operational Test											GCCS-M Ver 4.X OT ▲					GCCS-M 4.1 (JC2 Migration Build) OT ▲						JC2 / 5.X OT ▲						
Production Milestones																												
Deliveries																												

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT 0604231N - TACTICAL COMMAND SYSTEM				PROJECT NUMBER AND NAME			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Software Delivery - GCCS-M 4.X			Q2					
Operational Test GCCS-M 4.X			Q2					
Milestone C GCCS-M 4.X				Q2				
Software Delivery GCCS-M 4.1 (JC2/ 5.X Migration Build)					Q2			
Operational Test GCCS-M 4.1 (JC2/ 5.X Migration Build)					Q3			
Milestone C GCCS-M 4.1 (JC2/ 5.X Migration Build)					Q4			
Software Delivery JC2/ 5.X							Q2	
Operational Test JC2/ 5.X							Q3	
Milestone C JC2/5.X							Q4	

R-1 SHOPPING LIST - Item No. 91

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604231N Tactical Command System				PROJECT NUMBER AND NAME 2307 Integrated Shipboard Network System (ISNS)					
COST ($ in Millions)	Prior Years Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Total Program
Project Cost	**12.861**	**1.503**	**1.026**	**1.685**	**1.241**	**1.366**	**1.393**	**1.421**	**Continuing**	**Continuing**
RDT&E Articles Qty										

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

The Integrated Shipboard Network System (ISNS) program provides every Navy ship, including submarines, with a reliable, high-speed Local Area Network (LAN) that will provide LAN and Wide Area Network (WAN) access to the DISN WAN (Secure and Nonsecure Internet Protocol Router Network - SIPRNet and NIPRNet). It provides real-time information exchange between afloat units, Component Commanders, numbered Fleet Commanders and Fleet CINCs through the migration of existing legacy systems into the IT-21 strategy and is a key factor in the implementation of the Navy's portion of Joint Vision 2010. Under the Navy's information modernization strategy, full synchronization of shipboard networks, mission and information applications and Radio/Satellite communications and shore data dissemination infrastructure, installations are necessary to ensure end-to-end mission capability. The ISNS program maximizes the use of both COTS software and hardware resulting in dependence on commercially supported hardware and software. Engineering and technical support is provided so that existing systems will keep pace with hardware and software that is supported commercially.

The Integrated Shipboard Networking System (ISNS) project uses a combination of high speed switches, routers, servers and workstations, commercial networking, security and operating system software technologies to provide network access to classified and unclassified applications for use by ship's force, embarked units, embarked commanders and their staffs. The Integrated Shipboard Networking System is integrated with the Automated Digital Networking System (ADNS) and existing RF systems.

Under the Navy's information modernization strategy, full synchronization of shipboard networks, mission and information applications, Radio/Satellite communications and shore data dissemination infrastructure, installations are necessary to ensure end-to-end mission capability. The Integrated Shipboard Networking System program is closely synchronized on a ship by ship basis with the following dependent programs: Global Command and Control System Maritime (GCCS-M) and Navy Tactical Command Support System (NTCSS); and with these other related programs: Navy Standard Integrated Personnel System (NSIPS), Theatre Medical Information Program – Maritime (TMIP-M), Defense Messaging System (DMS), Extremely High Frequency Satellite Communication (EHF SATCOM), Super High Frequency Satellite Communication (SHF SATCOM), Commercial SATCOM, Ultra High Frequency Satellite Communication (UHF SATCOM), Digital Wideband Transmission System (DWTS), ADNS, Digital Modular Radio (DMR), Global Broadcasting System (GBS), Video Information Exchange System (VIXS) and Information Security (INFOSEC) programs. The ISNS program provides infrastructure to support implementation/fielding of programs listed above. If the ISNS infrastructure is not in place, a large segment of the Fleet will not be able to utilize the available capabilities to improve productivity and increase efficiency. The ISNS program maximizes the use of Commercial off the shelf (COTS) software and hardware resulting in dependence on these items being commercially supported. The LAN modernization rate must keep pace with hardware and software that is supported commercially.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROJECT NUMBER AND NAME 2307 Integrated Shipboard Network System (ISNS)

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	1.503	1.026	1.685
RDT&E Articles Quantity			

(FY03) Investigated, developed and tested switch technology upgrades to the Shipboard LAN architecture. Investigated, developed and tested Next Generation LAN Protocols to incorporate into existing Shipboard LAN architecture to ensure that technology replacement continues to advance with the changing technology. Performed developmental testing in support of MS C for Block 1 architecture.

(FY04-FY05) Continue to investigate, develop and test next generation LAN Protocols (including Wireless LAN, Network management and administration, Secure/Nonsecure Voice, Internet Protocol Video and Quality of Service protocols) for potential incorporation into the Shipboard LAN architecture. Investigate, integrate and test data prioritization, advanced data storage and management, next generation server/workstation operation systems and fixes for security vulnerabilities. Perform studies to increase availability and survivability of networks and reduce network infrastructure footprint. Continual investigation of protocols, hardware, and software for insertion into the LAN architecture is driven by eighteen month technology change cycle and maintaining a secure network against evolving threats. Perform follow-on system developmental and operational testing. Perform developmental testing and operational testing of Block 1 and Block 2 architecture. The testing events will support MS C for Block 2 Architecture.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604231N Tactical Command System	2307 Integrated Shipboard Network System (ISNS)

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
President's Budget:	1.567	1.041	1.697
Current BES/OSDBudget	1.503	1.026	1.685
Total Adjustments	-0.064	-0.015	-0.012
Summary of Adjustments			
FY2003 Update	-0.053		
FY03_SBIR_5-May-03	-0.011		
Sec 8094 Management Improvements		-0.003	
Sec 8126 Effeiciencies/Revised Econ Assumptions		-0.009	
SPAWAR Service Cost Center Adjustments		-0.003	-0.005
NWCF Rates - SPAWAR SSC Rates			-0.004
WCF - R&D - SPAWAR			-0.002
ates - SSC			0.005
Inflation			-0.004
Non-purchase Inflation			-0.001
Miscellaneous Adjustment			-0.001
Subtotal	-0.064	-0.015	-0.012

(U) Schedule:

Not Applicable.

(U) Technical:

Not Applicable.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604231N Tactical Command System	2307 Integrated Shipboard Network System (ISNS)

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
BLI: 3050 COMM AUTO - ISNS	53.574	118.631	71.471	203.823	41.742	73.346	114.484	Cont.	Cont.

(U) E. ACQUISITION STRATEGY:

Acquisition, Management and Contracting Strategy are to support:
Investigated, developed and tested server and workstation technology upgrades to incorporate into existing architecture.

Note: ACAT 1AC designation requested by DASN (14 Aug 02).

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604231N Tactical Command System			PROJECT NUMBER AND NAME 2307 Integrated Shipboard Network System (ISNS)							
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	MIPR	FEDSIM/SAIC	1.211	0.253	12/02	0.1874	12/03	0.305	12/04	Continuing	Continuing	
Primary Hardware Development	WX	SSC CH	1.709	0.240	12/02	0.1874	12/03	0.305	12/04	Continuing	Continuing	
Primary Hardware Development	WX	SSC SD	1.094	0.286	12/02	0.2443	12/03	0.446	12/04	Continuing	Continuing	
Primary Hardware Development	TMM	EDS	0.196								0.196	
Systems Engineering	MIPR	MITRE	0.426								0.426	
Systems Engineering	MIPR	FEDSIM/SAIC	1.213	0.222	12/02	0.0625	12/03	0.085	12/04	Continuing	Continuing	
Systems Engineering	Various	Various	0.810								0.810	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			6.659	1.001		0.6815		1.141		0.000	9.483	
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:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604231N Tactical Command System				PROJECT NUMBER AND NAME 2307 Integrated Shipboard Network System (ISNS)						
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
Test & Evaluation	WX	SSC CHS	0.570	0.100	12/02	0.073	12/03	0.119	12/04	Continuing	Continuing	
Test & Evaluation	WX	SSC SD	1.047	0.185	12/02	0.146	12/03	0.255	12/04	Continuing	Continuing	
Test & Evaluation	WX	SSC Chespk	0.555	0.137	12/02	0.063	12/03	0.102	12/04	Continuing	Continuing	
Operational Test & Evaluation	WR	OPTEVFOR	0.206	0.080	12/02	0.062	12/03	0.068	12/04	Continuing	Continuing	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			2.378	0.502		0.344		0.544		0.000	3.768	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support	WX	SSC CHS	0.257								0.257	
Travel											0.000	
Transportation											0.000	
											0.000	
Subtotal Management			0.257	0.000		0.000		0.000		0.000	0.257	
Remarks:												
Total Cost			9.294	1.503		1.026		1.685		0.000	13.508	
Remarks:												

R-1 SHOPPING LIST - Item No. 91

CLASSIFICATION:

EXHIBIT R4, Schedule Profile

DATE: **February 2004**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /	0604231N Tactical Command System	2307 Integrated Shipboard Network System (ISNS)

Fiscal Year	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										FRP △		MSC △			FRP △					MS C △			FRP △					
Engineering Development	Block 1 (Gig E)								Block 2								Block 3											
Test & Evaluation Milestones				DT			DT				DT									DT/ OA								
Development Test				□			□				□									□								
Operational Test								OT □						OT □														
Production Milestones																												
LRIP FY 02	Block I (Gig E) LRIP																											
Deliveries																												

Notes:

ISNS has been fielding ATM LAN since FY98 as part of the GCCSM and NTCSS acquisition programs.

Block 1 (known as GiG E) is an evolution of ATM LAN that will have its own Acquisition Documentation and formal LRIP.

OT date has been delayed due to ship's schedule. ORD revision is in process to further define Blocks 2 & 3.

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**		PROGRAM ELEMENT 0604231N Tactical Command System			PROJECT NUMBER AND NAME 2307 Integrated Shipboard Network System (ISNS)			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Milestone C (MS C for Blocks 1, 2 & 3)				4Q		4Q		
Developmental Testing		4Q	3Q	3Q				
Operational Testing			4Q		2Q			
Developmental Testing/Operational Assessment						4Q		
Start Low-Rate Initial Production (Block 1 (Gig E) LRIP)								
Full Rate Production Start				2Q	3Q		3Q	

R-1 SHOPPING LIST - Item No. 91

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604231N Tactical Command System					PROJECT NUMBER AND NAME 3032 NTCSS				
COST ($ in Millions)	Prior Years Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		Cost to Complete	Total Program
Project Cost	**4.790**	**4.605**	**3.277**	**0.071**	**0.047**	**0.047**	**0.054**	**0.052**	**0.000**	**Continuing**	**Continuing**
RDT&E Articles Qty	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**	**3**

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

Navy Tactical Command Support Systems (NTCSS) - This RDT&E Project funding supports design, development and testing of the components of the NTCSS web initiative:
(1) Web-enabling the NTCSS application suite, (2) NTCSS Enterprise Database and (3) Maritime Logistics Data Network (MLDN). The development of a web-enabled Enterprise Database for NTCSS application will place all NTCSS databases into a similar structure, allowing greater interoperability between applications to meet Next Generation Network (NGN) requirements both afloat and ashore. MLDN will facilitate the movement of administrative workload from ships to shore.

(U) JUSTIFICATION FOR BUDGET ACTIVITY:

This program is funded under ENGINEERING AND MANUFACTURING DEVELOPMENT because it encompasses engineering and manufacturing development of new end-items prior to production approval decision.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604231N Tactical Command System	3032 NTCSS

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05	
Accomplishments	4.605	3.277	0.071	
RDT&E Articles Quantity			1	

FY 2003 ACCOMPLISHMENT:
Continued Web-enabling of NTCSS applications and enterprise database design, development and testing & support and documentation. MLDN tasks were focused on developing the communications and security architecture needed to implement the MLDN capability throughout the fleet.

FY2004 AND FY2005 PLAN:
MLDN tasks are focused on developing the communications and security architecture needed to implement the MLDN capability throughout the fleet. Prototype MLDN and Enterprise Database delivered in FY05.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604231N Tactical Command System	3032 NTCSS

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
FY04 President's Budget	4.906	3.314	3.332
FY05 President's Budget	4.605	3.277	0.071
Total Adjustments	-0.301	-0.037	-3.261
Summary of Adjustments			
Miscellaneous Adjustments	-0.301		
Sec 8084: Management Improvements		-0.009	
Sec 8126: Efficencies/Revised Econ. Assumptions		-0.028	
Logistics Domain			-3.250
Inflation			-0.009
Non Purchase Inflation			-0.002
Subtotal	-0.301	-0.037	-3.261

(U) Schedule:

Not Applicable.

(U) Technical:

Not Applicable.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604231N Tactical Command System	3032 NTCSS

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
OPN 261100 Naval Tactical Command Support System	31.616	51.253	26.208	81.090	13.760	31.035	39.253	Continuing	Continuing
RDT&E PE 0605013N 3054 Navy Web-enabling	1.969	0	0	0	0	0	0		

(U) E. ACQUISITION STRATEGY:

The NTCSS Acquisition Strategy is defined in its Single Acquisition Management Plan (SAMP) dtd 7 May 99.

R-1 SHOPPING LIST - Item No. 91

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604231N Tactical Command System			PROJECT NUMBER AND NAME 3032 NTCSS						
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	Various	Various	0.600	0.034	10/02	0.034	10/03	0.000	10/04	Continuing	Continuing	
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	Various	Various	0.700	0.150	10/02	0.150	10/03	0.000	10/04	Continuing	Continuing	
Training Development											0.000	
Licenses	Various	Various	0.400	0.200	10/02	0.100	10/03	0.000	10/04	Continuing	Continuing	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			1.700	0.384		0.284		0.000		Continuing	Continuing	
Remarks:												
Development Support											0.000	
Software Development	Various	Various	2.729	3.135	10/02	2.008	10/03	0.056	10/04	Continuing	Continuing	
Integrated Logistics Support											0.000	
Configuration Management	Various	Various	0.100	0.180	10/02	0.180	10/03	0.000	10/04	Continuing	Continuing	
Technical Data	Various	Various		0.100	10/02	0.100	10/03	0.000	10/04	Continuing	Continuing	
Studies & Analyses											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			2.829	3.415		2.288		0.056		0.000	8.588	
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604231N Tactical Command System				PROJECT NUMBER AND NAME 3032 NTCSS						
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	Various	Various	0.035	0.275	10/02	0.275	10/03	0.015	10/04	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			0.035	0.275		0.275		0.015		0.000	0.600	
Remarks:												
Contractor Engineering Support	Various	Various	0.184	0.406	10/02	0.306	10/03	0.000	10/04	Continuing	Continuing	
Government Engineering Support	Various	Various	0.030	0.125	10/02	0.124	10/03	0.000	10/04	Continuing	Continuing	
Program Management Support											0.000	
Travel											0.000	
Transportation											0.000	
											0.000	
Subtotal Management			0.214	0.531		0.430		0.000		0.000	1.175	
Remarks:												
Total Cost			4.778	4.605		3.277		0.071		Continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 91

EXHIBIT R4, Schedule Profile | DATE: **February 2004**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604231N Tactical Command System	3032 NTCSS

Fiscal Year	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																																
Unit Level eNTCSS Development					X	X	X																									
Unit Level eNTCSS Demonstration							X	X	X	X																						
ERP Afloat Convergence Demonstration											X	X	X	X	X	X	X															
Unit Level Convergence LRIP															X	X	X	X	X	X												
Force Level Convergence LRIP																			X	X	X	X	X	X								
Test & Evaluation Milestones																																
Unit Level eNTCSS FOT&E													X	X																		
Unit Level Convergence IOT&E																X	X	X														
Force Level Convergence IOT&E																				X	X	X	X									
Production Milestones																																
Unit Level eNTCSS MSD														X																		
Unit Level Convergence MSD																																
Force Level Convergence MSD																																
Deliveries																																

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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT 0604231N Tactical Command System			PROJECT NUMBER AND NAME 3032 NTCSS			
Schedule Profile	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Unit Level eNTCSS Development	Q1-Q3						
System Design Review (SDR)	Q3						
Critical Design Review (CDR)	Q4						
Unit Level eNTCSS Demonstration	Q3-Q4	Q1-Q2					
Unit Level eNTCSS FOT&E			Q1-Q2				
ERP Afloat Convergence Demonstration		Q3-Q4	Q1-Q4	Q1			
Unit Level Convergence IOT&E			Q4	Q1-Q2			
Developmental Test Readiness Review (DTRR) Unit Level Convergence				Q2			
Developmental Testing Unit Level Convergence				Q2			
Operational Test Readiness Review (OTRR) Unit Level Convergence				Q3			
Operational Testing Unit Level Convergence				Q3-Q4			
Unit Level Convergence LRIP			Q3-Q4	Q1-Q4			
Unit Level eNTCSS MSD			Q2				
Unit Level Convergence MS D				Q4			
Unit Level Convergence IOC					Q1		

R-1 SHOPPING LIST - Item No. 91

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604231N FORCEnet				PROJECT NUMBER AND NAME 9123 FORCEnet			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**12.298**	**7.759**	**15.630**	**17.095**	**19.034**	**21.008**	**22.987**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: On 21 February 2002, in response to conclusions and recommendations from extensive studies by CNO Strategic Studies Group (1998-2002), Army (Future Combat System (FCS)), and Air Force (Joint Battlespace Info-Sphere (JBI)), CNO has directed a quantitative and rigorous analysis of the warfighting requirements and effects of Network Centric Warfare (NCW) across all of Naval Doctrine, Logistics, Tactics, Techniques, Procedures (TTPs), and Systems. The Director FORCEnet (DFn) designation letter directed that FORCEnet establish the Navy's future requirements for an end-to-end plan to transform its warfighters, organizations, TTPs, systems, platforms and technologies to a fully netted, integrated, and NCW capable force. FORCEnet transforms the NCW vision into an operational strategy through a transformational spiral development of the next generation of Naval warfighting capabilities. FORCEnet implements the Navy's Transformation Vision – Sea Power 21 – and enables the pillars of Sea Strike (projecting precise and persistent offensive power), Sea Sheild (projecting global defensive assurance), and Sea Basing (projecting sustainable Joint operational independence), as well as the supporting initiatives of Sea Trial (accelerating enhanced capabilities through innovation and experimentation), Sea Enterprise (maximizing business efficiencies), and Sea Warrior (maximizing human capital).

FORCEnet is the USN/USMC enterprise alignment and integration effort. The mission of this effort is:
· DoN/DoD transformation;
· Accelerated Innovation, Testing, Assessment, and Fielding of Warfighter Capability;
· Joint/Allied/Coalition interoperability;
· Development and implementation of enterprise requirements, architectures and standards.

DoN/DoD transformation:
FORCEnet looks across warfare mission areas to identify capabilities and efficiencies that would not otherwise be realized under the existing paradigm of individual stove-piped programs and efforts. A key enabler of the CNO's Sea Power 21 Vision, FORCEnet represents the Navy's end-to-end concept, process and plan for evolutionary requirements transformation of its people and warfighting culture, processes, organizational structures, and technologies to a fully netted, integrated, and Network Centric force. FORCEnet analysis identifies potential synergies that are gained by integrating and aligning individual existing/planned efforts as well as organizational realignment. Efforts, started in FY03, focus on conducting the detailed technical analysis for FORCEnet mission capability and equipment roadmaps, developing the decision support system necessary to manage the roadmaps, establishing a FORCEnet collaborative environment, and supporting experimentation events. The development of the roadmaps will concentrate on defining the Navy's and Marine Corps minimum executable combat capability required to support/sustain all warfighting mission areas. Fact based decision tools, experimentation and analysis are used to perform trades across the operational, technical, financial and programmatic dimensions. Thus, with a relatively modest investment, FORCEnet is able to make substantial gains on transformation by providing analysis for the most efficient and effective combination of platforms, sensors, and weapons necessary to provide the foundation for battlespace dominance and fully integrated intelligence, surveillance and reconnaissance systems to support the tenets of Network Centric Warfare. These analysis and resulting alignments direct specific responsibilities and collectively enhance the ability of the Department to realize FORCEnet. Another important aspect to transformation is the warrior. The warrior key to the successful implementation of FORCEnet and NCW. FORCEnet will focus and build on existing efforts regarding warrior training and retention and will drive application of Human Systems Integration (HIS) early in system design and in development of operational concepts and TTP.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604231N FORCEnet	9123 FORCEnet

Accelerated Innovation, Testing, Assessment, and Fielding of Warfighter Capability;
A key mission of FORCEnet is the accelerated innovation, testing, assessment, and fielding of Warfighter Capability through an innovation continuum that takes advantage of existing planned events, and couples them together in innovative ways to maximize impact. Most recently, FORCEnet led Trident Warrior 03 which delivered FORCEnet capabilities to the Seventh Fleet operating forces in September 2003. In addition, working in concert with the ongoing efforts, FORCEnet is leveraging ongoing experimentation efforts such as the Fleet Battle Experiments, GIANT SHADOW and SILENT HAMMER initiatives to take advantage of transformational capabilities. Coupled with a coherent investment strategy that supports the transformational concepts of operation envisioned by Seapower 21, FORCEnet will implement transformation department wide and accelerate the delivery of FORCEnet by putting tomorrow's FORCEnet capability in the hands of the warfighter today.

Joint/Allied/Coalition Interoperability
FORCEnet was established on the premise of joint interoperability. This goal will be supported by the establishment of high-level joint architecture tenets and standards as elements of a FORCEnet "blueprint", as part of a strong cross-program systems engineering effort under the FORCEnet Chief Engineer. This blueprint will be based on joint and industry standards, with development and implementation coordinated with transformation initiatives in the Army, Air Force, and Coast Guard as well as Joint commands and allies. In addition, FORCEnet planning is being coordinated with allies and coalition partners. In 2002 and 2003, FORCEnet discussions were held with Australia, Canada, United Kingdom, New Zealand, the Netherlands, Germany and Italy. FORCEnet will enhance Joint and Allied interoperability through interactions and coordination with the Joint Forces Command Joint Battle Management Command and Control effort and the Family of Interoperable Pictures initiative. FORCEnet will leverage a series of joint Limited Objective Experiments, examining Interservice interoperability issues, as well as ongoing efforts to converge service and allied architectures. FORCEnet will build upon existing Joint capabilities to bridge the gap of legacy systems as we migrate to the Global Information Grid.

Development and implementation of enterprise requirements, architectures and standards.

The military capabilities required by Naval Forces to support Joint Transformation and Network Centric Warfare (NCW) are identified through a FORCEnet Capabilities-Based Requirements Process and Fleet-validated through a Fleet-led requirements integration and experimentation process. Responding to the direction of Congress, FORCEnet is defining enterprise requirements (operational requirements, system/technical requirements, support/policy and implementation requirements), architectures and standards. The working baseline requirements have been published in the FORCEnet Campaign Plan. The enterprise instantiation of FORCEnet requirements, architectures and standards will happen through FORCEnet compliance and infusion into acquisition (through efforts such as the FORCEnet Pilot Programs) and through a continual spiral development process (via innovation and experimentation) for operational refinement and updates.

In summary, FORCEnet is the unique vehicle to meet the CNO's requirement to analyze, develop, establish, and sustain a holistic approach to NCW requirements across all Naval warfighting missions. No existing Naval organization provides the analytical rigor across the breath of operational and programmatic warfighting dimensions of the Naval Force.

Specific FORCEnet products include: (a) Validated FORCEnet requirements; (b) FORCEnet transformation roadmaps which will define the Navy and Marine Corps minimum executable combat capability required to support/sustain warfighting mission areas; (c) A dynamically reconfigurable set of metrics required to manage FORCEnet combat effects which interacts with the "Fact-Based Decision Model" taking into account financial and technical aspects; (d) A Fact-Based Decision software Model which will contrast investment decision versus warfighting capability; (e) A collaborative capability required to demonstrate and study the various concepts of integrated warfare and combined force effects provided by FORCEnet; (f) All related POM investment strategies (g) FORCEnet experimentation and speed to capability (h) a FORCEnet Collaborative Environment (FnCE) that allows trades across operational, technical, financial and programmatic dimensions and provides an outreach to industry for commercial solutions (i) analytically defendable investment plans and mission capability platform and equipment roadmaps through qualitative and quantitative analysis. (j.) Cost vs. combat capability trades will be executed in conjunction with the FORCEnet virtual environment (FnVE).

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604231N FORCEnet	9123 FORCEnet

(U) FORCEnet TEAM AND PARTNERSHIPS:

· OPNAV, CFFC/NETWARCOM, Navy Warfare Development Command (NWDC), ONR, SYSCOMs (NAVSEA, NAVAIR, SPAWAR, MCSC), and RDA CHENG, JFCOM

· Supporting commands and activities: CNO SSG, CNO N00K, MCCDC, High Performance Computing Modernization Office, Naval Post Graduate School, U.S. Naval Academy, Naval War College, John Hopkins University, MIT Lincoln Labs, COMOPTEVFOR, NETC, DARPA, Army FCS, Air Force JBI, JFCOM and OSD

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA5	0604231N FORCEnet	9123 FORCEnet

B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	12.298	7.759	15.630
RDT&E Articles Quantity			

FORCEnet

Industry Survey & Alignment (Industry White Paper Requests, Industry White Paper Evaluation, Acquisition Wargaming, FORCEnet Refinement/Analysis of Requirements); Limited Objective Experiments (Alignment with EC5G, ESG, NFN, TFWeb and FBE-J/K, Alignment with FBE-L, tactics, techniques and procedures; Virtual Environment Test Events (Real-time, Joint, Integrated Hardware, Simulation, and Warriors, Platform/Equipment/Capability Roadmap based on Qualitative/Quantitative Data); Analytical Tools, Methods, Metrics (Requirements/Metrics Definition, Platform Survey, Collaborative Environment Development & Integration, Fact Based Decision Tools); Roadmaps, Analysis and Evaluation (Operational & Engineering Standards, Architecture Analysis, User Information Analysis & Use Case Framework); Collaborative Environment (Capability Alignment, Process Definition & Implementation, Configuration Management).

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604231N FORCEnet	9123 FORCEnet

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:	12.509	14.654	15.669
Current BES/President's Budget	12.298	7.759	15.630
Total Adjustments	-0.211	-6.895	-0.039
Summary of Adjustments			
FY03_SBIR_5-May-03	-0.146	-	-
MRTFB NMCI SHORTFALL	-0.053	-	-
NWCF Rates - NAWC Rates	-	-	-0.023
Section 8094: Management Improvements	-	0.016	-
Sec. 8126: Efficiencies/Revised Econ. Assumptions	-	0.056	-
FORCEnet Limited Objective Experiments	-	-6.800	-
Section 8094: Management Improvements	-	-0.039	-
Sec. 8029: FFRDC Reduction	-	-0.004	-
Sec. 8126: Efficiencies/Revised Econ. Assumptions	-	-0.124	-
FY 2003 Update	-0.012	-	-
WCF - R&D - NAWC	-	-	0.022
NAWC	-	-	0.023
Inflation	-	-	-0.042
non purchase inflation	-	-	-0.009
Misc Adjustments	-	-	-0.010
Subtotal	-0.211	-6.895	-0.039

(U) Schedule:
NOT APPLICABLE

(U) Technical:
NOT APPLICABLE

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604231N FORCEnet	PROJECT NUMBER AND NAME 9123 FORCEnet

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
N/A									

E. ACQUISITION STRATEGY:

Not Applicable

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604231N FORCEnet			PROJECT NUMBER AND NAME 9123 FORCEnet						
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											0.000	
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration	Various	Various				0.935	Various	2.109	Various	Continuing	Continuing	
Ship Suitability											0.000	
Systems Engineering	Various	Various		0.800	Various	0.800	Various	0.800	Various	Continuing	Continuing	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			0.000	0.800		1.735		2.909		Continuing	Continuing	
Remarks:												
Development Support	Various	Various		1.100	Various	1.600	Various	1.600	Various	Continuing	Continuing	
Software Development	Various	Various		2.300	Various	0.600	Various	0.600	Various	Continuing	Continuing	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses	Various	Various		1.100	Various	2.400	Various	3.700	Various	Continuing	Continuing	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			0.000	4.500		4.600		5.900		Continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 91

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604231N FORCEnet				PROJECT NUMBER AND NAME 9123 FORCEnet						
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	Various	Various		0.500	01/03	0.800	Various	2.200	Various	Continuing	Continuing	
Operational Test & Evaluation								3.000	Various	Continuing	Continuing	
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	0.500		0.800		5.200		Continuing	Continuing	
Remarks:												
Technical Support	Various	Various		1.500	10/02	0.624	Various	1.621	Various	Continuing	Continuing	
Government Engineering Support	Various	Various		3.899	10/02					Continuing	Continuing	
Program Management Support				0.800	10/02					Continuing	Continuing	
Travel				0.299	10/02					Continuing	Continuing	
Transportation											0.000	
											0.000	
Subtotal Management			0.000	6.498		0.624		1.621		Continuing	Continuing	
Remarks:												
Total Cost			0.000	12.298		7.759		15.630		Continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 91

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0605013N Navy Information Technology Dev/Mod					PROJECT NUMBER AND NAME 9372 3D Common Operational Picture					
COST ($ in Millions)	Prior Years Cost		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Total Program
Project Cost			**0.000**	**1.682**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**1.682**
RDT&E Articles Qty											**0**

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:.
Congressional Add will provide a three-dimensional visualization for critical core GCCS-M Common Operational Picture (COP) capabilities and services. This includes track symbology, geospatial overlays, tactical decision aids to support aerospace operations planning and execution such as air corridors and airspace use areas, and topographic analysis support functions such as sensor coverage areas, fade zones, and terrain masking.

R-1 SHOPPING LIST - Item No. 91

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N Navy Information Technology Dev/Mod	9372 3D Common Operational Picture

(U) B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.000	1.682	0.000
RDT&E Articles Quantity				

FY2004 PLANS:
Congressional Add will provide a three-dimensional visualization for critical core GCCS-M Common Operational Picture (COP) capabilities and services. This includes track symbology, geospatial overlays, tactical decision aids to support aerospace operations planning and execution such as air corridors and airspace use areas, and topographic analysis support functions such as sensor coverage areas, fade zones, and terrain masking.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N Navy Information Technology Dev/Mod	9372 3D Common Operational Picture

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
FY04 President's Budget	0.000	0.000	0.000
FY05 President's Budget	0.000	1.682	0.000
Total Adjustments	0.000	1.682	0.000

Summary of Adjustments

Congressional Add 3D Common Operational Picture			1.700	
Issue 68041 - Sec 8094: Management Improvements			-0.004	
Issue 68066 - Sec 8126: Efficiencies/Revised Econ Assumptions			-0.014	
Subtotal	0.000	0.000	1.682	0.000

(U) Schedule:

Not Applicable.

(U) Technical:

Not Applicable.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N Navy Information Technology Dev/Mod	9372 3D Common Operational Picture

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
Not Applicable									

(U) E. ACQUISITION STRATEGY:

Not Applicable

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0605013N Navy Information Technology Dev/Mod			PROJECT NUMBER AND NAME 9372 3D Common Operational Picture						
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
3D COP	TBD	TBD				1.682	Various				1.682	
Ancillary Hardware 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			0.000	0.000		1.682		0.000		0.000	1.682	
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:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0605013N Navy Information Technology Dev/Mod				PROJECT NUMBER AND NAME 9372 3D Common Operational Picture						
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											0.000	
Program Management Support											0.000	
Travel											0.000	
Transportation											0.000	
											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			0.000	0.000		1.682		0.000		0.000	1.682	
Remarks:												

R-1 SHOPPING LIST - Item No. 91

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604231N Tactical Command System					PROJECT NUMBER AND NAME 9373 AN/UYQ-70 Based IT-21 C4ISR Upgrades					
COST ($ in Millions)	Prior Years Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		Cost to Complete	Total Program
9373 AN/UYQ-70 Based IT-21 CEISR Upgrades	**0.000**	**0.000**	**2.521**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**2.521**
RDT&E Articles Qty											**0**

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:.

Congressional Add will provide the following in support of AN/UYQ-70 Based IT-21 C4ISR Upgrades:

Research current C4ISR software applications and design an integration approach for transition from legacy networks to an enterprise solution. Implement the C4ISR-T Systems Design effort that will incorporate the AN/UYQ-70 rack design. Develop an overarching Q-70 BLK system integration, test plan and validation that ensures the Q-70 racks are fully integrated and tested. Develop hardware baseline for integration into the Q-70 servers. Integration to include standardized configuration, integrated documentation and integrated software applications. Develop and implement an Integrated Logistics Support (ILS) Plan ensuring provisioning, training, technical manuals, support and test equipment (S&TE), Planned Maintenance System (PMS) availability, and other ILS requirements are me

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604231N Tactical Command System	9373 AN/UYQ-70 Based IT-21 C4ISR Upgrades

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	0.000	2.521	0.000	
RDT&E Articles Quantity				

FY2004 PLANS:
· Research current C4ISR software applications and design an integration approach for transition from legacy networks to an enterprise solution. Implement the C4ISR-T Systems Design effort that will incorporate the AN/UYQ-70 rack design.
· Develop an overarching Q-70 BLK system integration, test plan and validation that ensures the Q-70 racks are fully integrated and tested.
· Develop hardware baseline for integration into the Q-70 servers. Integration to include standardized configuration, integrated documentation and integrated software applications.
· Develop and implement an Integrated Logistics Support (ILS) Plan ensuring provisioning, training, technical manuals, support and test equipment (S&TE), Planned Maintenance System (PMS) availability, and other ILS requirements are met.

R-1 SHOPPING LIST - Item No. 91

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604231N Tactical Command System	9373 AN/UYQ-70 Based IT-21 C4ISR Upgrades

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
FY04 President's Budget	0.000	0.000	0.000
FY05 President's Budget	0.000	2.521	0.000
Total Adjustments	0.000	2.521	0.000

Total Adjustments

Summary of Adjustments

AN/UYQ-70 Based IT-21 C4ISR Upgrades		2.550	
Sec 8094: Management Improvements		-0.007	
Sec 8126: Efficiencies/Revised Econ Assumptions		-0.022	
Subtotal	0.000	2.521	0.000

(U) Schedule:

Not Applicable.

(U) Technical:

Not Applicable.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604231N Tactical Command System	9373 AN/UYQ-70 Based IT-21 C4ISR Upgrades

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004
OPN: LI 3057 BLI 305700 AN/UYQ-70 for IT 21	8,713	
OPN: LI 2611 BLI 261100 AN/UYQ-70 for IT 21		5,100
RDT&E PE 0604707N 9054 IT-21 Block 1 CAISR Computing Equipment Upgrades	1,619	

(U) E. ACQUISITION STRATEGY:

Not Applicable.

R-1 SHOPPING LIST - Item No. 91

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604231N Tactical Command System			PROJECT NUMBER AND NAME 9373 AN/UYQ-70 Based IT-21 C4ISR Upgrades							
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		Various				0.504	Various				0.504	
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering		Various				1.765	Various				1.765	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			0.000	0.000		2.269		0.000		0.000	2.269	
Remarks:												
Development Support											0.000	
Software Development											0.000	
Integrated Logistics Support		Various				0.252	Various				0.252	
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		0.252		0.000		0.000	0.252	
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604231N Tactical Command System				PROJECT NUMBER AND NAME 9373 AN/UYQ-70 Based IT-21 C4ISR Upgrades						
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											0.000	
Program Management Support											0.000	
Travel											0.000	
Transportation											0.000	
											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			0.000	0.000		2.521		0.000		0.000	2.521	
Remarks:												

R-1 SHOPPING LIST - Item No. 91

CLASSIFICATION:

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 0604234N, E-2 Advanced Hawkeye			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost		**107.043**	**343.306**	**597.015**	**609.197**	**526.927**	**623.515**	**280.509**
3051 E-2 Advanced Hawkeye		**107.043**	**343.306**	**597.015**	**609.197**	**526.927**	**623.515**	**280.509**

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Advanced Hawkeye will replace the existing E-2C fleet. The AHE program develops, demonstrates, tests, and procures the replacement of the AN/APS-145 radar system and other aircraft system components that modernize the E-2C weapon system to maintain open ocean mission capability while providing the United States Navy (USN) with an effective littoral surveillance and Theater Air and Missile Defense (TAMD) capability. Key radar technologies are space-time adaptive processing (STAP), electronically scanning array (ESA), solid state transmitter, high dynamic range digital receivers and Identification Friend or Foe (IFF)/radar aperture integration. The resultant detection system will provide a substantially improved overland performance by correcting current sensor shortfalls and enhancing all current required mission areas, while simultaneously contributing to the emerging TAMD mission requirements.

The AHE program also upgrades or replaces aircraft system components that are either obsolete or becoming unsupportable, upgrades or replaces other aircraft systems as required to support the radar upgrade, and improves the producibility of the weapons system. The impact of the dominant battlefield awareness provided by this improved airborne early warning system will substantially contribute to the development of a single integrated air picture.

These technologies were demonstrated in a ground environment in FY1999 and will continue to be refined through FY2003. This P.E. was utilized for RMP pre-system development and demonstration (Pre-SD&D) in FY2003, followed by SD&D beginning in 4th quarter FY2003. Program quickly ramps up in FY2004 and FY2005 to support a Preliminary Design Review (PDR) in 1st Qtr FY2005 and a Critical Design Review (CDR) in 1st Qtr FY2006. The program plan begins E-2 AHE Pilot Production in FY2007 (long lead on four aircraft), begins the production phase with a Low-Rate Initial Production (LRIP) Milestone C decision in FY2009, and achieves Initial Operational Capability (IOC) in FY2011. P.E. 0204152N, E-2 Squadrons, also supports the radar risk reduction effort on the NC-130H test bed aircraft.

*Two Multi-Year Procurement E-2C aircraft will be modified to provide RDT&E assets for the AHE program.

R-1 SHOPPING LIST - Item No. 92

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604234N, ADVANCED HAWKEYE				PROJECT NUMBER AND NAME 3051, E-2 ADVANCED HAWKEYE			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**107.043**	**343.306**	**597.015**	**609.197**	**526.927**	**623.515**	**280.509**
RDT&E Articles Qty						**2***	**4**	

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Advanced Hawkeye will replace the existing E-2C fleet. The AHE program develops, demonstrates, tests, and procures the replacement of the AN/APS-145 radar system and other aircraft system components that modernize the E-2C weapon system to maintain open ocean mission capability while providing the United States Navy (USN) with an effective littoral surveillance and Theater Air and Missile Defense (TAMD) capability. Key radar technologies are space-time adaptive processing (STAP), electronically scanning array (ESA), solid state transmitter, high dynamic range digital receivers and Identification Friend or Foe (IFF)/radar aperture integration. The resultant detection system will provide a substantially improved overland performance by correcting current sensor shortfalls and enhancing all current required mission areas, while simultaneously contributing to the emerging TAMD mission requirements.

The AHE program also upgrades or replaces aircraft system components that are either obsolete or becoming unsupportable, upgrades or replaces other aircraft systems as required to support the radar upgrade, and improves the producibility of the weapons system. The impact of the dominant battlefield awareness provided by this improved airborne early warning system will substantially contribute to the development of a single integrated air picture.

These technologies were demonstrated in a ground environment in FY1999 and will continue to be refined through FY2003. This P.E. was utilized for RMP pre-system development and demonstration (Pre-SD&D) in FY2003, followed by SD&D beginning in 4th quarter FY2003. Program quickly ramps up in FY2004 and FY2005 to support a Preliminary Design Review (PDR) in 1st Qtr FY2005 and a Critical Design Review (CDR) in 1st Qtr FY2006. The program plan begins E-2 AHE Pilot Production in FY2007 (long lead on four aircraft), begins the production phase with a Low-Rate Initial Production (LRIP) Milestone C decision in FY2009, and achieves Initial Operational Capability (IOC) in FY2011. P.E. 0204152N, E-2 Squadrons, also supports the radar risk reduction effort on the NC-130H test bed aircraft.

*Two Multi-Year Procurement E-2C aircraft will be modified to provide RDT&E assets for the AHE program.

R-1 SHOPPING LIST - Item No. 92

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604234N, ADVANCED HAWKEYE	PROJECT NUMBER AND NAME 3051, E-2 ADVANCED HAWKEYE

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		69.404		
RDT&E Articles Quantity				

Pre-System Development and Demonstration (Pre SD&D)
Award/Extend E-2 AHE Sole Source Pre-SD&D contract to Northrop Grumman Corporation. Began E-2 AHE system architecture trade studies, requirements analysis, radar system demonstration/validation, producibility enhancement and life cycle costs reduction efforts. Fund Radar/Identification Friend or Foe integration, and demonstration/validation of other mission avionics systems.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		24.296	282.219	562.949
RDT&E Articles Quantity				

System Development and Demonstration (SD&D)
Awarded of SD&D contract with Northrop Grumman Corporation. Enter into SD&D for E-2 AHE program; conduct engineering and development efforts in preparation for System Functional Review for the AHE weapons system. Continue SD&D effort. Conduct engineering and development efforts in preparation for Preliminary/Critical Design Reviews.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost				4.109
RDT&E Articles Quantity				

Fund Government Furnished Equipment

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604234N, ADVANCED HAWKEYE	3051, E-2 Advanced Hawkeye

B. Accomplishments/Planned Program (Cont.)

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		8.220	58.987	29.957
RDT&E Articles Quantity				

NAWCAD Support
Fund Government Engineering and Contractor Engineering Support. Perform Government oversight.
Engineering and loads analysis, design, preparation, installation and ground test calibration of instrumentation and for A-123 Loads Test. Test program risk reduction effort.
Fund Ramp up for the Software Functional Review/Preliminary Design Review/Critical Design Review.
Develop and perform wind tunnel testing, and design and develop digital engine control system for obsolescence, weight reduction, and to improve performance.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		5.123		
RDT&E Articles Quantity				

Funded Classified Development efforts.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost			2.100	
RDT&E Articles Quantity				

NC-130H
Provide support for the NC-130H engineering risk reduction efforts. Fund Classfied Development efforts. Fund NC-130H AHE Advanced Development Model (ADM) system flight test & test analysis.

R-1 SHOPPING LIST - Item No. 92

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604234N, ADVANCED HAWKEYE	3051, E-2 Advanced Hawkeye

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:	111.186	352.298	537.837
Current BES/President's Budget:	107.043	343.306	597.015
Total Adjustments	-4.143	-8.992	59.178
Summary of Adjustments			
Congressional program reductions			
Congressional undistributed reductions		-3.992	
Congressional rescissions			
SBIR/STTR Transfer	-2.696		
Reprioritization		-5.000	61.249
Economic Assumptions			-2.071
Reprogrammings	-1.447		
Congressional increases			
Subtotal	-4.143	-8.992	59.178

Funding:

PB05 maintains an IOC in FY11, fields single aircraft configuration, minimizes new builds for the Hawkeye 2000, and provides a fly before LRIP buy strategy. Final cost estimate from the OSD Cost Analysis Improvement Group (CAIG) was completed with concurrence from Defense Acquisition Board (DAB) on 6 June 03.

Schedule:

DT/DT Assist in FY05/FY06 and 1Q-2Q of FY07 includes NC-130/A-123/lab integration dedicated for weapon system development and air vehicle testing. DT/DT Assist in FY07-FY09 includes efforts for weapon system development and air vehicle testing on SD&D #1 and SD&D #2 aircraft. Schedule changes reflect a more clearly defined and discretely identified test evolution developed in cooperation with COTF and DOT&E in progress to MS B in June 2003. Schedule was approved in Acquisition Strategy on 21 March 03.

Technical:

Technical approach was approved in Acquisition Strategy on 21 March 03.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604234N, ADVANCED HAWKEYE	3051, E-2 Advanced Hawkeye

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
APN-1/E-2C (LI# 12 & 13)	286.594	226.811	247.950	249.059	208.579	175.895	733.639	10283.83	14917.757
APN-5/E-2C (LI# 36)	25.001	50.274	15.124	13.785	9.444	9.338	8.561	349.280	923.011
APN-6/E-2C (LI# 53)	20.970	2.947	1.148	0.000	0.000	0.000	11.925	287.622	430.515

Related RDT&E
(U) 0603658N (Ship Self Defense, CEC)
(U) 0204152N (E2 Squadrons)

E. ACQUISITION STRATEGY:

Acquisition Strategy was signed by the MDA, USD (AT&L) on 21 March 2003. Milestone B approval to proceed with System Development and Demonstration was given 6 June 2003 by the Defense Acquisition Board (DAB).

R-1 SHOPPING LIST - Item No. 92

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604234N, ADVANCED HAWKEYE			PROJECT NUMBER AND NAME 3051, E-2 Advanced Hawkeye							
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 Dev (Pre-SD&D)	SS/CPFF	CLASSIFIED	15.694								15.694	15.694
Ancillary Hardware Development												
Aircraft Integration												
Ship Integration												
Ship Suitability												
Systems Engineering (Pre-SD&D)	SS/CPFF	NGC, NY	50.639	69.404	10/02						120.043	120.043
Trainer/Trainer Development	TBD	TBD								131.000	131.000	131.000
Licenses												
Tooling												
GFE	SS/CPFF	VARIOUS						4.109	11/04	77.790	81.899	81.899
Primary Hardware Dev (SD&D)	SS/CPAF	NGC, NY		24.296	06/03	282.219	10/03	562.949	10/04	1,783.565	2,653.029	2,653.029
Contractor Engineering Support	CPFF	TBD	0.671			2.100	10/03				2.771	2.771
Subtotal Product Development			67.004	93.700		284.319		567.058		1,992.355	3,004.436	

Remarks:

Successful DAB to enter SD&D completed 6 June 03, ADM and APBA approved 13 June 03.

R-1 SHOPPING LIST - Item No. 92

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604234N, ADVANCED HAWKEYE			PROJECT NUMBER AND NAME 3051, E-2 Advanced Hawkeye							
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
Development Support-ETS	WX/RX	NAWCAD, PAX RIVER, MD		0.253	02/03					Continuing	Continuing	
Development Support	WX/RX	Classified		5.123	04/03					Continuing	Continuing	
Software Development												
Integrated Logistics Support												
Configuration Management												
Technical Data												
Studies & Analyses												
GFE												
Government Engineering Support	WX	NAWCAD, PAX RIVER, MD	2.285	5.224	01/03	23.864	11/03	21.074	11/04	Continuing	Continuing	
Government Engineering Support	WX	NRL, WASH., D.C.	0.160								0.160	
Subtotal Support			2.445	10.600		23.864		21.074		Continuing	Continuing	

Remarks:

R-1 SHOPPING LIST - Item No. 92

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604234N, ADVANCED HAWKEYE				PROJECT NUMBER AND NAME 3051, E-2 Advanced Hawkeye						
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	WR/WX	NAWCAD, PAX RIVER, MD	2.127			26.954	10/03	3.182	10/04	Continuing	Continuing	
Operational Test & Evaluation												
Live Fire Test & Evaluation												
Test Assets												
Tooling												
GFE												
Subtotal T&E			2.127	0.000		26.954		3.182		Continuing	Continuing	
Remarks:												
Contractor Engineering Support												
Government Engineering Support												
Management Support	WX/RX	NAWCAD, PAX RIVER, MD	2.575	2.493	01/03	7.815	10/03	5.451	10/04	Continuing	Continuing	
Travel	WX	NAWCAD, PAX RIVER, MD	0.015	0.250	01/03	0.354	10/03	0.250	10/04	Continuing	Continuing	
Transportation												
Subtotal Management			2.590	2.743		8.169		5.701		Continuing	Continuing	
Remarks:												
Total Cost			74.166	107.043		343.306		597.015		Continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 92

CLASSIFICATION:

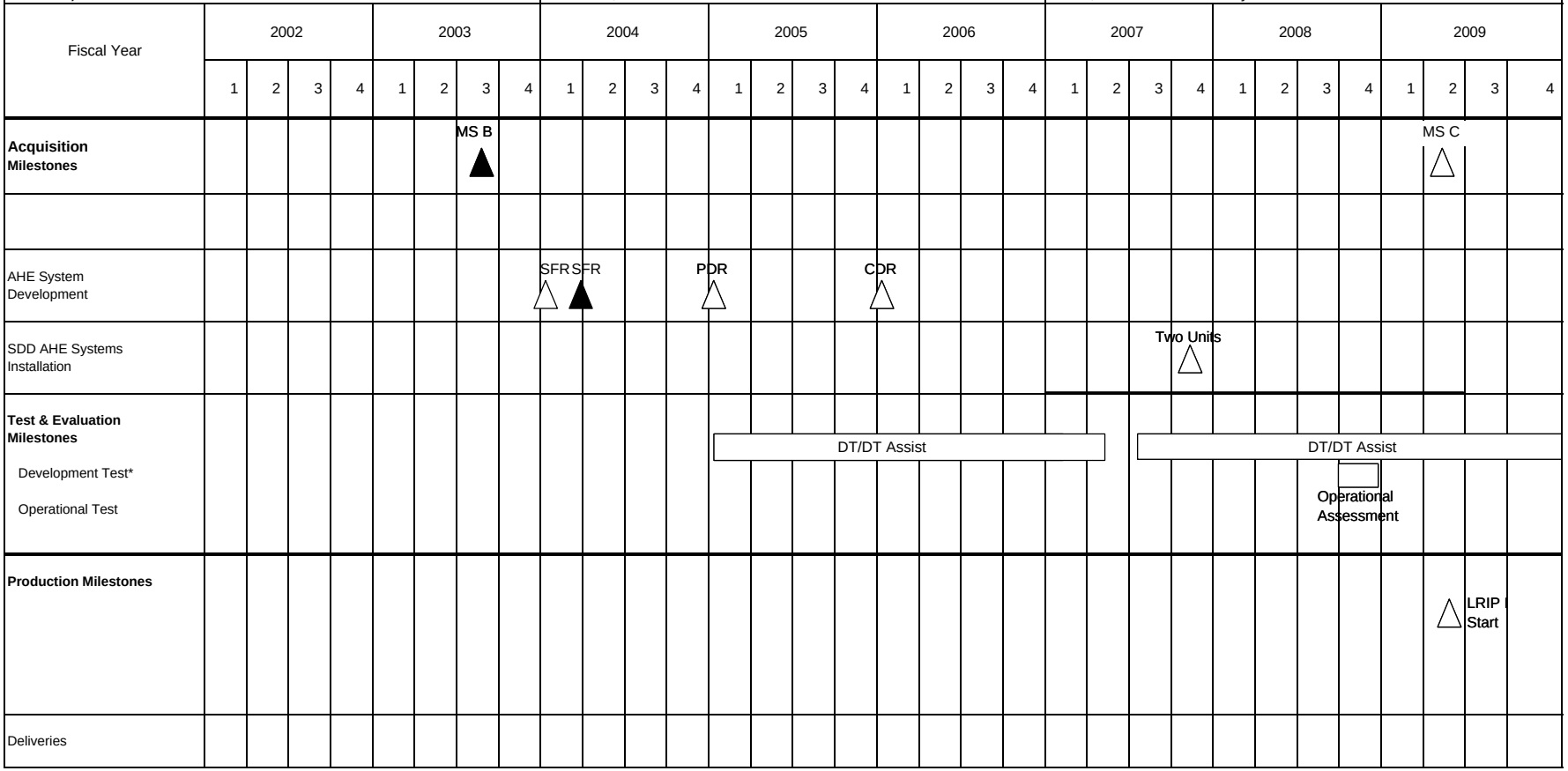
EXHIBIT R4, Schedule Profile

DATE: **February 2004**

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

PROGRAM ELEMENT NUMBER AND NAME
0604234N, ADVANCED HAWKEYE

PROJECT NUMBER AND NAME
E3051, E-2 Advanced Hawkeye



R-1 SHOPPING LIST - Item No. 92

* DT/DT Assist in FY05/FY06 and 1Q-2Q of FY07 includes NC-130/A-123/lab integration dedicated for weapon system development and air vehicle testing.

* DT/DT Assist in FY07-FY09 includes efforts for weapon system development and air vehicle testing on SD&D #1 and SD&D #2 aircraft.

* Schedule updated from Feb 03 submission to reflect a more clearly defined and discretely identified test evolution developed in cooperation with COTF and DOT&E in progress to MS B in June 2003.

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT 0604234N, ADVANCED HAWKEYE				PROJECT NUMBER AND NAME E3051, E-2 Advanced Hawkeye			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Acquistion Milestones - Milestone B		3Q						
Acquistion Milestones - Milestone C								2Q
AHE System Development - Software Functional Review (SFR)			1Q					
AHE System Development - Preliminary Design Review (PDR)				1Q				
AHE System Development - Critical Design Review (CDR)					1Q			
SDD AHE Systems Installation						4Q		
Test & Evaluation Milestones - Development Test - A-123 & NC-130				1Q-4Q	1Q-4Q	1Q-2Q		
Test & Evaluation Milestones - Development Test - SD&D #1 & 2						3Q	1Q-4Q	1Q-4Q
Test & Evaluation Milestones - Operational Assessment							4Q	
Production Milestones - LRIP I Start								2Q

R-1 SHOPPING LIST - Item No. 92

CLASSIFICATION:

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 0604245N USMC H-1 Upgrades			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost		**232.229**	**90.965**	**90.389**	**10.907**	**7.723**	**3.525**	**3.525**
H2279 USMC H-1 Upgrades		**232.229**	**90.965**	**90.389**	**10.907**	**7.723**	**3.525**	**3.525**

Quantity of (5) RDT&E Engineering and Manufacturing Development (EMD) test articles were placed on contract prior to FY98 and remanufacture commenced in FY99. One aircraft will be used for live fire test and evaluation.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The mission of the AH-1W attack helicopter is to provide rotary wing close air support, anti-armor, armed escort, armed/visual reconnaissance and fire support coordination capabilities under day/night and adverse weather conditions. The mission of the UH-1N utility helicopter is to provide command and control and combat assault support under day/night and adverse weather conditions and special operations support; supporting arms coordination and aeromedical evacuation. Major modifications for both aircraft that remanufacture AH-1W/UH-1N's into AH-1Z/UH-1Y's include: a new 4-bladed, composite rotor system with semi-automatic bladefold, new performance matched transmissions, T700 Engine Digital Electronic Control Units (DECUs), new 4-bladed tail rotors and drive systems, more effective stabilizers, upgraded landing gear, tail pylon structural modifications, and common, fully integrated cockpits and avionics systems. This remanufacture will add 10,000 flight hours to AH-1Z/UH-1Y airframes. The fully integrated cockpits will reduce operator workload and improve situational awareness, thus increasing safety and reducing the rate of aircraft attrition. They will provide considerable growth potential for future weapon systems and avionics, which will significantly increase mission effectiveness and survivability. The cockpits will also include integration of onboard mission planning, communications, digital fire control, self-navigation, night navigation/targeting, and weapon systems management in nearly identical crew stations, which significantly reduces training requirements. This remanufacture maximizes commonality between the two aircraft and provides needed improvements in crew and passenger survivability, payload, power available, endurance, range, airspeed, maneuverability and supportability.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604245N USMC H-1 Upgrades				PROJECT NUMBER AND NAME H2279 USMC H-1 Upgrades			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**232.229**	**90.965**	**90.389**	**10.907**	**7.723**	**3.525**	**3.525**
RDT&E Articles Qty								

Quantity of (5) RDT&E Engineering and Manufacturing Development (EMD) test articles were placed on contract prior to FY98 and remanufacture commenced in FY99. One aircraft will be used for live fire test and evaluation.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The mission of the AH-1W attack helicopter is to provide rotary wing close air support, anti-armor, armed escort, armed/visual reconnaissance and fire support coordination capabilities under day/night and adverse weather conditions. The mission of the UH-1N utility helicopter is to provide command and control and combat assault support under day/night and adverse weather conditions and special operations support; supporting arms coordination and aeromedical evacuation. Major modifications for both aircraft that remanufacture AH-1W/UH-1N's into AH-1Z/UH-1Y's include: a new 4-bladed, composite rotor system with semi-automatic bladefold, new performance matched transmissions, T700 Engine Digital Electronic Control Units (DECUs), new 4-bladed tail rotors and drive systems, more effective stabilizers, upgraded landing gear, tail pylon structural modifications, and common, fully integrated cockpits and avionics systems. This remanufacture will add 10,000 flight hours to AH-1Z/UH-1Y airframes. The fully integrated cockpits will reduce operator workload and improve situational awareness, thus increasing safety and reducing the rate of aircraft attrition. They will provide considerable growth potential for future weapon systems and avionics, which will significantly increase mission effectiveness and survivability. The cockpits will also include integration of onboard mission planning, communications, digital fire control, self-navigation, night navigation/targeting, and weapon systems management in nearly identical crew stations, which significantly reduces training requirements. This remanufacture maximizes commonality between the two aircraft and provides needed improvements in crew and passenger survivability, payload, power available, endurance, range, airspeed, maneuverability and supportability.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604245N USMC H-1 Upgrades	H2279 USMC H-1 Upgrades

B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05	
Technical design, and development	212.568	68.197	60.472	

Conduct pre-flight ground test and first flight of UH-1Y. Continue tooling validation and assembly of remaining EMD aircraft including structural test. Conduct envelope expansion and complete electrical demonstration. Continue development of integrated software.

	FY 03	FY 04	FY 05	
Program developmental testing	12.151	13.048	13.534	

Program developmental testing includes: live fire test & evaluation, non-firing loads and vibrations, IAS validation and weapons check, structural demonstration, Operational Test Readiness Review (OTRR), firing loads and vibrations, sea trials, IAS validation, weapons check, weapons system accuracy, and EMI testing.

	FY 03	FY 04	FY 05	
Training and Logistics Support	7.510	3.320	4.056	

Perform level of repair analysis, logistics support analysis, reliability centered maintenance analysis, and integrated mechancial diagnostics.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604245N USMC H-1 Upgrades	H2279 USMC H-1 Upgrades

B. Accomplishments/Planned Program (Cont.)

	FY 03	FY 04	FY 05	
Software Support	0.000	2.800	5.337	

Conduct Software development efforts to support development testing and address operational testing results.

	FY 03	FY 04	FY 05	
Component Fatigue Testing	0.000	3.600	6.990	

Conduct component level fatigue testing to establish fatigue lives for development aircraft.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604245N USMC H-1 Upgrades	H2279 USMC H-1 Upgrades

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:	236.039	90.589	61.174
Current BES/President's Budget	232.229	90.965	90.389
Total Adjustments	-3.810	0.376	29.215
Summary of Adjustments			
Congressional program reductions			
Congressional undistributed reductions		-1.024	
Congressional rescissions			
SBIR/STTR Transfer	-5.272		
Economic Assumptions			-0.161
Reprogrammings	1.462		
Other Navy/OSD Adjustments			29.376
Congressional increases		1.400	
Subtotal	-3.810	0.376	29.215

Schedule:

Schedule change due to the integration of the HMS/D Thales Helmet, which replaced the previous helmet in the spring of FY 2003.

Technical:

Not Applicable

R-1 SHOPPING LIST - Item No. 93

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604245N USMC H-1 Upgrades	PROJECT NUMBER AND NAME H2279 USMC H-1 Upgrades

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	Prior	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
P-1 LI #7, UH-1Y/AH-1Z (4BN/4BW)	5.987			308.492	241.792	337.685	431.934	467.211	454.563	3,206.825	5,454.489
Quantity				9	9	12	19	21	21	189	280

E. ACQUISITION STRATEGY:

The USMC H-1 Upgrades is an ACAT 1D program which encompasses Engineering and Manufacturing Development of new end-items prior to a production approval decision. The prime contract is a sole source to Bell Helicopter Textron, Inc.

R-1 SHOPPING LIST - Item No. 93

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2004				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604245N USMC H-1 Upgrades			PROJECT NUMBER AND NAME H2279 USMC H-1 Upgrades						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY04 Cost	FY04 Award Date	FY 05 Cost	FY05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	SS CPFF	Bell Helicopter, Ft. Worth, TX	636.758	196.335	10/02	60.180	10/03	54.054	10/04	0.000	947.327	954.279
Anciliary Hdw Development											0.000	
Training Development	WR	Various	5.132	0.610	11/02	0.470	11/03	0.000		0.000	6.212	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	WR	Various	48.305	13.155	Various	4.562	Various	3.770	Various	0.000	69.792	
Licenses											0.000	
Tooling											0.000	
GFE	Various	Various	15.597	2.468	10/02	2.985	10/03	2.648	10/04	0.000	23.698	
Award Fees*	WR	Bell Helicopter, Ft. Worth, TX	12.668							0.000	12.668	12.668
Subtotal Product Development			718.460	212.568		68.197		60.472		0.000	1,059.697	
*Remarks: Effective 1 May 00, cost plus incentive fee (CPIF) applies. Original contract was was a SS CPAF contract. Total award fee pool $47,496,152, and to date $12,668,250 has been awarded. Period #1 was 90%, period #2 87%, period #3 90%, period #4 77%, period #5 76%, and period #6 was 0%. Award fee activity was terminated on 30 April 2000.												
Development Support	Various	Various				3.600	11/03	6.990	11/04	10.996	21.586	
Software Dev. Electronics											0.000	
Software Dev. Weapons Integration	Various	Various				2.800	11/03	5.337	11/04	14.684	22.821	
Integrated Logistics Support	Various	Various	16.198	5.760	11/02	1.660	11/03	2.496	11/04	0.000	26.114	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analysis											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			16.198	5.760		8.060		14.823		25.680	70.521	
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604245N USMC H-1 Upgrades				PROJECT NUMBER AND NAME H2279 USMC H-1 Upgrades						
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	Various	NAWC Patuxent River	12.495	11.545	11/02	11.248	11/03	6.574	11/04	0.000	41.862	
Operational Test & Evaluation	Various	NAWC Patuxent River		0.606	11/02	1.800	11/03	5.000	11/04	0.000	7.406	
Live Fire Test & Evaluation	Various	NAWC Patuxent River						1.960			1.960	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			12.495	12.151		13.048		13.534		0.000	51.228	
Remarks:												
Contractor Engineering Support	C FFP	CCI, Inc.	3.224	0.795	11/02	0.745	11/03	0.745	11/04	0.000	5.509	5.509
Government Engineering Support											0.000	
Program Management Support	C FFP	CCI, Inc.	4.427	0.695	11/02	0.645	11/03	0.545	11/04	0.000	6.312	6.312
Travel	WR	Various	1.587	0.260	11/02	0.270	11/03	0.270	11/04	0.000	2.387	
Transportation											0.000	
										0.000		
Subtotal Management			9.238	1.750		1.660		1.560		0.000	14.208	
Remarks:												
Total Cost			756.391	232.229		90.965		90.389		25.680	1,195.654	
Remarks:												

R-1 SHOPPING LIST - Item No. 93

CLASSIFICATION:

EXHIBIT R4, Schedule Profile			DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604245N USMC H-1 Upgrades	PROJECT NUMBER AND NAME H2279 USMC H-1 Upgrades	

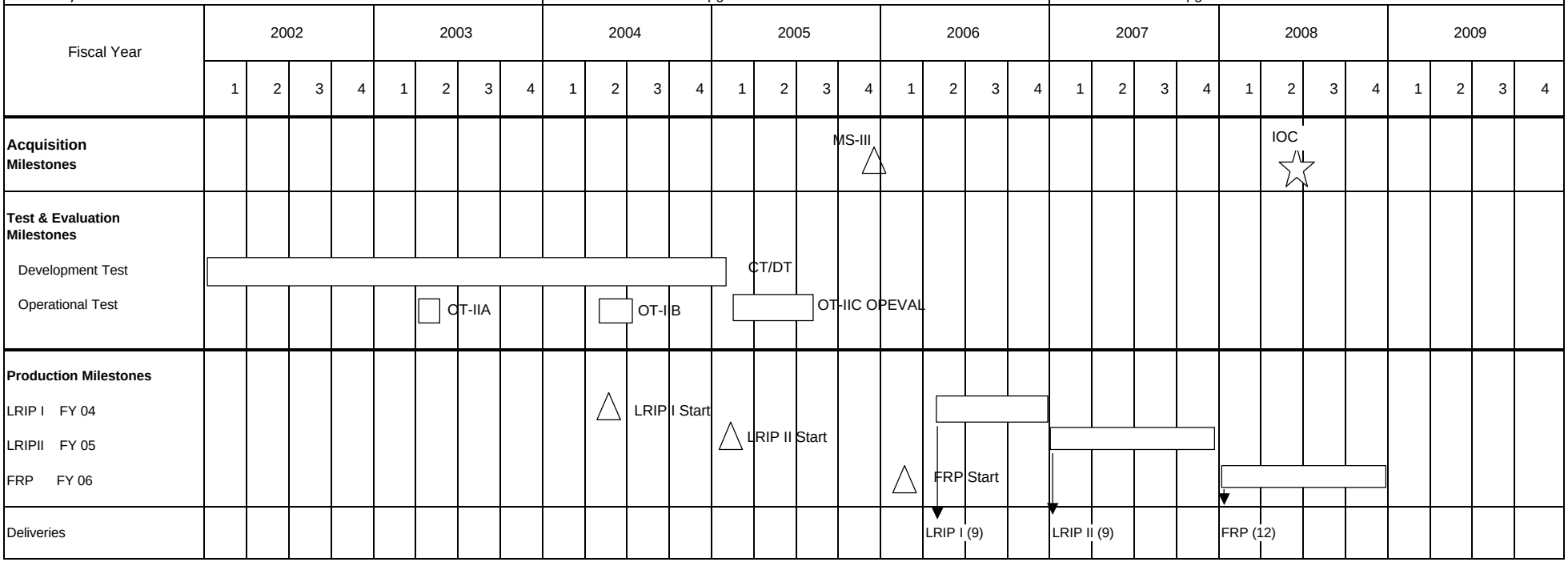


Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT 0604245N USMC H-1 Upgrades				PROJECT NUMBER AND NAME H2279 USMC H-1 Upgrades			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Developmental Testing (DT-II)	1Q-4Q	1Q-4Q	1Q-4Q	1Q				
Operational Testing (OT-IIA)		2Q						
Start Low-Rate Initial Production I (LRIP I)			2Q					
Low-Rate Initial Production I Delivery					2Q-4Q			
Operational Testing (OT-IIB)			2Q - 3Q					
Start Low-Rate Initial Production II				1Q				
Low-Rate Initial Production II Delivery						1Q-4Q		
Operational Evaluation (OT-IIC) (OPEVAL)				1Q-2Q				
Full Rate Production (FRP) Decision				4Q				
Full Rate Production Start					1Q			
Full Rate Production (FRP) Delivery							1Q-4Q	
IOC							2Q	

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2004	
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-05**					R-1 ITEM NOMENCLATURE 0604261N Acoustic Search Sensors			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost		**13.311**	**16.940**	**13.363**	**29.187**	**56.316**	**66.643**	**39.915**
H0480 ASW SENSORS & PROCESSING		**13.311**	**13.479**	**10.507**	**17.518**	**9.790**	**9.988**	**6.690**
H4017 ARPDD			**3.461**	**2.856**	**11.669**	**46.526**	**56.655**	**33.225**

FY2004 budget reflects a $3.500 million Congressional add for Automatic Radar Periscope Detection and Discrimination (ARPDD), which has been reduced by $.039 million for undistributed Congressional reductions.

U) (H0480) – The ASW Sensors and Processing project provides the tools and methods necessary to maintain maritime superiority by preventing hostile submarines from disrupting the US Navy's ability to maintain naval superiority, control the sea lines of communication, and carry out their missions. This project encompasses the System Development and Demonstration (SDD) of sensor systems to improve the mission effectiveness of airborne Anti-Submarine Warfare (ASW) cueing, search, localization, and attack. Smaller and quieter threat submarines drive the requirement for continued advancement in ASW sensor capabilities for both blue water and littoral environments. The littoral regions of the world create an additional ASW challenge to defeat the increase in background clutter caused by the shallow water depth, high volume of shipping, and commercial radio frequency interference. Project H0480 provides funding for the engineering development of solutions that acquire, confirm, and attack threat submarines. Efforts being funded during the period identified are the Generic Acoustic Stimulation System (GASS), the Extended Echo Ranging (EER) family of multi-static active sensor systems, the Hydrostatic Sensor Firing Device (HSFD), the Non-Traditional Acoustic Processing (NTAP), and the Tactical Acoustics Measurement and Decision Aid (TAMDA) programs. GASS provides real time ocean, sensor, and target modeling that will couple with all ASW trainers and add shallow water and range dependent capabilities; multi-static active sensor systems provides improved threat target detection capabilities for harsh water environments; HSFD provides an ASW depth bomb capability; and TAMDA provides a real time ocean environmental measurement capability for modifying sensor field management and sensor utilization. Technology adjuncts to these programs include Sonobuoy Precise Positioning, Air Deployed Low Frequency Projector (ADLFP), Shallow Water Localization and Attack, and Light Weight Search System.

(U) (H4017) - The Automatic Radar Periscope Detection and Discrimination (ARPDD) Project provides a fully automated periscope detection, classification, and tracking capability to reliably detect periscopes and masts, and reliably discriminate periscopes from other targets. This capability is suitable for air and surface platforms. This project funds only the airborne application.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-05**	PROGRAM ELEMENT NUMBER AND NAME 0604261N Acoustic Search Sensors				PROJECT NUMBER AND NAME H0480 ASW Sensors and Processing			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
H0480 ASW Sensors and Processing		**13.311**	**13.479**	**10.507**	**17.518**	**9.790**	**9.988**	**6.690**
RDT&E Articles Quantity								

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The ASW Sensors and Processing project provides the tools and methods necessary to maintain maritime superiority by preventing hostile submarines from disrupting the US Navy's ability to maintain naval superiority, control the sea lines of communication, and carry out their missions. This project encompasses the System Development and Demonstration (SDD) of sensor systems to improve the mission effectiveness of airborne Anti-Submarine Warfare (ASW) cueing, search, localization, and attack. Smaller and quieter threat submarines drive the requirement for continued advancement in ASW sensor capabilities for both blue water and littoral environments. The littoral regions of the world create an additional ASW challenge to defeat the increase in background clutter caused by the shallow water depth, high volume of shipping, and commercial radio frequency interference. Project H0480 provides funding for the engineering development of solutions that acquire, confirm, and attack threat submarines. Efforts being funded during the period identified are the Generic Acoustic Stimulation System (GASS), the Extended Echo Ranging (EER) family of multi-static active sensor systems, the Hydrostatic Sensor Firing Device (HSFD), the Non-Traditional Acoustic Processing (NTAP), and the Tactical Acoustics Measurement and Decision Aid (TAMDA) programs. GASS provides real time ocean, sensor, and target modeling that will couple with all ASW trainers and add shallow water and range dependent capabilities; multi-static active sensor systems provides improved threat target detection capabilities for harsh water environments; HSFD provides an ASW depth bomb capability; and TAMDA provides a real time ocean environmental measurement capability for modifying sensor field management and sensor utilization. Tehcnology adjuncts to these programs include Sonobuoy Precise Positioning, Air Deployed Low Frequency Projector (ADLFP), Shallow Water Localization and Attack, and Light Weight Search System.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA-05	0604261N Acoustic Search Sensors	H0480 ASW Sensors & Processing	

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		12.311	13.479	10.507
RDT&E Articles Quantity				

Software, integration, and test for Multi-Static active sensor systems.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		1.000		
RDT&E Articles Quantity				

Hydrostatic Device system design, trade offs, and developmental testing. Prepare for production.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-05	0604261N Acoustic Search Sensors	H0480 ASW Sensors & Processing

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:	13.621	15.831	17.427
FY2005 President's Budget	13.311	13.479	10.507
Total Adjustments	-0.310	-2.352	-6.920
Summary of Adjustments			
Congressional program reductions			
Congressional undistributed reductions		-0.152	
Congressional rescissions			
SBIR/STTR Transfer	-0.157		
Economic Assumptions			-0.007
Reprogrammings	-0.153		
Reprioritization		-2.200	-6.913
Subtotal	-0.310	-2.352	-6.920

Schedule:

(U) Schedule: Impulsive active source (Q110B) improvement effort added as an Abbreviated Acquisition Program (AAP). 1Q/02 GASS CDR#4 and 3Q/02 GASS MS III deleted - Due to a GASS contract restructure, per NPDM dated 22 January 2002, GIM#4 was dropped, therefore, no CDR required. Also no production tail, therefore no MS III required. TTPRR deleted due to contract termination. TAMDA deleted due to POM-02 budget cut forcing postponment of environmental measurements effort. Added multistatic active integration milestones into emerging P-3 acoustic configurations to provide additional program definition. To avoid schedule delays to MSA Integration of IEER, reduction of $6.8M FY05 funding will result in 12 month delay to NTAP advance signal processing and TAMDA program development.

HSFD schedule changed by direction of N78 to delay production 1 year.

Technical:

N/A

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-05	0604261N Acoustic Search Sensors	H0480 ASW Sensors & Processing

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
(U) APN/SH-60R/(018200)	0	0	0	0	0	0	0	0	0
(U) OPN (404800) Q110B	9.3	7.1	4.3	4.4	7.5	6.4	4.6	Continuing	Continuing
(U) OPN (404800) HSFD	0.2	1.2	1.2	1.2	1.3	1.3	1.3	Continuing	Continuing
(U) Related RDT&E									
(U) P.E. 0603254N (ASW Systems Development)									

E. ACQUISITION STRATEGY:

The integration of MSA into increased number of P-3 Aircraft can be achieved as an option under the current MSA contracts. Various alternatives of MSA implementation are also being investigated that could require Full and Open competition.

F. MAJOR PERFORMERS:

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-05**		PROGRAM ELEMENT 0604261N Acoustic Search Sensors			PROJECT NUMBER AND NAME H0480 ASW Sensors & Processing							
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	C/FFP	Sparton, FL	3.178								3.178	3.178
	C/FFP	USSI, IN	2.710								2.710	2.710
	C/CPFF	Misc Contracts	1.000								1.000	1.000
Subtotal Product Development			6.888	0.000		0.000		0.000		0.000	6.888	
Remarks:												
Software Development (GASS)	C/CPIF	Northrop Grumman, NY	46.314								46.314	46.314
Integrated Logistics Support	C/CPFF	Misc GASS Con	12.834								12.834	12.834
Software Development (Phase I)	C/CPFF	Misc /P-3 Baseline Cont's	8.300								8.300	8.300
Software Development (Phase II)	WX	Misc In-House				1.000	10/03	2.040	10/04		3.040	
Technical Data	WX	Misc In-House	1.861	1.291	11/02	1.230	10/03	1.630	10/04		6.012	
Studies & Analyses												
Award Fees												
Subtotal Support			69.309	1.291		2.230		3.670		0.000	76.500	
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-05**		PROGRAM ELEMENT 0604261N Acoustic Search Sensors				PROJECT NUMBER AND NAME H0480 ASW Sensors & Processing						
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	Misc In-House	1.850	0.900	11/02	0.450	11/03	0.400	11/04	Continuing	Continuing	
Subtotal T&E			1.850	0.900		0.450		0.400		Continuing	Continuing	
Remarks:												
Program Mgmt Support (Cont)	C/FFP	Misc/Contracts	38.575	0.817	02/03	0.817	11/03	0.710	11/04		41.026	41.026
Engineering Support (Gov)	WX	Misc In-House	37.750	8.732	10/02	8.402	10/03	4.477	10/04	Continuing	Continuing	
Program Mgmt Support (Gov)	WX	Misc In-House	6.733	0.140	10/02	0.150	10/03	0.150	10/04	Continuing	Continuing	
Engineering Support (Contract)	RX	Misc Contracts		1.431	11/02	1.430	10/03	1.100	10/04	Continuing		
Travel												
Transportation												
Subtotal Management			83.058	11.120		10.799		6.437		Continuing	Continuing	
Remarks:												
Total Cost			161.105	13.311		13.479		10.507		Continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 94

CLASSIFICATION:

EXHIBIT R4, Schedule Profile
Multi-Static Active

DATE: **February 2004**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-05	0604261N Acoustic Search Sensors	H0480 ASW Sensors & Processing

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										MSA Integration Contract △																						
Prototype Phase																																
System Development		Q110B CDR △														MSA Integration CDR △																
EDM Delivery																																
Software Integration								Q110B △																								
Test & Evaluation Milestones																						MSA Integration TECH EVAL △										
Development Test																																
Operational Test										Q110B FOT&E △														MSA Integration OPEVAL △								
Production Milestones																																
LRIP I FY 05																																
LRIPII FY 06																																
FRP FY 07																																
Deliveries																																

R-1 SHOPPING LIST - Item No. 94

Note: To avoid schedule delays to MSA Integration of IEER, reduction of $6.8M FY05 funding will result in 12 month delay to NTAP advance signal processing and TAMDA program development. These funds were removed from FY2005 funding due to poor execution in prior years. FY2003 funds will be used to forward finance future years' priorities.

CLASSIFICATION:

Exhibit R-4a, Schedule Detail **Multi-Static Active**						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-05**	PROGRAM ELEMENT 0604261N Acoustic Search Sensors				PROJECT NUMBER AND NAME H0480 ASW Sensors & Processing			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Prototype Phase								
System Design Review (SDR)								
Milestone II (MSII)								
Integration Contract			2Q					
Software Specification Review (SSR)								
Preliminary Design Review (PDR)								
System Development								
Critical Design Review (CDR)	2Q			4Q				
Quality Design and Build								
Test Readiness Review (TRR)								
Developmental Testing (DT-IIA)								
Eng Dev Model (EDM) Radar Delivery - Lab								
Software Intergration		4Q						
Preproduction Readiness Review (PRR)								
EDM Radar Delivery - Flt Related								
Milestone C (MS C)								
Operational Testing (OT-IIA)								
Start Low-Rate Initial Production I (LRIP I)								
Software Delivery 2XXSW								
Developmental Testing (DT-IIB1)								
Developmental Testing (DT-IIB2)								
Start Low-Rate Initial Production II								
Operational Testing (OT-IIB)								
Developmental Testing (DT-IIC)								
Functional Configuration Audit (FCA)								
Low-Rate Initial Production I Delivery								
Technical Evaluation (TECHEVAL)						2Q		
Physical Configuration Audit								
Operational Evaluation (OT-IIC) (OPEVAL)			2Q			4Q		
Low-Rate Initail Production II Delivery								
IOC								
Full Rate Production (FRP) Decision								
Full Rate Production Start								
First Deployment								

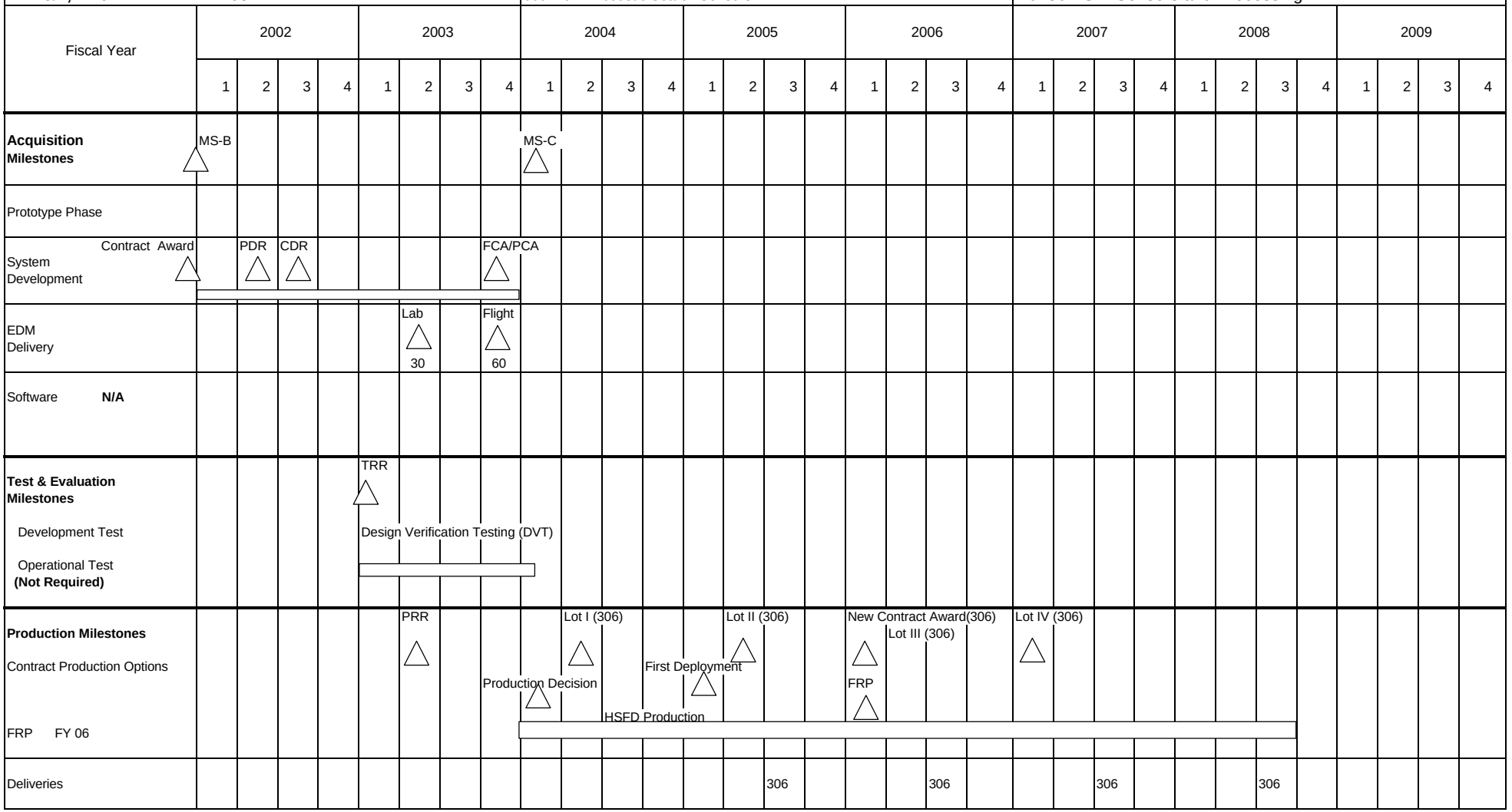
R-1 SHOPPING LIST - Item No. 94

CLASSIFICATION:

EXHIBIT R4, Schedule Profile
Hydrostatic Device

DATE: **February 2004**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-05	0604261N Acoustic Search Sensors	H0480 ASW Sensors and Processing



R-1 SHOPPING LIST - Item No. 94

CLASSIFICATION:

Exhibit R-4a, Schedule Detail **Hydrostatic Device**					DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-05**	PROGRAM ELEMENT 0604261N Acoustic Search Sensors				PROJECT NUMBER AND NAME H0480 ASW Sensors and Processing			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Prototype Phase (Prior to FY02)								
System Design Review (SDR) (Prior ro FY02)								
Milestone II (MSII) (4Qtr FY01)								
Contract Preparation (FY01)								
Software Specification Review (SSR) (N/A)								
Preliminary Design Review (PDR)	2Q							
System Development	1Q - 4Q	1Q - 4Q						
Critical Design Review (CDR)	3Q							
Quality Design and Build	1Q - 4Q	1Q - 3Q						
Test Readiness Review (TRR)		1Q						
Developmental Testing (DVT)		1Q - 4Q	1Q					
Eng Dev Model (EDM) Delivery - Lab (Prior FY02)								
Software Delivery (N/A)								
Preproduction Readiness Review (PRR)		2Q						
Milestone C (MS C)			1Q					
Operational Testing (OT-IIA) (N/A)								
Start Low-Rate Initial Production I (LRIP I) (N/A)								
Software Delivery 2XXSW (N/A)								
Developmental Testing (DT-IIB1) (N/A)								
Developmental Testing (DT-IIB2) (N/A)								
Start Low-Rate Initial Production II (N/A)								
Operational Testing (OT-IIB) (N/A)								
Developmental Testing (DT-IIC) (N/A)								
Functional Configuration Audit (FCA)		4Q						
Low-Rate Initial Production I Delivery (N/A)								
Technical Evaluation (TECHEVAL) (N/A)								
Physical Configuration Audit		4Q						
Operational Evaluation (OT-IIC) (OPEVAL) (N/A)								
Low-Rate Initail Production II Delivery (N/A)								
IOC								
Full Rate Production (FRP) Decision					1Q			
Full Rate Production Start					1Q			
First Deployment				1Q				

R-1 SHOPPING LIST - Item No. 94

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-05**	PROGRAM ELEMENT NUMBER AND NAME 0604261N Acoustic Search Sensors				PROJECT NUMBER AND NAME H4017 ARPDD			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
H4017 ARPDD			**3.461**	**2.856**	**11.669**	**46.526**	**56.655**	**33.225**

FY2004 budget reflects a $3.500 million Congressional add for Automatic Radar Periscope Detection and Discrimination (ARPDD), which has been reduced by $.039 million for undistributed Congressional reductions.

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Automatic Radar Periscope Detection and Discrimination (ARPDD) Project provides a fully automated periscope detection, classification, and tracking capability to reliably detect periscopes and masts, and reliably discriminate periscopes from other targets. This capability is suitable for air and surface platforms. This project funds only the airborne application. This capability is essential for effective detection of submarines in congested Littoral areas. This funding is for engineering development of the ARPDD system. The output will be a productionized form, fit, function incorporation of ARPDD into the AN/APS-137 radar. Two engineering develpment models for systems integration testing and four pre-production prototypes for environmental, reliability, development and operational testing will be provided. Full testing will be performed to support the production approval milestone (milestone C).

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-05	0604261N Acoustic Search Sensors	H4017 ARPDD

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.000	3.461	2.856
RDT&E Articles Quantity				

ARPDD is a new start in FY05 that is a follow-on to a Science and Technology program previously funded by the Office of Naval Research in PE060374N. FY04 Congressional plus up was issued to accelerate the ARPDD program for more rapid introduction of the technology to the Fleet. FY05 funding will be used for project planning, exploring alternatives, acquisition documentation preparation, developing an independent government cost estimate, performing technical trade-off studies, preparation of discrimination software package, developing specifications, and a Statement of Work in preparation for awarding a contract for development of an airborne ARPDD capability.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.000	0.000	0.000
RDT&E Articles Quantity				

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.000	0.000	0.000
RDT&E Articles Quantity				

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-05	0604261N Acoustic Search Sensors	H4017 ARPDD

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:	0.000	0.000	2.863
FY2005 President's Budget	0.000	3.461	2.856
Total Adjustments	0.000	3.461	-0.007
Summary of Adjustments			
Congressional program reductions			
Congressional undistributed reductions		0.039	
Congressional rescissions			
SBIR/STTR Transfer			
Economic Assumptions			-0.005
Reprioritization			-0.002
Congressional increases		3.500	
Subtotal	0.000	3.539	-0.007

Schedule:

(U) Schedule: FY2004 Congressional plus up accelerated the ARPDD program by 3-5 months.

Technical:

N/A

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-05**	PROGRAM ELEMENT NUMBER AND NAME 0604261N Acoustic Search Sensors	PROJECT NUMBER AND NAME H4017 ARPDD

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
Line Item #36 (APN P-3 OSIP 29-94)	0	0	0	0	0	0	0	48.5	TBD	TBD

E. ACQUISITION STRATEGY:

Analyze merits of sole source verses competitive procurement. Explore Alternatives. Award prime contract to TBD contractor. Technical support will be provided by NAWCWD (China Lake) and JHU/APL.

F. MAJOR PERFORMERS:

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-05**		PROGRAM ELEMENT 0604261N Acoustic Search Sensors			PROJECT NUMBER AND NAME H4017 ARPDD							
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												
Subtotal Product Development			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Software Development	WX	Misc In-House				0.000		1.159	10/04	Continuing	Continuing	
Integrated Logistics Support												
Configuration Management												
Technical Data												
Studies & Analyses	C/CPFF	Misc. Contracts				0.511	03/04	0.500	11/04		1.011	1.011
GFE												
Award Fees												
Subtotal Support			0.000	0.000		0.511		1.659		Continuing	Continuing	
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-05**		PROGRAM ELEMENT 0604261N Acoustic Search Sensors			PROJECT NUMBER AND NAME H4017 ARPDD							
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												
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Program Mgmt Support (Cont)	TBD	Misc. Contracts				0.240	04/04	0.250	11/04		0.490	0.490
Government Engineering Support	WX	Misc In-House				0.600	03/04	0.400	10/04		1.000	
Program Mgmt Support (Gov)	WX	Misc In-House				0.400	03/04	0.537	10/04		0.937	
Travel						0.010	02/04	0.010	10/04		0.020	
Engineering Support (Cont)	TBD	Misc Contracts				1.700	05/04				1.700	1.700
Subtotal Management			0.000	0.000		2.950		1.197			4.147	
Remarks:												
Total Cost			0.000	0.000		3.461		2.856		Continuing	Continuing	
Remarks:												

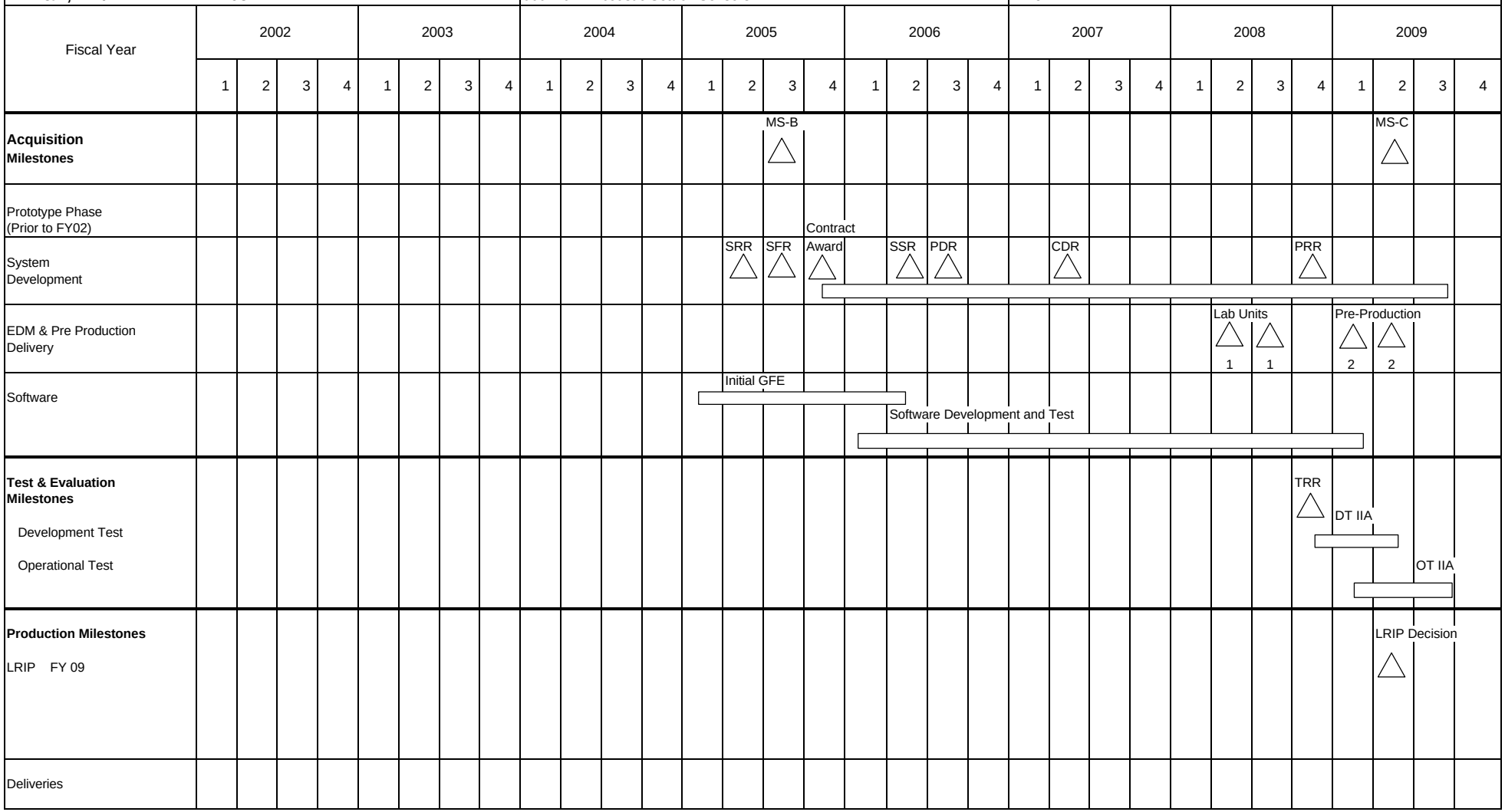
R-1 SHOPPING LIST - Item No. 94

CLASSIFICATION:

EXHIBIT R4, Schedule Profile
Automatic Radar Periscope Detection and Discrimination (ARPDD)

DATE: **February 2004**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-05	0604261N Acoustic Search Sensors	H4017 ARPDD



R-1 SHOPPING LIST - Item No. 94

Note: FY2004 Congressional plus up accelerated the ARPDD program by 3-5 months.

CLASSIFICATION:

Exhibit R-4a, Schedule Detail **Automatic Radar Periscope Detection and Discrimination (ARPDD)**					DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-05**	PROGRAM ELEMENT 0604261N Acoustic Search Sensors				PROJECT NUMBER AND NAME H4017 ARPDD			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Prototype Phase								
Systems Requirement Review (SRR)				2Q				
System Functional Review (SFR)				3Q				
Milestone II (MS B)				3Q				
Contract Award				4Q				
Software Specification Review (SSR)					2Q			
Preliminary Design Review (PDR)					3Q			
System Development				4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 3Q
Critical Design Review (CDR)						2Q		
Quality Design and Build						3Q-4Q	1Q - 4Q	
Test Readiness Review (TRR)							4Q	
Developmental Testing (DT-IIA)							4Q	1Q - 2Q
Lab Units							2Q - 3Q	
Software Delivery							4Q	
Preproduction Readiness Review (PRR)							4Q	
EDM & Pre Production Prototype Delivery								1Q - 2Q
Milestone C (MS C)								2Q
Operational Testing (OT-IIA)								1Q - 3Q
Start Low-Rate Initial Production (LRIP)								2Q
Software Delivery 2XXSW								
Developmental Testing (DT-IIB1)								
Developmental Testing (DT-IIB2)								
Start Low-Rate Initial Production II								
Operational Testing (OT-IIB)								
Developmental Testing (DT-IIC)								
Functional Configuration Audit (FCA)								
Low-Rate Initial Production I Delivery								
Technical Evaluation (TECHEVAL)								
Physical Configuration Audit								
Operational Evaluation (OT-IIC) (OPEVAL)								
Low-Rate Initail Production II Delivery								
IOC								
Full Rate Production (FRP) Decision								
Full Rate Production Start								
First Deployment								

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 0604262N, V-22			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost		**387.421**	**402.483**	**304.164**	**113.252**	**42.592**		
H1425, V-22A		**387.421**	**402.483**	**304.164**	**113.252**	**42.592**		

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The V-22 Osprey is an ACAT-ID Joint Program led by the Department of the Navy for the purpose of developing, testing, evaluating, procuring and fielding a tilt rotor, vertical takeoff and landing aircraft for Joint Service application. The V-22 program is designed to provide an aircraft to meet the amphibious/vertical assault needs of the Marine Corps, the strike rescue needs of the Navy, and the special operations needs of the Air Force and the United States Special Operations Command (USSOCOM). The V-22 will replace the CH-46E and CH53A/D in the Marine Corps with the MV-22; supplement the H-60 in the Navy with the HV-22; and replace the MH-53J and MH-53M as well as augment the C-130 in the Air Force and USSOCOM with the CV-22. The V-22 will be capable of flying over 2100 nautical miles with a single refueling, giving the services the advantage of a Vertical/Short Take-off, and Landing (VSTOL) aircraft that can rapidly self-deploy to any location in the world. This program is funded under Engineering Manufacturing and Development (EMD) because it encompasses engineering and manufacturing development of new end-items prior to a production approval decision.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604262N, V-22A				PROJECT NUMBER AND NAME H1425, V-22			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**387.421**	**402.483**	**304.164**	**113.252**	**42.592**		
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The V-22 Osprey is an ACAT-ID Joint Program led by the Department of the Navy for the purpose of developing, testing, evaluating, procuring and fielding a tilt rotor, vertical takeoff and landing aircraft for Joint Service application. The V-22 program is designed to provide an aircraft to meet the amphibious/vertical assault needs of the Marine Corps, the strike rescue needs of the Navy, and the special operations needs of the Air Force and the United States Special Operations Command (USSOCOM). The V-22 will replace the CH-46E and CH53A/D in the Marine Corps with the MV-22; supplement the H-60 in the Navy with the HV-22; and replace the MH-53J and MH-53M as well as augment the C-130 in the Air Force and USSOCOM with the CV-22. The V-22 will be capable of flying over 2100 nautical miles with a single refueling, giving the services the advantage of a Vertical/Short Take-off, and Landing (VSTOL) aircraft that can rapidly self-deploy to any location in the world.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604262N, V-22A	H-1425, V-22

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Contractor Activities		175.386	181.381	62.025
RDT&E Articles Quantity		0	0	0

Continue MV-22 development efforts by Bell-Boeing. Rolls-Royce continues to provide engine support and repair of repairables for MV-22 flight testing. Complete MV-22 software development efforts. Continue development in support of "Return to Flight" and MV-22 Block up-grades required to return the MV-22 to fleet operations in FY 04. Continue development of maintenance training equipment. Continue Weapons Repairable Assembly (WRA) and Test Program Set (TPS) development. Continue logistics, flight test, and flight test support, address correction of deficiencies, and provide funding for the V-22 Way Forward. Continue contracted development efforts on aircraft #8 and #10. Continue development of the Ground Collision Avoidance System (GCAS).

		FY 03	FY 04	FY 05
Field Activity Effort		90.632	80.187	61.256
RDT&E Articles Quantity		0	0	0

Continue in-house field activity support of Integrated Test Team (ITT), Integrated Product Teams (IPT), logistics and training activities, the manned flight simulator and numerous other efforts at over 12 activities. Continue development in support of "Return to Flight" and MV-22 Block up-grades required to return the MV-22 to fleet operations in FY 04. Continue field development efforts on aircraft #8, #10, and three LRIP aircraft. Provide R&D support in the areas of Reliability and Maintainability (R&M) data analysis, loads and dynamics, electromagnetic environmental effects, V-22 flight controls, survivability, subsystems, shipboard compatibility, propulsion, V-22 avionics, facilities, structures, communications, Small Business Innovative Research, etc. Continue logistics, flight test, and flight test support, and addressed correction of deficiencies.

		FY 03	FY 04	FY 05
CV-22 Block-0 Development		121.403	140.915	180.883
RDT&E Articles Quantity		0	0	0

Continue CV-22 Block-0 EMD development. Provide flight test support for CV-22 aircraft #7 and #9. Provide engineering and maintenance support for CV-22 flight testing. Fund fuel costs for test aircraft and/or engines. Provide R&D support in the areas of R&M data analysis, loads and dynamics, electromagnetic environmental effects, CV-22 flight controls, survivability, subsystems, shipboard compatibility, propulsion, CV-22 avionics, facilities, computer support, structures, communications, Small Business Innovative Research, etc. Continue logistics, flight test, and flight test support, and address correction of deficiencies. Support CV-22 Additional Test Asset (ATA) flight test infrastructure and contractor maintenance/logistics support for ATA.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604262N, V-22A	H1425, V-22

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget (PB-04):	410.780	441.142	306.982
Previous President's Budget (PB-05):	387.421	402.483	304.164
Total Adjustments	-23.359	-38.659	-2.818
Summary of Adjustments			
Congressional program reductions			0.000
Congressional undistributed reductions		-38.659	0.000
Congressional rescissions			0.000
SBIR/STTR Transfer	-9.604		0.000
Reprogrammings	-13.755		0.000
Reprioritization			-1.941
Economic Assumptions			-0.877
Congressional increases			
Subtotal	-23.359	-38.659	-2.818

Schedule:

Schedule updated to reflect revised program baseline.

Technical:

Not Applicable.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604262N, V-22A	H1425, V-22

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
16400 / V-22									
V-22 APN-1	1,055.830	865.694	918.061	1,473.191	2,285.993	2,333.312	2,380.155	15,147.586	26,459.822
V-22 APN-6 Spares	12.464	56.454	118.639	120.505	0.901	0.997	0.979	288.209	599.148
59000 / V-22									
V-22 APN-5	4.032	4.778	3.448	19.131	23.914	24.406	24.897	378.802	483.408
Related RDT&E:									
0401318F CV-22	11.449	67.159	16.735	56.800	15.600	10.100	7.500	Continuing	TBD
1160404BB CV-22	59.820	36.456	75.320	43.350	0.000	0.000	0.000	TBD	TBD

E. ACQUISITION STRATEGY: *

The MV-22 is currently in EMD under contract N00019-93-C-0006 awarded to Bell-Boeing on 22 Oct 92, and definitized in May 94. As a result of mishaps during and subsequent to MV-22 OPEVAL (Apr and Dec 00), the program was restructured employing a phased approach to return to flight and tactical introduction. The Contractor and Government defined deficient areas within the program/aircraft requiring correction prior to return to flight. A Block Upgrade approach has been planned, with required efforts being identified in Block "A", "B", and "C". Block "A" includes those efforts necessary to return the V-22 to safe and operational fleet operations. Block "B" includes those efforts necessary to improve the effectiveness and suitability of the aircraft. Block "C" includes mission enhancements like forward cabin redesign and a full IETMS upgrade. Non-recurring development activities are to be initiated and completed for all efforts identified to be in Block "A", "B", and "C". The Contractor will develop specific Statements of Work and Preliminary Specification Change Notices required to integrate the Block Upgrade efforts into the baseline EMD Program. A Systems Requirements Review, Initial Design Review, and Final Design Review will be held for each of the Block efforts so the design maturity can be reviewed and the Government can redirect activities as appropriate. The CV-22 EMD program is structured in Blocks to define an evolutionary approach to achieving full operational capability. Block "0" is the initial baseline CV-22 variant. Block "10" enhances mission capability with the addition of Directional Infrared Countermeasures. Additional Blocks are in planning to continue the growth process throughout the operational life of the weapon system.

F. MAJOR PERFORMERS: **

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604262N, V-22A				PROJECT NUMBER AND NAME H1425, V-22						
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
MV-22 Hardware Dev Airframe	SS CPAF	Bell-Boeing, PaxRiver, MD	3,234.581	151.940	01/03	166.148	01/04	43.325	11/04	39.490	3,635.484	3,635.484
MV-22 Hardware Dev Propulsion	C/CPIF	Rolls Royce, Indianapolis, IN	174.000	3.920	01/03	4.817	01/04	3.308	11/04	4.246	190.291	190.291
CV-22 Hardware Dev Airframe	SS CPAF	Bell-Boeing, PaxRiver, MD	540.314	104.836	01/03	109.023	01/04	146.451	11/04	53.037	953.661	953.661
CV-22 Hardware Dev Propulsion	C/CPIF	Rolls Royce, Indianapolis, IN	10.869	0.432	01/03	0.695	01/04	0.909	11/04	0.700	13.605	13.605
MV-22 Support Equipment Dev	Various	NAWCAD, Lakehurst	26.568	8.045	01/03	9.542	01/04	6.652	11/04	3.565	54.372	54.372
CV-22 Support Equipment Dev	Various	NAWCAD, Lakehurst	4.400	1.696	01/03	13.563	01/04	7.640	11/04	0.050	27.349	27.349
MV-22 Training Development	Various	Various	7.093	5.679	01/03	3.900	01/04				16.672	16.672
Subtotal Product Development			3,997.825	276.548		307.688		208.285		101.088	4,891.434	
Remarks:												
MV-22 Integrated Logistics Support	Various	Various	13.206	4.406	01/03	7.300	01/04	4.411	11/04	2.080	31.403	
CV-22 Integrated Logistics Support	Various	Various	4.381	1.381	01/03	1.664	01/04	1.369	11/04	1.325	10.120	
MV-22 Govt Engineering Spt	WX	NAWCAD, Pax River	1,071.817	8.232	01/03	5.376	11/03	2.523	11/04	11.135	1,099.083	
CV-22 Govt Engineering Spt	WX	NAWCAD, Pax River	13.121	2.463	01/03	2.041	11/03	1.489	11/04	0.702	19.816	
MV-22 Technical Data	C/CPIF	Bell-Boeing, Pax River, MD	41.633	19.526	01/03	10.415	01/04	15.391	11/04	15.044	102.009	102.009
CV-22 Technical Data	WX	NATEC	1.968	0.197	01/03	4.070	01/04	8.004	11/04		14.239	
Subtotal Support			1,146.126	36.205		30.866		33.187		30.286	1,276.670	
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604262N, V-22A				PROJECT NUMBER AND NAME H1425, V-22						
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
MV-22 Developmental Test & Eval	WX	NAWCAD, Pax River, MD	866.220	27.029	01/03	13.142	11/03	12.120	11/04		918.511	
CV-22 Developmental Test & Eval	MIPR	Edwards AFB, CA	2.558	6.941	01/03	7.309	11/03	13.511	11/04	9.360	39.679	
MV-22 Operational Test & Eval	WX	NAWCAD, Pax River, MD	23.924	0.264	01/03	3.936	11/03	6.452	11/04		34.576	
MV-22 Live Fire Test & Eval	WX	NAWCWD, China Lake, CA	1.567	0.069	01/03	0.000	11/03	0.000	11/04		1.636	
Subtotal T&E			894.269	34.303		24.387		32.083		9.360	994.402	
Remarks:												
MV-22 Contract Eng & Tech Svcs	Various	Various	983.564	15.746	01/03	17.428	11/03	15.777	11/04	2.452	1,034.967	1,034.967
CV-22 Contract Eng & Tech Svcs	Various	Various				0.960	11/03				0.960	0.960
MV-22 Management Support Svcs	Various	Various	102.676	14.861	01/03	14.169	11/03	9.079	11/04	7.988	148.773	148.773
CV-22 Management Support Svcs	Various	Various	8.521	2.773	01/03	1.076	11/03	0.982	11/04	0.601	13.953	13.953
MV-22 Studies & Analyses	Various	Various				2.056	11/03	1.588	11/04	1.890	5.534	5.534
MV-22 Program Management Spt	WX	NAWCAD, Pax River	35.463	5.297	01/03	2.546	11/03	1.954	11/04	1.275	46.535	
CV-22 Program Management Spt	WX	NAWCAD, Pax River	8.962	0.413	01/03	0.213	11/03	0.228	11/04	0.128	9.944	
MV-22 Travel	WX	NAWCAD, Pax River	7.691	1.004	01/03	0.794	11/03	0.701	11/04	0.676	10.866	
CV-22 Travel	WX	NAWCAD, Pax River	3.554	0.271	01/03	0.300	11/03	0.300	11/04	0.100	4.525	
Subtotal Management			1,150.431	40.365		39.542		30.609		15.110	1,276.057	
Remarks:												
Total Cost			7,188.651	387.421		402.483		304.164		155.844	8,438.563	
Remarks:												

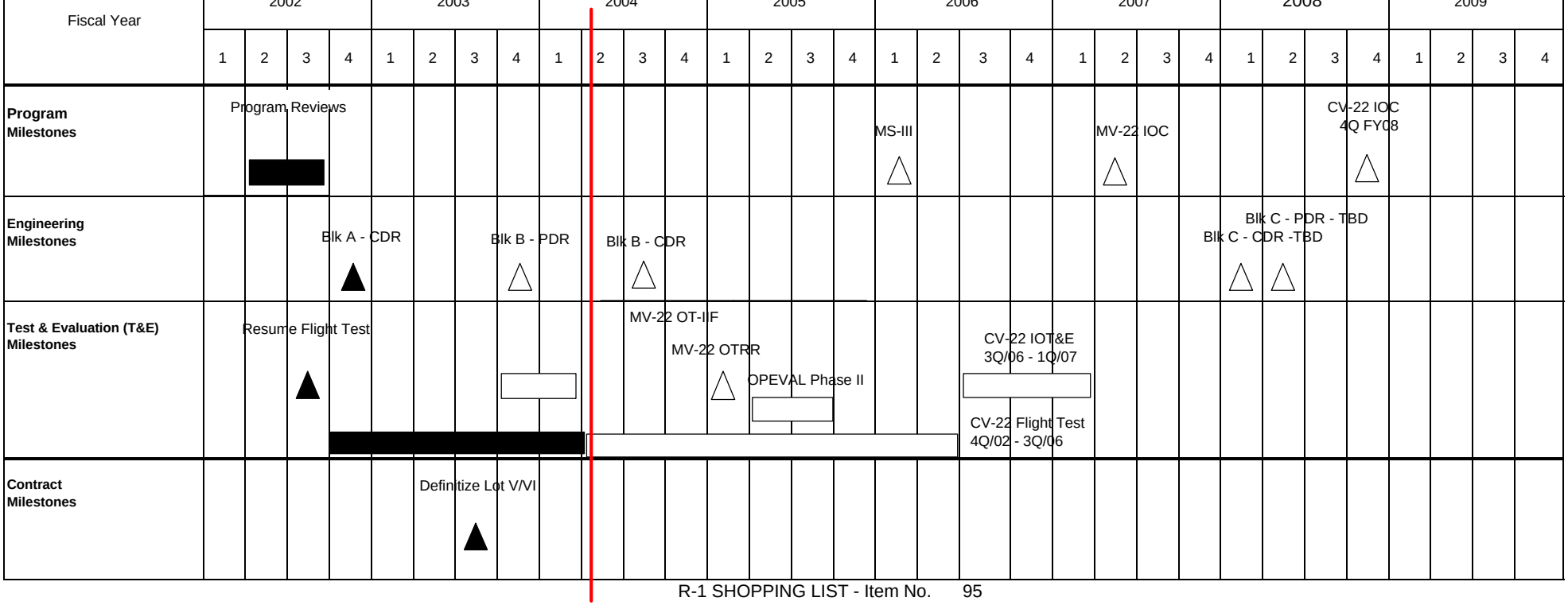
R-1 SHOPPING LIST - Item No. 95

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	0604262N, V-22A	H-1425, V-22



R-1 SHOPPING LIST - Item No. 95

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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E BA-5**	PROGRAM ELEMENT 0604262N, V-22A				PROJECT NUMBER AND NAME H1425, V-22			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Program Reviews	2Q - 3Q							
Definitize Lot V/VI		3Q						
Resume Flight Test	3Q							
Block-A Critical Design Review (CDR)	4Q							
Block-B Preliminary Design Review (PDR)		4Q						
Block-B Critical Design Review (CDR)			3Q					
MV-22 Operational Testing - IIF			3Q					
Block-C Preliminary Design Review (PDR)							2Q - TBD	
MV-22 Operational Test Readiness Review (OTRR)				1Q				
MV-22 Initial Operational Capability (IOC)						2Q		
MV-22 Milestone III					1Q			
MV-22 Operational Evaluation (OPEVAL) Phase II				2Q - 3Q				
CV-22 Flight Test	4Q/02 - 3Q/06							
Block-C Critical Design Review (CDR)							TBD	
CV-22 Initial Operational Test & Evaluation (IOT&E)					3Q-4Q	1Q		
CV-22 Initial Operation Capability (IOC)							4Q	

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 0604264N/Aircrew Systems Development			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost		**7.354**	**16.183**	**8.838**	**3.446**	**2.382**	**2.508**	**2.506**
W0606 Aircrew Systems Development		**6.396**	**8.668**	**8.838**	**3.446**	**2.382**	**2.508**	**2.506**
W2877 Joint Helmet Mounted Cueing System			**4.153**					
W2879 SIIIS Ejection Program		**0.958**						
W9061 Intensifier Tube Advanced Development			**3.362**					

U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Aircrew Systems Development program provides engineering and manufacturing development (EMD) of Aviation Life Support Systems to protect aircrews from current and future threats including: directed energy weapons, chemical/biological/radiological agents/fallout, ballistic projectiles, temperature extremes, heat/fire, low concentration oxygen environments, high dynamic forces during emergency egress, and high "G" forces. The program also provides development for the following capabilities: head protection, in flight restraint and stability emergency egress and descent, escape and evasion, survival and rescue, crash protection, and anthropometric sizing for small aircrew. Acquisition initiatives include: competition, the application of streamlining initiatives, use of non-developmental items (NDI), joint and tri-service developments, and the pursuit of NATO/allied cooperative ventures, which expedite introduction of new products into Navy and Marine Corps fixed and rotary wing aircraft, reduce costs, and promote commonality.

EXHIBIT R-2a, RDT&E Project Justification						DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**				PROJECT NUMBER AND NAME W0606/Aircrew Systems Development			
COST ($ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost	**6.396**	**8.668**	**8.838**	**3.446**	**2.382**	**2.508**	**2.506**
RDT&E Articles Qty							

U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(U) SUBPROJECTS:

- (U) ESCAPE AND CRASH SAFETY: Navy Aircrew Common Ejection Seat Pre-Planned Product Improvement (NACES P3I), Advanced Crashworthy Aircrew Survival Systems (ACASS), Joint Cockpit Air Bag System (JCABS), Crashworthy Troop Seats (CWTS), Escape System Injury Reduction Program (ESIRP) for aircrew using helmet mounted systems and small occupants (formerly NON-NACES and Small Occupant Escape System).

- (U) LIFE SUPPORT/THREAT PROTECTION: Extreme Cold Weather Improvement Program/State of the Art Survival Items (ECWIP/SOASI), Personal Protective Apparel (PPA) formerly AMELIA, Aircrew Accommodation Expansion Program (AAEP), Aviation Oxygen Systems (AOS), Aircrew Exposure Protection Systems (AEPS) formerly Aircrew Cooling/Advanced Integrated Life Support Systems (AILSS), Liquid Oxygen to ON-Board Oxygen Generating System (LTO), Common Smoke Mask (CSM), Joint Protective Air Crew Ensemble (JPACE), Combat Survivor Evader Locater (CSEL), and Mobile Aircrew Restraint System (MARS)/Tri-Service Safety Harness (TSSH).

- (U) HELMET, VISION AND DISPLAYS: Night Vision Systems (NVS), Joint Helmet Mounted Cueing System (JHMCS), Integrated Day/Night All Weather Helmet (IDNAWH), Wide Field of View (WFOV) Night Vision Goggle, JHMCS Night Attack, Agile Frequency Laser Eye Protection, and Laser Eye Protection Improvement Program (LEPIP), Joint Aircrew Laser Eye Protection Visor (JALEPV).

CLASSIFICATION: UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604264N/Aircrew Systems Development	W0606/Aircrew Systems Development

(U) B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		2.235	2.855	2.632
RDT&E Articles Quantity				

FY 2003 - NACES P3I: Continued A/C platform installation of phase I technologies. Began retrofit of JHMCS provisions. Initiated system design interface and system demonstration testing (DT) on selected phase II injury risk reduction candidate technology improvements. Continued production incorporation of selected phase II candidate modifications. AV-8B: Continued A/C platform installation of performance improvements and began EAAS installation. CWTS: Implemented design weight changes for H-1 and conducted delta demonstration testing (DT). Continued H-3/H-46 design efforts and incorporated ECP's. ESIRP: Conducted system level risk reduction demonstration (DT). Conducted component qualification (component DT) on selected stability and restraint candidate system technologies. Conducted CDR. FY 2004 - NACES P3I: Complete aircraft platform installation of phase I technologies. Complete design interface and system demonstration testing (DT) of selected phase II technologies and begin qualification efforts. AV-8B: Complete A/C platform installations of performance improvements and EAAS. Complete component qualification testing (DT) of restraint upgrades. CWTS: Commence installation of H-1 crashworthy seats. Conduct seat integration and demonstration testing (DT) for H-3/H-46 designs. ESIRP: Conduct system level qualification testing (DT) on select stability and restraint candidate system technologies. Commence preparation of platform ECP's. FY 2005 - NACES P3I: Complete system qualification testing and commence A/C incorporation of select phase II technologies. AV-8B: Complete ECP's and begin incorporation of restraint improvements. CWTS: Complete qualification (DT) of H-3/H-46 designs. ESIRP: Complete platform ECP's and begin aircraft introduction of stability and restraint candidate technologies.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		1.731	2.860	3.680
RDT&E Articles Quantity				

FY 2003 - ECWIP/SOASI: Continued evaluations and authorizations of state of the art survival items. PPA: Conducted DT IIB testing to evaluate fit, performance and capability, finalized designs and procured systems in LRIP quantity for a fleet assessment. AAEP: Evaluated additional aircraft seat position (crew seats, flight engineer) in aircraft to equip for accommodation issues. Continued development of detailed cockpit CAD images and establish updated population anthropometric data collected by Digital Anthropometric Video Imaging Device (DAVID) or whole body scanners. AEPS/AILSS: ORD Staffing. Program Planning. Prepared Acquisition Plan and Risk Assessment demonstrated technology. LOX TO OBOGS (LTO): Concluded integration studies of EA-6B aircraft and continued risk reduction and acquisition planning for remaining LOX equipped Naval Aircraft. CSM/AOS: Published sources sought and continued DT of full face smoke masks and 02 containment devices for Naval fixed wing non-ejection aircraft. Performed technical evaluation for CSM. Completed program development plans for all platforms. TSSH/MARS: Conducted DT on H-60 MARS. Conducted modeling studies on other USN/USMC platforms. Prepared/revised system performance specification to accommodate additional platform requirements. Prepared solicitation data package for additional platforms.

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604264N/Aircrew Systems Development	W0606/Aircrew Systems Development

(U) B. Accomplishments/Planned Program

FY 2004 - ECWIP/SOASI: Continue evaluation and authorizations of state of the art survival items. PPA: Complete fleet assessment, finalize technical data package, begin procurement and fielding of the Multi-Climate Protection System. AAEP: Continue evaluating additional aircraft seat positions in aircraft so equipped for accommodation issues. Publish technical reports on accommodation levels in aircraft. Continue developing detailed cockpit CAD pictures. Reevaluate aircraft and anthropometric restriction codes as modifications to existing aircraft and/or aircrew clothing and equipment occur or as new aircraft are introduced. AEPS/AILSS: Continue PDRR, MS B. Release competitive solicitation. LOX TO OBOGS (LTO): Conclude integration studies of E-2 aircraft and continue risk reduction and acquisition planning for remaining LOX equipped Naval Aircraft. CSM/AOS: Continue DT of full face smoke masks and 02 containment devices for Naval fixed wing non-ejection aircraft. TSSH/MARS: Conduct DT on follow-on USN/USMC platforms. Provide upgraded MARS specifications to Joint Service platforms and identify Joint Service requirements. FY 2005 - ECWIP/SOASI: Continue evaluations and authorizations of state of the art survival items. PPA: Continue procurement and fielding of MCP system. AAEP: Reevaluate aircraft and anthropometric restriction codes as modifications to existing aircraft and/or aircrew clothing and equipment occur, or as new aircraft are introduced. AEPS/AILSS: Conduct DT testing. LOX TO OBOGS (LTO): Conclude integration studies of F-18 equipped aircraft and continue risk reduction for remaining LOX equipped Naval Aircraft. CSM/AOS: Conduct initial product demonstrations of full smoke masks and 02 containment devices for Naval fixed wing non-ejection aircraft. TSSH/MARS: Commence DT and prepare ECP.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		2.430	2.953	2.526
RDT&E Articles Quantity				

FY 2003 - NVS: Continued to monitor and participate in WFOVNVG testing. JHMCS: F/A-18 E/F Corrected OT deficiencies, F/A-18 E/F LRIP IV. JHMCS Night Attack: Interface Control Design (CD). JALEPV: Started Fleet assessment. LRIP II. IDNAWH: Program Design Review (PDR). FY 2004 - JHMCS P3I Night Attack: Initiate DT. JALEPV: MS III. LEPIP: (formerly Laser Spectacle Improvements): Commence DT. IDNAWH: Initiate DT/OT. FY 2005 - JHMCS P3I Night Attack: Initiate OT. IDNAWH: Continue DT/OT. NVS: WFOVNVG testing. Agile Frequency Laser PDR.

R-1 SHOPPING LIST - Item No. 96

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604264N/Aircrew Systems Development	W0606/Aircrew Systems Development

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:	6.547	8.765	8.032
Current BES/Presidents Budget:	6.396	8.668	8.838
Total Adjustments	-0.151	-0.097	0.806
Summary of Adjustments			
SBIR/STTR Transfer	-0.056		
Misc. Adjustments	-0.095	-0.097	0.806
Subtotal	-0.151	-0.097	0.806

(U) Schedule:

Due to delays in awarding the H-60 MARS, common MARS has beed delayed. The follow-on spec for common MARS is now scheduled for 3Q FY 04.
The USAF (lead Service) and USN have decided to delay MS III of JHMCS to FY 04 due to reliability concerns. An LRIP IV was inserted in FY 03 to meet aircraft production schedules.
An LRIP for the Escape Injury Reduction Program was inserted in FY 06 to show planned date of aircraft modifications for this program. Due to test delays, the CDR was delayed to 4Q FY 03.
An LRIP for Crash Worthy Troop Seats was added to the schedule for the 4Q FY 2004.

(U) Technical:

Not Applicable.

R-1 SHOPPING LIST - Item No. 96

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604264N/Aircrew Systems Development	PROJECT NUMBER AND NAME W0606/Aircrew Systems Development

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
Aviation Life Support - OPN 424400	18.104	32.154	19.040	26.987	13.258	20.594	22.718	CONT	CONT
Aviation Life Support Mods - APN 057500	0.493	6.311	7.371	9.923	25.398	24.828	16.047	21.712	112.117

(U) E. ACQUISITION STRATEGY:

Commercial Off-The-Shelf (COTS)/NDI where possible, cost plus award fee contracts. Cost as an Independent Variable. Majority of programs non-ACAT programs with no specific acquisition strategies.

R-1 SHOPPING LIST - Item No. 96

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604264N/Aircrew Systems Development			PROJECT NUMBER AND NAME W0606/Aircrew Systems 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
Systems Engineering	WX/RX	NAWCAD, PAX RIVER, MD	38.485	2.592	Various	4.696	Various	4.466	Various	Continuing	Continuing	
Systems Engineering	WX/RX	NAWCWD,CHINA LAKE,CA	3.826	0.731	Various	0.764	Various	0.377	Various	Continuing	Continuing	
Systems Engineering	WX/RX	NSWC, INDIAN HEAD, MD	0.425	0.264	Various	0.340	Various	0.180	Various	Continuing	Continuing	
Systems Engineering	WX/RX	NADEP, CHERRY PT, NC		0.180	Various	0.115	Various	0.090	Various	Continuing	Continuing	
Systems Engineering	WX/RX	NAWCAD, LAKEHURST,NJ		0.071	Various	0.073	Various	0.073	Various	Continuing	Continuing	
Ancillary Hardware Development	TBD	TBD		1.150	Various	1.250	Various	0.603	Various	Continuing	Continuing	
Award Fees												
Subtotal Product Development			42.736	4.988		7.238		5.789		Continuing	Continuing	
Remarks:												
Integrated Logistics Support	WX/RX	NAWCAD, PAX RIVER, MD	16.785	0.304	Various	0.500	Various	0.430	Various	Continuing	Continuing	
Integrated Logistics Support	WX/RX	NSWC, CRANE, IN		0.200	Various	0.250	Various	0.200	Various	Continuing	Continuing	
Studies & Analyses	WX/RX	NAWCAD, PAX RIVER, MD		0.300	Various						0.300	
Award Fees												
Subtotal Support			16.785	0.804		0.750		0.630		Continuing	Continuing	
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604264N/Aircrew Systems Development				PROJECT NUMBER AND NAME W0606/Aircrew Systems 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	WX/RX	NAWCAD, PAX RIVER, MD	35.880	0.394	Various	0.492	Various	0.682	Various	Continuing	Continuing	
Developmental Test & Evaluation	WX/RX	NADEP, CHERRY PT., NC	0.221	0.090	Various	0.075	Various	0.230	Various	Continuing	Continuing	
Developmental Test & Evaluation	WX/RX	NSWC, INDIAN HEAD, MD		0.120	Various	0.113	Various	0.150	Various	Continuing	Continuing	
Operational Test & Evaluation	WX/RX	COMOPTEVFOR, Norfolk						0.600	Various	Continuing	Continuing	
Developmental Test & Evaluation	WX/RX	NAWCWD, CHINA LAKE,CA						0.600	Various	Continuing	Continuing	
								0.157	Various	Continuing	Continuing	
Award Fees												
Subtotal T&E			36.101	0.604		0.680		2.419		Continuing	Continuing	
Remarks:												
SBIR Assessment			0.041	0.000							0.041	
Subtotal Management			0.041	0.000		0.000		0.000		0.000	0.041	
Remarks:												
Total Cost			95.663	6.396		8.668		8.838		Continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 96

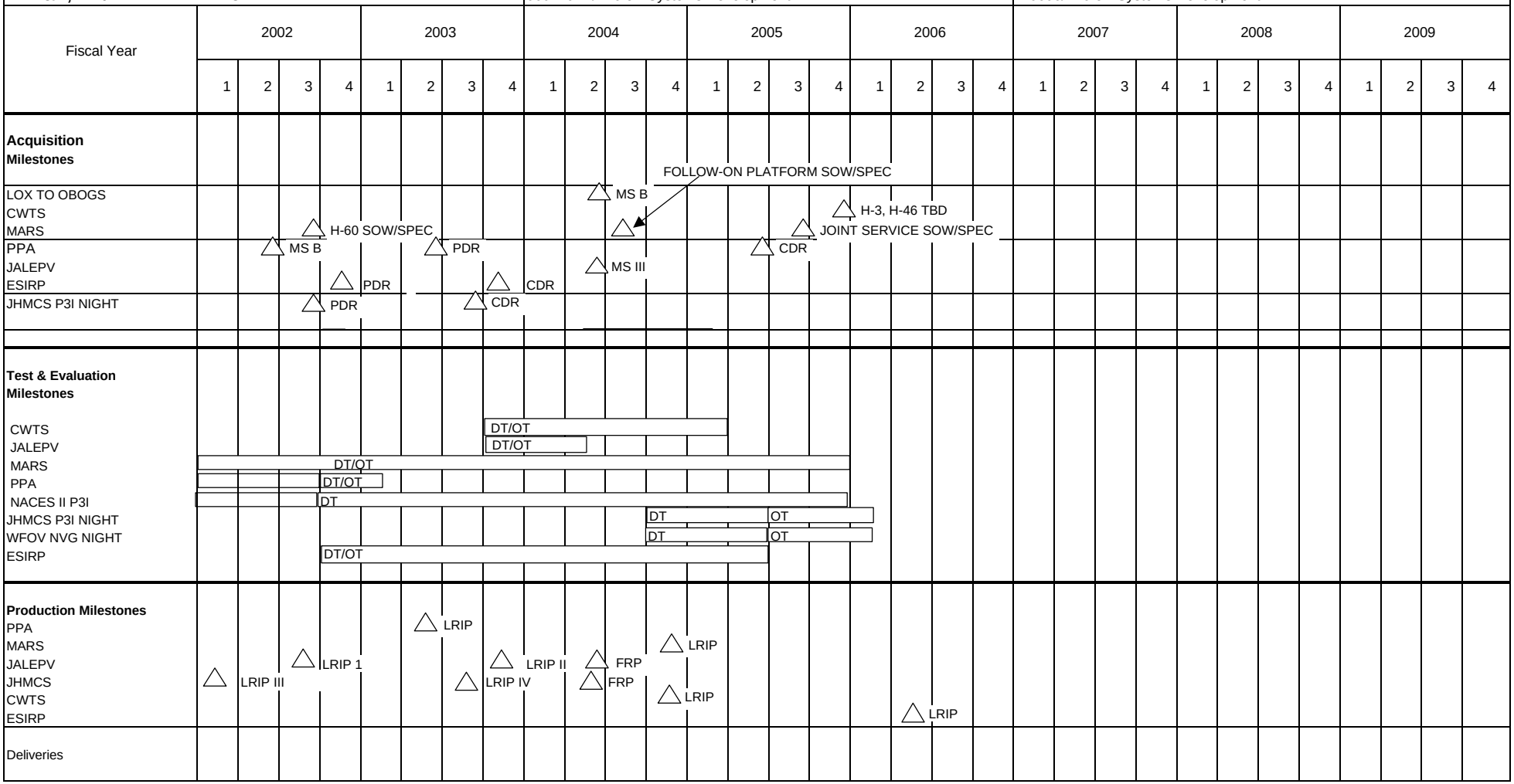
CLASSIFICATION: UNCLASSIFIED

EXHIBIT R4, Schedule Profile | DATE: **February 2004**

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

PROGRAM ELEMENT NUMBER AND NAME: 0604264N/Aircrew Systems Development

PROJECT NUMBER AND NAME: W0606/Aircrew Systems Development



R-1 SHOPPING LIST - Item No. 96

Exhibit R-4a, Schedule Detail					DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT 0604264N/Aircrew Systems Development				PROJECT NUMBER AND NAME W0606/Aircrew Systems Development			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
LOX TO OBOGS MSB			2Q					
MARS SPECS - H-60, PLATFORMS, LRIP, JOINT	3Q		3Q/4Q	3Q				
PPA - MSB, PDR&LRIP, CDR	2Q	2Q		2Q				
JALEPV -DT&OT, MSIII&FRP		4Q	2Q					
ESIRP - PDR & DT/OT CDR, LRIP	4Q	4Q			2Q			
JHMCS - LRIP IV, FRP		3Q	2Q					
JHMCS P3I NIGHT - PDR, CDR, DT, OT	3Q	3Q	4Q	3Q				
CWTS - DT/OT, LRIP		4Q	4Q					
WFOV NVG NIGHT - DT, OT			4Q	3Q				

R-1 SHOPPING LIST - Item No. 96

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604264N/Aircrew Systems Development				PROJECT NUMBER AND NAME W2877/Joint Helmet Mounted Cueing System			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost			**4.153**					
RDT&E Articles Qty								

U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

JOINT HELMET MOUNTED CUEING SYSTEM currently has the capability to cue and verify cueing of high off-axis sensors and weapons in the air-to-ground and air-to-air arena (TFLIR and AIM-9X). To take advantage and enhance the war fighting capability at night, the program is integrating night vision capabilities into the JHMCS. This will increase the pilot's situational awareness through all phases of flight. Many friendly and threat aircraft already employ helmet mounted systems.

EXHIBIT R-2a, RDT&E Project Justification			DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA-5	0604264N/Aircrew Systems Development	W2877/Joint Helmet Mounted Cueing System	

(U) B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost			4.153	
RDT&E Articles Quantity				

FY 2004 - JHMCS P3I Night Attack: Initiate development, procure DT assets. Initiate DT.

	FY 02	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604264N/Aircrew Systems Development	W2877/Joint Helmet Mounted Cueing System

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:		0.000	
Current BES/Presidents Budget:		4.153	
Total Adjustments		4.153	
Summary of Adjustments			
Congressional Increases		4.200	
Congressional undistributed reductions		-0.047	
Subtotal		4.153	

(U) Schedule:

FY 04 - JHMCS Night Attack Program will initiate development and test.

(U) Technical:

Not Applicable.

R-1 SHOPPING LIST - Item No. 96

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)											DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604264N/Aircrew Systems Development			PROJECT NUMBER AND NAME W2877/Joint Helmet Mounted Cueing System						
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
Systems Engineering	WX/RX	NAWCAD, PAX RIVER, MD				0.100	Various			0.000	0.100	
Ancillary Hardware Development	TBD	TBD				3.803	06/04			0.000	3.803	
Award Fees												
Subtotal Product Development			0.000	0.000		3.903		0.000		0.000	3.903	
Remarks:												
Integrated Logistics Support	WX/RX	NSWC, CRANE. IN				0.100	Various			0.000	0.100	
Award Fees												
Subtotal Support			0.000	0.000		0.100		0.000		0.000	0.100	
Remarks:												

R-1 SHOPPING LIST - Item No. 96

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604264N/Aircrew Systems Development			PROJECT NUMBER AND NAME W2877/Joint Helmet Mounted Cueing System							
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/RX	NAWCAD, PAX RIVER, MD				0.150	Various			0.000	0.150	
Award Fees												
Subtotal T&E			0.000	0.000		0.150		0.000		0.000	0.150	
Remarks:												
SBIR Assessment												
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			0.000	0.000		4.153		0.000		0.000	4.153	
Remarks:												

R-1 SHOPPING LIST - Item No. 96

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604264N/Aircrew Systems Development				PROJECT NUMBER AND NAME W9061/Intensifier Tube Advanced Development			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost			**3.362**					
RDT&E Articles Qty								

U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

INTENSIFIER TUBE ADVANCED DEVELOPMENT - The funding is needed to develop and integrate smaller and lighter night vision intensifier tubes (16mm) for wide field of view night vision systems. The advanced intensifier tubes will be the foundation for wide field of view night vision devices that can be integrated with the Joint Helmet Mounted Cueing System (JHMCS) helmet mounted display system to provide a night vision cueing capability. This capability is necessary for rapid targeting of air-to-air missiles and air-to-ground weapons at night. Funding for the development of enhanced wide field of view night vision imaging systems and the incorporation of the capability in current and future helmet mounted cueing systems will extend current daytime only technology for night use.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604264N/Aircrew Systems Development	W9061/Intensifier Tube Advanced Development

(U) B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost			3.362	
RDT&E Articles Quantity				

FY 2004 - Refine 16 mm Intensifier Tube Technology. Continue development of automated intensifier measurement system.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604264N/Aircrew Systems Development	W9061/Intensifier Tube Advanced Development

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:		0.000	
Current BES/Presidents Budget:		3.362	
Total Adjustments		3.362	
Summary of Adjustments			
Congressional Increases		3.400	
Congressional undistributed reductions		-0.038	
Subtotal		3.362	

(U) Schedule:

Not Applicable.

(U) Technical:

Not Applicable.

R-1 SHOPPING LIST - Item No. 96

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)											DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604264N/Aircrew Systems Development			PROJECT NUMBER AND NAME W9061/Intensifier Tube Advanced 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
Systems Engineering	WX/RX	NAWCAD, PAX RIVER, MD				0.100	Various			0.000	0.100	
Ancillary Hardware Development	TBD	TBD				2.900	Various			0.000	2.900	
Award Fees												
Subtotal Product Development			0.000	0.000		3.000		0.000		0.000	3.000	
Remarks:												
Integrated Logistics Support	WX/RX	NSWC, CRANE. IN				0.362	Various			0.000	0.362	
Award Fees												
Subtotal Support			0.000	0.000		0.362		0.000		0.000	0.362	
Remarks:												

R-1 SHOPPING LIST - Item No. 96

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604264N/Aircrew Systems Development				PROJECT NUMBER AND NAME W9061/Intensifier Tube Advanced 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												
Developmental Test & Evaluation												
Developmental Test & Evaluation												
Operational Test & Evaluation												
Award Fees												
Subtotal T&E			0.000	0.000		0.000		0.000			0.000	
Remarks:												
SBIR Assessment												
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			0.000	0.000		3.362		0.000		0.000	3.362	
Remarks:												

R-1 SHOPPING LIST - Item No. 96

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 0604269N EA-18 SQUADRONS			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost			**215.431**	**357.502**	**407.106**	**368.688**	**266.305**	**81.046**
E3063 EA-18G			**215.431**	**357.502**	**407.106**	**368.688**	**266.305**	**81.046**
Note: FY03 and FY04 Excuted under 0604270N, E3063.		**17.756**						

U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The EA-18G is designed to replace the EA-6B aircraft. The EA-18G's electronic attack upgrades will meet EA-6B (with LR-700, ALQ-99, USQ-113) Airborne Electronic Attack (AEA) capability to detect, identify, locate and suppress hostile emitters; provide enhanced connectivity to National, Theater and Strike assets; and provide organic precision emitter targeting for employment of onboard suppression weapons (HARM) to fullfill operational requirements. The EA-18G will have the capability to operate autonomously or as a major node in a network centric operation. The performance of the aircraft is compatible with the primary strike/fighter aircraft projected to be in the inventory in the 2010 time period, allowing it to be fully integrated into specific strike packages. It will also have the capacity to provide broad area coverage for extended periods of time to support numerous strikes or other air operations in a federated context. The EA-18G is a scaleable, flexible solution that facilitates "Task Organized" force structures. The task organized force structures employ adequate forces to accomplish a specific task while maintaining the operation and personnel tempo at acceptable levels. The EA-18G is being designed to perform a range of Electronic Warfare/Electronic Attack functions either simultaneously or independently. The man in the loop operation and advanced information display system will allow real time assessment of the tactical situation and the appropriate response executed in accordance with the rules of engagement.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604269N EA-18 SQUADRONS				PROJECT NUMBER AND NAME E3063 EA-18G			
COST ($ in Millions)		FY 2003*	FY 2004*	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**17.756**	**215.431**	**357.502**	**407.106**	**368.688**	**266.305**	**81.046**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:
The EA-18G is designed to replace the EA-6B aircraft. The EA-18G's electronic attack upgrades will meet or exceed EA-6B (with LR-700, ALQ-99, USQ-113) Airborne Electronic Attack (AEA) capability to detect, identify, locate and suppress hostile emitters; provide enhanced connectivity to National, Theater and Strike assets; and provide organic precision emitter targeting for employment of onboard suppression weapons (HARM) to fullfill operational requirements. The EA-18G will have the capability to operate autonomously or as a major node in a network centric operation. The performance of the aircraft is compatible with the primary strike/fighter aircraft projected to be in the inventory in the 2010 time period, allowing it to be fully integrated into specific strike packages. It will also have the capacity to provide broad area coverage for extended periods of time to support numerous strikes or other air operations in a federated context. The EA-18G is a scaleable, flexible solution that facilitates "Task Organized" force structures. The task organized force structures employ adequate forces to accomplish a specific task while maintaining the operation and personnel tempo at acceptable levels. The EA-18G is being designed to perform a range of Electronic Warfare/Electronic Attack functions either simultaneously or independently. The man in the loop operation and advanced information display system will allow real time assessment of the tactical situation and the appropriate response executed in accordance with the rules of engagement.

***Note: FY03 was under PE 0604270N, E3063 AEA Follow On**

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604269N EA-18 SQUADRONS	E3063 EA-18G

B. Accomplishments/Planned Program

AEA Follow On		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		16.256	185.196	308.849
RDT&E Articles Quantity				

- (U) Continue Air Vehicle Design and Integration of ICAP III Avionics into the EA-18G.

AEA Follow On		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		1.500	25.500	44.679
RDT&E Articles Quantity				

- (U) Continue Software Development of the EA-18G.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost			4.735	3.974
RDT&E Articles Quantity				

-(U) Start developmental testing for the EA-18G.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604269N EA-18 SQUADRONS	E3063 E/A-18G

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:	9.78	204.822	350.768
Current BES/President's Budget	17.756	215.431	357.502
Total Adjustments	7.976	10.609	6.734
Summary of Adjustments			
Congressional program reductions			
Congressional undistributed reductions		-2.314	
Congressional rescissions			
SBIR/STTR Transfer			
Economic Assumptions			-1.047
Reprogrammings	7.976		
Reprioritization		12.923	7.781
Congressional increases			
Subtotal	7.976	10.609	6.734

Schedule:

Not Applicable

Technical:

Not Applicable

R-1 SHOPPING LIST - Item No. 97

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604269N EA-18 SQUADRONS	E3063 EA-18G

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
P-1 LINE ITEM 2: EA-18G									
APN-1 (EA-18G)			8.243	333.980	882.315	1292.063	1568.357		

Related RDT&E
(U) 0604270N E0556 EW Counter Repsonse
Congress earmarked $5M for Pre-System Development and Demonstration (SDD) Phase I and $2.M BTRs provided funding for EA-6B Follow-on efforts in FY02.
(U) 0604270N E3063 AEA Follow On
FY03 $10M Congressional Add for pre-SDD Phase II risk reduction activity.

E. ACQUISITION STRATEGY: *

- Development of EA-18G is based on the findings of an OSD sponsored Analysis of Alternatives and a Navy sponsored Refinement of Alternatives study. A sole source contract has been awarded to Boeing(the platform manufacturer) for system design and development. Boeing will go under contract with Northrop Grumman to incorporate Electronic Warfare/Electronic Attack systems into the Super Hornet. The contract will be structured to minimize the Navy's up-front investment and cancellation penalty while reducing costs for the total program life cycle. The Cost-Plus Award Fee (CPAF) contract arrangement provides incentives based on cost, schedule, and technical performance. Starting in 2005 two F/A-18F's will be modified with RDT&E to incorporate the Electronic Warfare/Electronic Attack systems for further development, integration, and testing.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604269N EA-18 SQUADRONS				PROJECT NUMBER AND NAME E3063 EA-18G						
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 Hdw Development(Aircraft)	SS/CPAF	MDA- ST LOUIS	5.108	13.388	04/03	156.166	12/03	261.804	12/04	695.012	1,131.478	1,131.478
SDD Award Fee	SS	MDA- ST LOUIS						13.077	12/04	74.104	87.181	87.181
Primary Hdw Development(Aircraft)	Various	Various				0.315	12/03	0.922	12/04	1.871	3.108	
Primary Hdw Development(ALQ-99)	WX	NSWC CRANE				3.027	12/03	3.403	12/04	6.665	13.095	
Systems Engineering	WX	NAWCWD-CHINA LAKE	0.210	0.420	05/03	3.399	11/03	9.157	11/04	47.510	60.696	
Systems Engineering	WX	NSWC CRANE	0.250	0.301	05/03	0.861	12/03	1.533	12/04	6.820	9.765	
Systems Engineering	WX	NAWCWD-POINT MUGU	0.250	0.250	05/03	5.701	12/03	6.640	12/04	23.796	36.637	
GFE	Various	Various				2.800	Various	0.600	Various		3.400	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			5.818	14.359		172.269		297.136		855.778	1,345.360	

Remarks:

											0.000	
Software Development	SS/CPAF	MDA- ST LOUIS		1.500	06/03	25.500	01/04	44.679	01/05	112.160	183.839	183.839
Integrated Logistics	WX	Various		0.069	05/03	0.611	01/04	0.706	01/05	2.491	3.877	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Support			0.000	1.569		26.111		45.385		114.651	187.716	

Remarks:
Prior Years costs were under PE 0604270N, E0556, EW Counter Response and PE 0604270N, E3063 AEA Follow On.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604269N EA-18 SQUADRONS				PROJECT NUMBER AND NAME E3063 EA-18G						
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				1.505	01/04	4.427	01/05	94.792	100.724	
Developmental Test & Evaluation	WX	NAWCWD-CHINA LAKE								5.093	5.093	
Developmental Test & Evaluation	MIPR	ADEC				1.700	01/04				1.700	
Developmental Test & Evaluation	TBD	NASA AMES				3.761	05/04				3.761	
Operational Test & Evaluation	WX	OPTEVOR , NORFOLK VA				0.186	03/04	0.240	03/05	10.756	11.182	
											0.000	
											0.000	
Subtotal T&E			0.000	0.000		7.152		4.667		110.641	122.460	
Remarks:												
Contractor Engineering Support	Various	Various	0.220	0.247	05/03	2.121	12/03	2.175	12/04	8.042	12.805	
Program Management Support	WX	NAWCAD-PAX RIVER	0.936	1.500	05/03	2.747	11/03	2.831	11/04	13.190	21.204	
Government Engineering Support	WX	NAWCAD-PAX RIVER				4.695	12/03	4.968	12/04	19.643	29.306	
Travel	WX	NAVAIR, PAX RIVER MD	0.050	0.081	VAR	0.336	VAR	0.340	VAR	1.200	2.007	
											0.000	
											0.000	
Subtotal Management			1.206	1.828		9.899		10.314		42.075	65.322	
Remarks: Prior Years costs were under PE 0604270N, E0556, EW Counter Response and PE 0604270N, E3063 AEA Follow On.												
Total Cost			7.024	17.756		215.431		357.502		1,123.145	1,720.858	
Remarks: Note 1: FY02 costs were under PE 0604270N, E0556, EW Counter Response Note2: FY03 and FY04 costs were under PE 0604270N, E3063 AEA Follow On.												

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CLASSIFICATION:

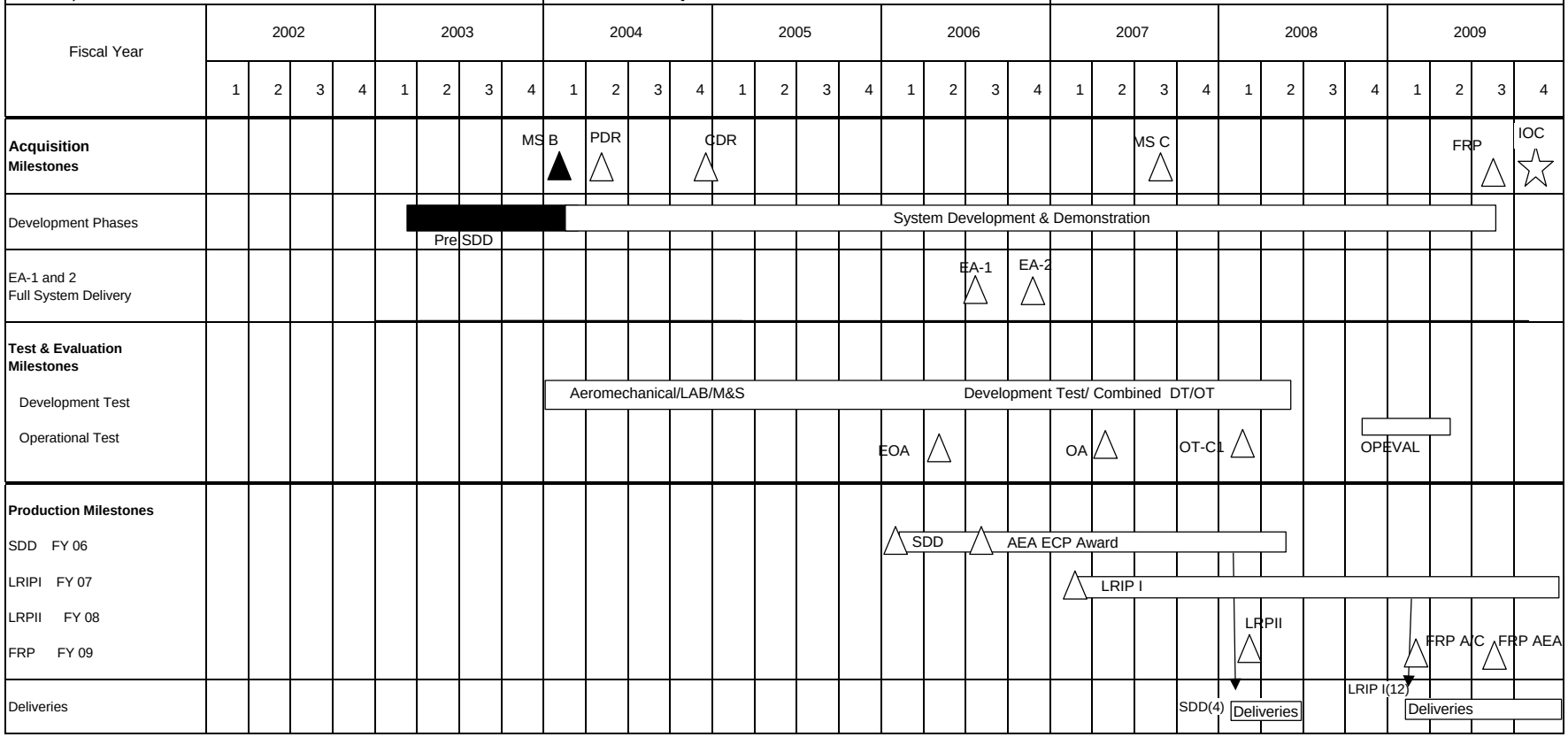
EXHIBIT R4, Schedule Profile

DATE: **February 2004**

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

PROGRAM ELEMENT NUMBER AND NAME: 0604269N EA-18 SQUADRONS

PROJECT NUMBER AND NAME: E3063 EA-18G



R-1 SHOPPING LIST - Item No. 97

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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT 0604269N EA-18 SQUADRONS				PROJECT NUMBER AND NAME E3063 EA-18G			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Pre System Development & Demonstration Phase(Pre-SDD)		1Q-4Q	1Q					
System Development & Demonstration Phase(SDD)			1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-3Q
Developmental Testing			1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-2Q	
Milestone B (MSB)			1Q					
Preliminary Design Review (PDR)			2Q					
Critical Design Review (CDR)			4Q					
SDD Contract Award					1Q-4Q	1Q-4Q	1Q-2Q	
Early Operational Assessment (EOA)					2Q			
SSD Production (AEA) Contract Award					3Q			
EA-1 Delivery					3Q			
EA-2 Delivery					4Q			
LRIP I Aircraft Contract Award						1Q-4Q	1Q-4Q	1Q-4Q
Operational Assessment (OA)						2Q		
Milestone C (MSC)						3Q		
Start Low-Rate Initial Production II (LRIPII)							1Q	
Operational Testing (OT-C1)							1Q	
SDD Production Delivery							1Q-2Q	
Operational Evaluation (OPEVAL)							4Q	1Q-2Q
FRP Aircraft Contract Award								1Q
Low-Rate Initial Production I Delivery								1Q-4Q
Full Rate Production (FRP) Decision								3Q
FRP AEA Contract Award								3Q
IOC								4Q

R-1 SHOPPING LIST - Item No. 97

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 0604270N Electronic Warfare Development			
COST ($ in Millions)		FY 2003	FY 2004	*FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost		**88.509**	**275.422**	**48.956**	**44.477**	**42.945**	**38.447**	**38.907**
E0556 EW Counter Response		**53.937**	**35.366**	**33.968**	**35.229**	**35.846**	**36.556**	**37.072**
E2175/E2635 Tactical Air Electronic Warfare		**12.856**	**22.057**	**13.354**	**7.582**	**5.289**		
E3063 EA-18G		**17.756**	**215.431**					
R2260 Specific Emitter Identification		**0.895**	**0.756**	**0.723**	**0.725**	**0.673**	**0.731**	**0.652**
X2422 LOCO GPSI		**2.054**						
Z1742 EW Readiness Support		**1.011**	**0.823**	**0.911**	**0.941**	**1.137**	**1.160**	**1.183**
W9374 ACETEF and JRAAC			**0.989**					

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This element includes development of electronic warfare systems for the United States Navy (USN), United States Marine Corps (USMC), and United States Army (USA) tactical aircraft, USMC helicopters, surface combatants, data link vulnerability assessments, precision targeting, USMC communications and non-communications jammers, and development and testing of electronic warfare devices for emergency contingencies.

* $3.8M was identified in prior year funding to forward finance future year requirements and the corresponding adjustment was made in FY 2005.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604270N Electronic Warfare Development				PROJECT NUMBER AND NAME E0556 EW Counter Response			
COST ($ in Millions)		FY 2003	FY 2004	*FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**53.937**	**35.366**	**33.968**	**35.229**	**35.846**	**36.556**	**37.072**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The EA-6B weapon system is designed for jamming and destruction of enemy landbased, shipborne and airborne command, control and communications (C3), and radars associated with early warning, target acquisition surveillance, anti-aircraft artillery, air-to-surface, surface-to-surface, and surface-to-air missiles. In this capacity, it will support carrier based tactical aircraft, battle group operations, and joint forces, in dense radar controlled environments. The efforts under this program element (PE) provide for the electronic countermeasures response to these advanced threat weapon systems and C3 networks which are expanding in density and technical complexity. This PE funds the continuing development and integration of all EW systems for the EA-6B electronic attack aircraft. The test articles being funded are; two EA-6B aircraft modified to support the Improved Capability (ICAP) III program and eight Low Band Transmitter (LBT) Engineering Development Models (EDMs). The two EA-6B aircraft will be used as test articles during government test and evaluation (TECHEVAL/OPEVAL). The LBT EDMs are broken out as three LBT Antenna Set EDMs and five Amplifier Set EDMs. All Amplifier Set EDM and Antenna Set EDMs were completed in FY 2002. The ALQ-99 LBT Antenna Group will provide an expanded war fighting capability against the early warning/acquisition radars and communication links of modern integrated air defense systems. The LBT entered E&MD in September 1996, followed by Low Rate Initial Production (LRIP) anticipated in FY 2005 and Full Rate Production (FRP) approval (Milestone III) anticipated in FY 2006. This effort includes the conversion of the Tactical EA-6B Mission System (TEAMS) software to the Joint Mission Planning System (JMPS), including development of the EA-6B Unique Planning Module.

The Airborne Electronic Attack (AEA) aircraft AOA has been completed for the replacement to the EA-6B. Transition to this weapon system, known as the EA-18G will coincide with the planned retirement of the EA-6B.

A requirement exists to allow the EA-6B to participate in Network Centric Warfare. A method of implementing this requirement is to include the EA-6B on the Link-16 Network. Link-16 will allow the EA-6B to receive and send critical situational awareness and tactical data with other aircraft and the battle group.

* $3.8M was identified in prior year funding to forward finance future year requirements and the corresponding adjustment was made in FY 2005.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604270N Electronic Warfare Development	E0556 EW Counter Response

B. Accomplishments/Planned Program

ICAP III		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		35.267	12.692	12.911
RDT&E Articles Quantity				

- (U) Continue development of ICAP III system. Efforts will concentrate on completion of Operational Testing (OPEVAL). Continue the baseline ICAP III software update. Continue testing of correction of defect modifications for the ICAP III program. Full rate production contract will be put in place in FY05.
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ICAP III UPDATE		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		3.372	9.470	6.402
RDT&E Articles Quantity				

- (U) Continue updating the baseline ICAP III system to include integration of avionics items which include the second Embedded Global Positioning System/Inertial Navigation System (EGI), HARM, ALE-47, Low Band Transmitter, Band 7/8, Night Vision Devices (NVDs) and data fusion with national assets.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604270N Electronic Warfare Development	E0556 EW Counter Response

B. Accomplishments/Planned Program (Cont.)

Low Band Transmitter		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		1.893		
RDT&E Articles Quantity				

(U) Continue developmental testing (TECHEVAL). Conduct Operational Assessment (OA) and Operational Test (OPEVAL) of LBT.

Mission Planning		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		1.986	1.976	1.974
RDT&E Articles Quantity				

(U) Transition of theTactical EA-6B Mission System (TEAMS) software to the Joint Mission Planning Systems (JMPS).

LINK-16		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost			1.461	2.376
RDT&E Articles Quantity				

(U) Continue to develop Link-16 capability. Complete testing and correction of deficiencies of the Link-16 modification.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604270N Electronic Warfare Development	E0556 EW Counter Response

B. Accomplishments/Planned Program (Cont.)

JATO		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		9.766	9.767	10.305
RDT&E Articles Quantity				

(U) Continue software development and test support for ongoing new threat development and testing in ICAP II and ICAP III, via the Jammer and Techniques Optimization (JATO) program.

FIBER OPTIC		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		1.653		
RDT&E Articles Quantity				

(U) Continued development of the Fiber Optic Wave Division Multiplexing in FY 2003 for the developmental testing and the EA-6B lab at Point Mugu.

R-1 SHOPPING LIST - Item No. 98

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604270N Electronic Warfare Development	E0556 EW Counter Response

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:	52.615	36.644	38.452
Current BES/President's Budget	53.937	35.366	33.968
Total Adjustments	1.322	-1.278	-4.484
Summary of Adjustments			
Congressional program reductions			
Congressional undistributed reductions		-0.408	
Congressional rescissions			
SBIR/STTR Transfer	-0.445		
Economic Assumptions			-0.098
Reprogrammings	1.767		
Other Adjustments		-0.870	-4.386
Congressional increases			
Subtotal	1.322	-1.278	-4.484

Schedule:

Not Applicable

Technical:

Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604270N Electronic Warfare Development	E0556 EW Counter Response

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
P-1 # 24, EA-6 Series	314.175	334.778	165.702	102.854	38.694	20.106	19.249	163.700	3,065.758

E. ACQUISITION STRATEGY:

- The LBT development contract occurred following a full and open competition and was awarded to BAE Systems (formerly MARCONI). Following development and successful DT/OA, sole source LRIP contracts will be awarded. Following successful OT, a sole source production contract will be awarded.

- The ICAP III contract, an E&MD CPIF/AF basic contract with two Fixed Price Incentive (FPI) production options, was awarded to a Northrop Grumman team in March 1998 following Milestone II and a full and open competition. The contract was changed to a CPAF contract in FY 1999. LRIP was completed in FY 2003. Milestone III and Full Rate Production are scheduled for FY 2005 with Initial Operating Capability in FY 2005.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604270N Electronic Warfare Development				PROJECT NUMBER AND NAME E0556 EW Counter Response						
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 Dev -LBT	C/FPI	BAE Systems Lansdale, PA	31.567								31.567	31.567
Primary Hdw Develop - ICAP III	C/CPAF	Northrop Grumman, NY	209.528	25.965	11/02	9.811	11/03	5.963	11/04		251.267	251.267
Primary Hdw Develop - Spray Cool	C/CPFF	Isothermal Sys Research	2.612								2.612	2.612
Primary Hdw Develop - Link 16	SS/CPFF	Northrop Grumman, NY	55.797			0.890	02/04				56.687	56.687
Primary Hdw Develop - Min of ICAP I	TBD	Northrop Grumman, NY	2.636								2.636	2.636
Primary Hdw Develop - LOCO GPSI	TBD	SPAWAR	8.786								8.786	
Primary Hdw Develop - Fiber Optic	C/CPFF	DMEA, McClellan AFB		1.082	04/03						1.082	1.082
Aircraft Integration - Spray Cool	C/CPFF	Isotermal Sys Research	6.531								6.531	6.531
Primary Hdw Develop - EA-18G	SS/CPFF	McDonnell Douglas	2.024								2.024	2.024
Systems Engineering	WX	NRL. Wash DC	8.541	0.500	10/02	0.746	10/03	0.488	10/04	Continuing	Continuing	
Systems Engineering	WX	NADEP, JAX	5.227	1.126	10/02	0.492	10/03	0.850	10/04	Continuing	Continuing	
Systems Engineering	WX	NSWC Crane	8.690	1.415	10/02	2.512	10/03	2.800	10/04	Continuing	Continuing	
Systems Engineering	WX	NAWCAD PAX	19.484	8.000	10/02	2.018	10/03	4.954	10/04	Continuing	Continuing	
Systems Engineering	WX	NAWCAD LKE	2.804	0.371	10/02	0.162	10/03	0.200	10/04	Continuing	Continuing	
Systems Engineering	WX	NAWCWD, PT MUGU	23.859	3.973	10/02	3.034	10/03	5.300	10/04	Continuing	Continuing	
Systems Engineering	Various	VARIOUS	45.836	0.364	10/02	3.119	10/03	1.507	10/04	Continuing	Continuing	
											0.000	
											0.000	
Award Fees - ICAP III	C/CPAF	Northrop Grumman	2.474			4.000	12/03	9.106			15.580	15.580
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			436.396	42.796		26.784		31.168		Continuing	Continuing	

Remarks:

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604270N Electronic Warfare Development			PROJECT NUMBER AND NAME E0556 EW Counter Response							
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
Development Support - JATO	SS/FP	JHU/APL, Columbia, MD	7.353	2.200	01/03	2.300	01/04	2.400	01/05	0.000	14.253	14.253
Development Support	Various	MISC	12.009								12.009	
										0.000	0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Studies and Analysis - AEA Studies	Various	Various	19.694								19.694	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
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											0.000	
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											0.000	
Subtotal Support			39.056	2.200		2.300		2.400			45.956	

Remarks:

R-1 SHOPPING LIST - Item No. 98

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604270N Electronic Warfare Development				PROJECT NUMBER AND NAME E0556 EW Counter Response						
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 Testing - ICAP III	WX	NAWCAD, PAX	3.000	3.000	11/02	2.522	11/03				8.522	
											0.000	
Developmental Testing - Mission Plar	WX	NAWCWD, PT MUGU		0.100	12/02	0.100	12/03	0.100	12/04		0.300	
Developmental Testing - Mission Plar	WX	NAWCAD, PAX		0.100	12/02	0.100	12/03	0.100	12/04		0.300	
Developmental Testing - Fiber Optic	WX	NAWCAD, PAX		0.398	07/03						0.398	
Developmental Testing - LBT	WX	NAWCAD, PAX	3.000	0.893	10/02						3.893	
Developmental Testing - Spray Cool	WX	NAWCWD, PT MUGU	1.306								1.306	
Operational Test & Eval: Mission Plar	WX	OPTEVFOR, Norfolk, VA		0.100	12/02	0.100	12/03	0.100	12/04		0.300	
Operational Test & Eval: ICAP III	WX	OPTEVFOR, Norfolk, VA	5.146	3.250	11/02	3.360	11/03				11.756	
Operational Test & Eval: LBT	WX	OPTEVFOR, Norfolk, VA		1.000	11/02						1.000	
Subtotal T&E			12.452	8.841		6.182		0.300			27.775	
Remarks: Funding is required to conduct ICAP III and LBT developmental/operational assessment planning, execution, and reporting.												
											0.000	
Government Eng Supt - Mission Planning	WX	NAWCWD, PT MUGU		0.100	12/02	0.100	12/03	0.100	02/05		0.300	
											0.000	
Program Mgmt Supt - Spray Cool	WX	NAWCAD, PAX	1.306								1.306	
											0.000	
											0.000	
Subtotal Management			1.306	0.100		0.100		0.100			1.606	
Remarks:												
Total Cost			489.210	53.937		35.366		33.968		Continuing	Continuing	
Remarks:												

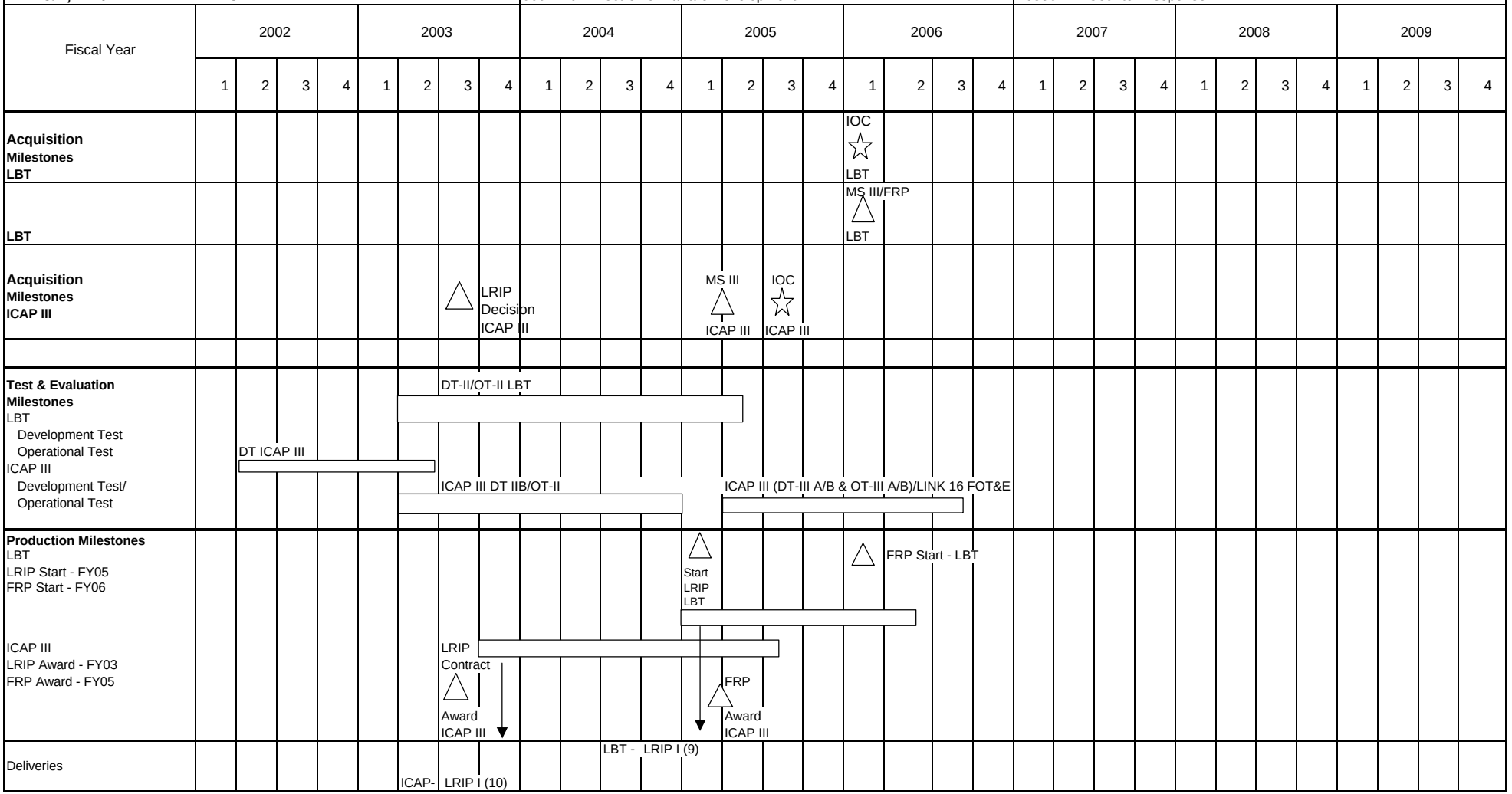
CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **February 2004**

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

PROGRAM ELEMENT NUMBER AND NAME: 0604270N Electronic Warfare Development

PROJECT NUMBER AND NAME: E0556 EW Counter Response



R-1 SHOPPING LIST - Item No. 98

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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT 0604270N Electronic Warfare Development				PROJECT NUMBER AND NAME E0556 EW Counter Response			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Low Band Transmitter								
Combined DT-IIA/OT-II LBT		2Q-4Q	1Q-4Q					
Start Low-Rate Initial Production (LRIP) LBT				1Q				
IOC LBT					1Q			
Full Rate Production (FRP) Decision LBT (MS III)					1Q			
Full Rate Production Start LBT					1Q			
ICAP III								
Developmental Testing (DT)	2Q-4Q	1Q-2Q						
Operational Assessment/TECHEVAL/OPEVAL start		2Q-3Q	2Q/2Q					
Low Rate Initial Production (LRIP) Decision ICAP III		3Q						
LRIP Contract Award - ICAP III		3Q						
Complete ICAP III OPEVAL			4Q					
Milestone III - ICAP III				2Q				
ICAP III FRP Award				2Q				
IOC - ICAP III				3Q				
FOT&E 1				2Q-4Q				
FOT&E 2					1Q-3Q			

R-1 SHOPPING LIST - Item No. 98

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604270N Electronic Warfare Development				PROJECT NUMBER AND NAME 2175 TACAIR EW & 2635 IDECM (Congressional Add)			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		***12.856**	****22.057**	**13.354**	**7.582**	**5.289**		
RDT&E Articles Qty Not Applicable								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This joint service subproject develops the new techniques generator and fiber optic towed decoy of the Radio Frequency Countermeasures (RFCM) Subsystem as well as the Navy-unique portions of Advanced Strategic and Tactical Expendables (ASTE). It also integrates RFCM and ASTE with Radar Warning Receiver (RWR), Countermeasures Dispensing Set (CMDS) and associated cockpit controls and displays to provide the lead aircraft (F/A-18E/F) with increased survivability against Infrared/Radio Frequency (IR/RF) threats.

AN/ALR-67(V)3&4 RADAR WARNING RECEIVER: This subproject developed the system which provides enhanced situational awareness by providing accurate azimuth display of all programmed threats, independent of aircraft attitude. This also acted as Electronic Warfare (EW) Bus Controller.

AN/ALE-50 ADVANCED AIRBORNE EXPENDABLE DECOY (AAED): This Joint Service (with Air Force) subproject developed the system to decoy enemy radio frequency homing missiles away from friendly aircraft.

FLEET ELECTRONIC WARFARE SUPPORT GROUP (FEWSG): This subproject developed new EW equipment and technology which is used to provide realistic hostile EW threat environment, and support the evaluation and development of tactics and training.

* The FY 2003 budget reflects a $7.6M Congressional Add for IDECM, Project 2635 which has been revised by -$87K for Congressional Undistributed Adjustments, -$81K for Economic Assumptions, and -$19K for Small Business Innovative Research.

** The FY 2004 budget reflects a $9.0 Congressional Add for IDECM, Project 2635 which has been revised by $-100K for Congressional Undistributed Adjustments.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604270N Electronic Warfare Development	2175 TACAIR EW & 2635 IDECM (Congressional Add)

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		12.856	22.057	13.354
RDT&E Articles Quantity				

Fund engineering and manufacturing (E&MD) contract and engineering, technical and logistic support. Fund A-Kit Block 2 efforts for integration of the Radio Frequency Countermeasure (RFCM) subsystems into the F/A-18 E/F.

Fund Block 3 efforts for integration of the RFCM subsystems into the F/A-18 E/F. Fund Block 2 Operational Evaluation (OPEVAL) and Milestone III decision for ALQ-214(V)2.

Fund E&MD contract and engineering, technical and logistic support. Fund A-Kit Block 3 efforts for integration of the RFCM subsystems into the F/A-18 E/F. Fund Block 3 Combined Developmental Testing and Operational Testing (CDT/OT). Fund Block 3 OPEVAL and Milestone III decision.

R-1 SHOPPING LIST - Item No. 98

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604270N Electronic Warfare Development	2175 TACAIR EW & 2635 IDECM (Congressional Add)

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:	13.063	13.639	0.000
Current BES/President's Budget	12.856	22.057	13.354
Total Adjustments	-0.207	8.418	13.354
Summary of Adjustments			
Congressional program reductions			
Congressional undistributed reductions		-0.252	
Congressional rescissions			
SBIR/STTR Transfer	-0.122		
Other Adjustments		-0.330	13.392
Economic Assumptions			-0.038
Reprogrammings	-0.085		
Congressional increases		9.000	
Subtotal	-0.207	8.418	13.354

Schedule:

Schedule change from FY2004 President's Budget reflects a program schedule restructuring for IB-2 and IB-3 Testing.

Technical: Not Applicable.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604270N Electronic Warfare Development	PROJECT NUMBER AND NAME 2175 TACAIR EW & 2635 IDECM (Congressional Add)

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
APN-5 Line 49 Common ECM (OSIP 007-03 - IDECM)	4.304	11.918	36.304	49.292	40.204	40.976	41.728	253.4	478.126

E. ACQUISITION STRATEGY:

IDECM sole source LRIP 1/2/3 in FY 01, 02, and 03; sole source radio frequency countermeasure full rate production (FRP) in FY 04 and Fiber optic towed decoy sole source FRP in FY 07.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-4**		PROGRAM ELEMENT 0604270N Electronic Warfare Development				PROJECT NUMBER AND NAME 2175 TACAIR EW & 2635 IDECM (Congressional Add)						
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 Develop (IDECM)	*C-CPIF	BAE/NH	229.763	1.700	03/03	0.250	01/04				231.713	231.713
Ancillary Hardware Develop (IMPLC)	SS/CPFF	RAYTHEON/GOLETA, CA	28.312								28.312	28.312
Training Development												
Aircraft Platform Integration (IDECM)	SS/FFP	BOEING, MO	67.609	0.416	03/03	2.736	01/04	0.800	01/05	1.500	73.061	73.061
Ship Suitability												
Systems Engineering	WX/RX	CHINA LAKE/CA	58.759	1.200	03/03	1.600	10/03	1.400	12/04	2.500	65.459	
EMD Support (IDECM)	BOA	BAE/NH	1.550	4.911	03/03	9.922	01/04	3.100	12/04	1.600	21.083	21.083
Navy Only Fiber Optic Towed Decoy	CPFF	Raytheon/Goleta, CA						2.900	12/04	6.000	8.900	8.900
Award Fees												
Licenses												
Miscellaneous (effort < $1M each)	WX/RX	VARIOUS	45.940			0.450					46.390	
Subtotal Product Development			431.933	8.227		14.958		8.200		11.600	474.918	

Remarks:

R-1 SHOPPING LIST - Item No. 98

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-4**		PROGRAM ELEMENT 0604270N Electronic Warfare Development			PROJECT NUMBER AND NAME 2175 TACAIR EW & 2635 IDECM (Congressional Add)							
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
Development Support												
Software Development (IDECM)	SS/CPFF	Raytheon, Goleta CA	5.655	0.394	03/03	0.300	03/04				6.349	6.349
Integrated Logistics Support	WX/RX	Jacksonville, FL		0.185	01/03	0.510	03/04	0.450	03/05		1.145	
Configuration Management												
Technical Data												
Studies & Analyses	WX/RX	Various				0.500	02/04	0.800	02/05		1.300	
GFE												
Award Fees												
Software Development (IDECM)	SS/CPFF	Litton, CA	4.336								4.336	4.336
Subtotal Support			9.991	0.579		1.310		1.250		0.000	13.130	

Remarks:

R-1 SHOPPING LIST - Item No. 98

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 3)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-4**		PROGRAM ELEMENT 0604270N Electronic Warfare Development				PROJECT NUMBER AND NAME 2175 TACAIR EW & 2635 IDECM (Congressional Add)						
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
ENGINEERING/LOGISTIC SPT	WX/RX	NAWC-AD/PAX	25.047	0.225	03/03	1.700	01/04	1.100	11/04	1.000	29.072	
ENGINEERING TECH FLT TEST	WX/RX	NAWC-WD, CL	36.452	0.822	11/03	2.264	03/04	1.850	12/04	2.000	43.388	
Miscellaneous (efforts < $1M each)	WX/RX	Various	1.608	0.330	Various	0.400	01/04	0.096	12/04		2.434	
Test Support	WX/RX	OPTEVFOR	1.500	1.270	01/03	0.275	12/03	0.158	12/04	2.500	5.703	
Miscellaneous (efforts < $1M each)	WX/RX	NAWC-WD, Pt Mugu		0.400	01/03	0.500	01/04				0.900	
Subtotal T&E			64.607	3.047		5.139		3.204		5.500	81.497	
Remarks:												
Contractor Engineering Support												
Government Engineering Support												
Program Management Support	WX/RX	NAWC-AD/Pax/Various	21.384	0.763	03/03	0.650	11/03	0.700	11/04	2.000	25.497	
Miscellaneous (efforts < $1M each)	WX/RX	Various	6.509	0.240	Various						6.749	
Transportation												
SBIR Assessment												
Subtotal Management			27.893	1.003		0.650		0.700		2.000	32.246	
Remarks:												
Total Cost			534.424	12.856		22.057		13.354		19.100	601.791	
Remarks:												

R-1 SHOPPING LIST - Item No. 98

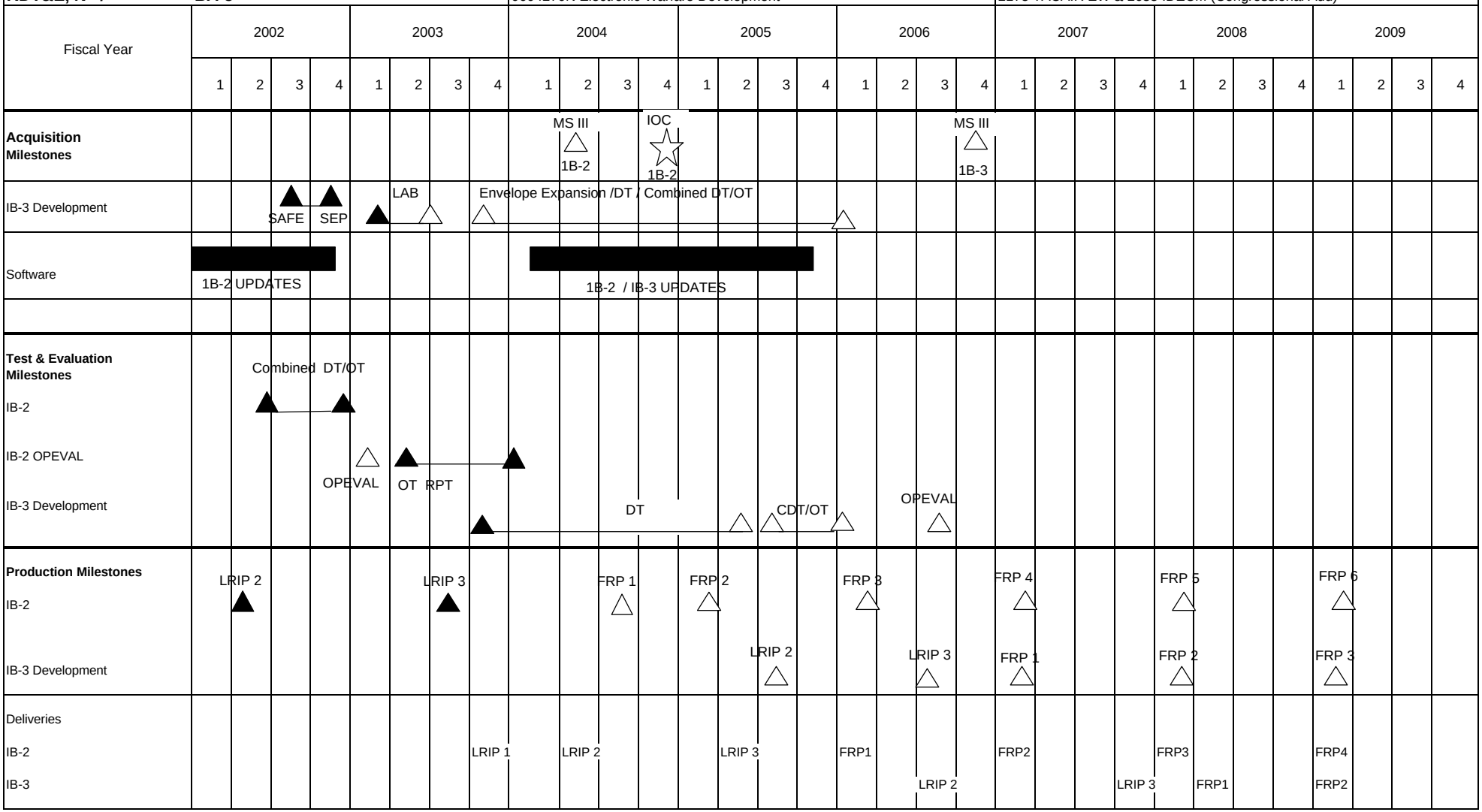
CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **February 2004**

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

PROGRAM ELEMENT NUMBER AND NAME: 0604270N Electronic Warfare Development

PROJECT NUMBER AND NAME: 2175 TACAIR EW & 2635 IDECM (Congressional Add)



R-1 SHOPPING LIST - Item No. 98

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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT 0604270N Electronic Warfare Development				PROJECT NUMBER AND NAME 2175 TACAIR EW & 2635 IDECM (Congressional Add)			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
IB-2 IOC (IDECM BLOCK 2)			4Q					
IB-2 LRIP 2	2Q							
IB-2 COMBINED DT/OT	3Q-4Q							
IB-2 OPEVAL		1Q						
IB-2 LRIP 3 (IB-2 - Production Milestone)		3Q						
IB-2 MILESTONE III			2Q					
DT IB-3 (IDECM Block-3 Development)		4Q						
IB-2 OT REPORT		2Q-4Q						
BEGIN IB-2 LRIP 1 DELIVERIES		4Q						
IB-3 COMBINED DT/OT (Development - T&E)				3Q-4Q				
IB-2 FRP 1			3Q					
BEGIN IB-2 LRIP 2 DELIVERIES			2Q					
IB-2 FRP 2				1Q				
IB-3 OPEVAL (Development - T&E)					3Q			
IB-2 FRP 3					1Q			
IB-3 MILESTONE III					4Q			
IB-3 FRP (Development - Production Milestone)						1Q	1Q	1Q
IB-2 FRP 4						1Q		
BEGIN IB-2 LRIP 3 DELIVERIES				2Q				
IB-2 FRP 1 DELIVERIES					1Q			
IB-2 FRP 2 DELIVERIES						1Q		
IB-2 FRP 3 DELIVERIES							1Q	
IB-2 FRP 4 DELIVERIES								1Q
IB-2 FRP 5							1Q	
IB-2 FRP 6								1Q
IB-3 LRIP 2 DELIVERIES					3Q			
IB-3 LRIP 3 DELIVERIES						4Q		
IB-3 FRP 1 DELIVERIES							2Q	
IB-3 FRP 2 DELIVERIES								1Q

CLASSIFICATION: UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification							**February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604270N Electronic Warfare Development					PROJECT NUMBER AND NAME R2260 Specific Emitter ID	
COST ($ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost	**0.895**	**0.756**	**0.723**	**0.725**	**0.673**	**0.731**	**0.652**
RDT&E Articles Qty							

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

This project supports systems development and collection of Specific Emitter Identification (SEI) information from National Technical Means (NTM) to track commercial ships over 200 gross registered tons world-wide. Research and development will cover improvements and enhancements to Electronic Intelligence technology. This will include improved/next generation SEI technology for miniaturization and automation of hardware, national collection systems, signal processing and analysis, and de-interleaving of signals. Propagation in a multi-path signal environment will also be assessed. All work on this project will be undertaken in pursuit of goals stated by the Office of Naval Intelligence and the National Security Agency in support of the Worldwide Ship Tracking Program.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604270N Electronic Warfare Development	R2260 Specific Emitter ID

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.502	0.200	0.000
RDT&E Articles Quantity			

This effort supports systems development and information fusion of improved SEI technology for automation of hardware, national collection systems, signal processing and analysis, and de-interleaving of signals. Work was performed on increasing sensor fusion and automation to reduce staffing and support remote access and control capability. In FY 03 this effort will demonstrate the sensor fusion and automation aspects of SEI systems to reduce staffing and support remote access and control capability. In FY 04 this effort will support the deployment and real world tuning of highly automated SEI systems with sensor fusion, achieving goals of increased performance and reduced staffing.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.393	0.342	0.323
RDT&E Articles Quantity			

This effort supports development of a autonomous surveillance system capable of providing emitter signal information to a central location. Work was begun on this effort in FY02. In FY03 a demonstration of a complete autonomous emitter signal surveillance system consisting of central base station and one or more remote sensor sites will be performed. In FY 04 & FY 05, this effort will support the deployment and real world tuning of an autonomous emitter signal surveillance system and monitor base station and remote site operations.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	0.214	0.400
RDT&E Articles Quantity			

Improved SEI system performance, real-time communication and tactical use of SEI will be expanded with next generation SEI technology. In FY 04, this effort will develop and demonstrate enhanced system support for real-time communication and tactical use of SEI and other signal data. In FY 05, this effort will improve and deploy enhanced system support for real-time communication and tactical use of SEI and other signal data.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604270N Electronic Warfare Development	R2260 Specific Emitter ID

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:	0.996	0.764	0.827
Current BES/President's Budget	0.895	0.756	0.723
Total Adjustments	-0.101	-0.008	-0.104
Summary of Adjustments			
Reprogrammings	-0.010		
SBIR/STTR Transfer	-0.002		
Other Adjustments	-0.089		-0.104
Section 8094: Mgmt Improvement		-0.002	
Section 8126: Efficiences		-0.006	
Subtotal	-0.101	-0.008	-0.104

(U) Schedule:

Not Applicable

(U) Technical:

Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-5	0604270N Electronic Warfare Development	R2260 Specific Emitter ID

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Not Applicable

(U) E. ACQUISITION STRATEGY:

This is a non-acquisition Research and Development Program.

(U) F. MAJOR PERFORMERS:

No performer in this project received more than 15% of the program or $10 million.

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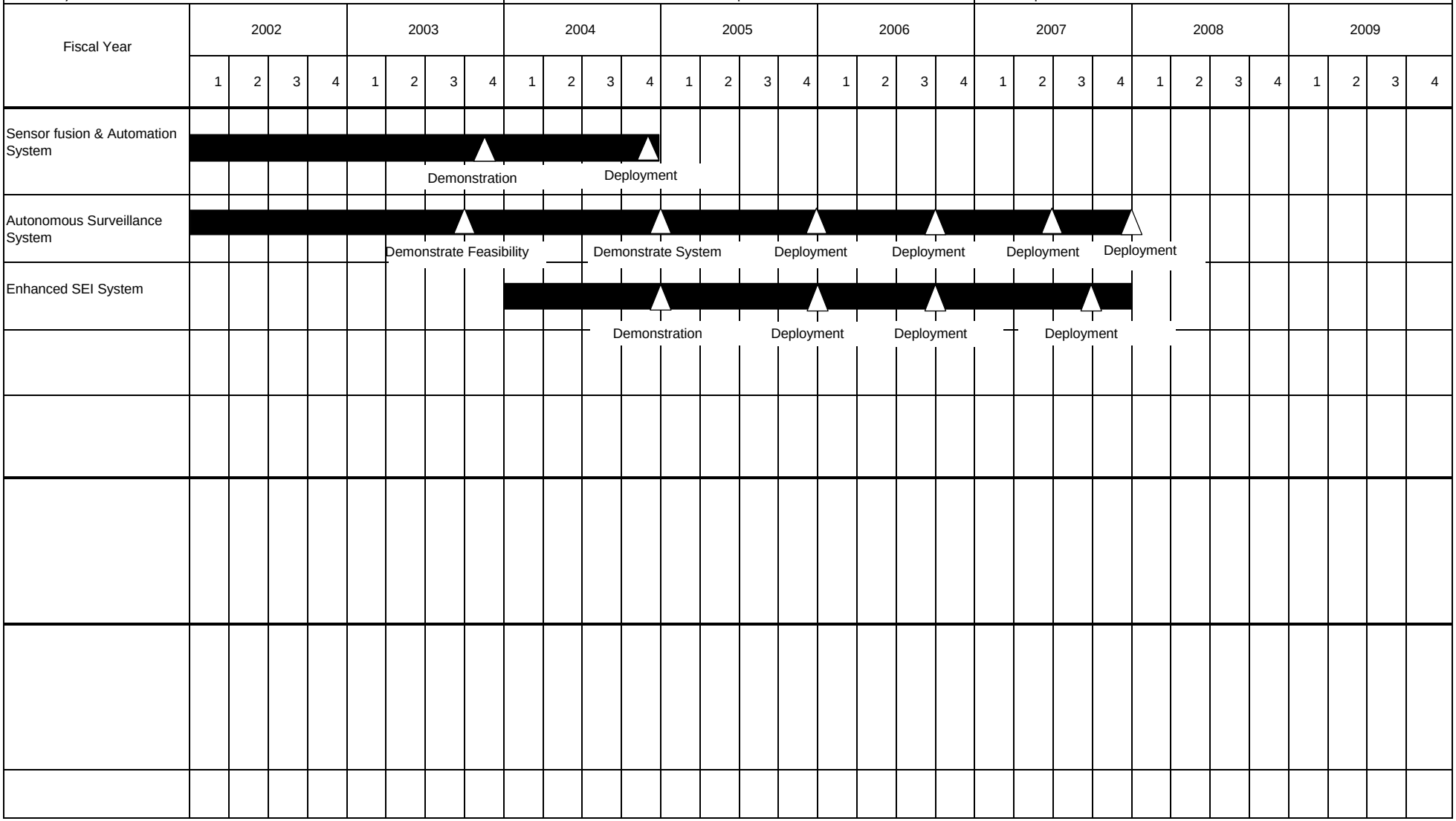
CLASSIFICATION:

EXHIBIT R4, Schedule Profile

DATE: **February 2004**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604270N Electronic Warfare Development	R2260 Specific Emitter ID



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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N BA-5**	PROGRAM ELEMENT 0604270N Electronic Warfare Development				PROJECT NUMBER AND NAME R2260 Specific Emitter ID			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Demonstrate Sensor Fusion & Autonomous System		4Q						
Demonstrate Feasibility of Autonomous Surveillance System		3Q-4Q						
Demonstrate Completed Autonomous Surveillance System			4Q					
Deployment of Autonmated SEI System with Sensor Fusion			4Q					
Deploy Autonomous Surveillance System				4Q	3Q-4Q	2Q-4Q		
Demonstrate Real Time Communications and Tactical SEI			4Q					
Deploy Real Time Communications and Tactical SEI				3Q-4Q	3Q-4Q	3Q-4Q		

R-1 SHOPPING LIST - Item No. 98

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604270N Electronic Warfare Development				PROJECT NUMBER AND NAME Z1742 EW Technical Development			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**1.011**	**0.823**	**0.911**	**0.941**	**1.137**	**1.160**	**1.183**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Skunkworks is a CNO N614 funded effort that focuses on the quick reaction prototyping of tactical information warfare systems. This program directly addresses various fleet requirements, airborne and surface cryptologic operational requirements documents and the joint requirements oversight council mission needs statement for information warfare systems and capabilities across the spectrum of conflict. The projects developed under this program are designed to deny, degrade, disrupt or destroy enemy command and control communications. These systems provide information dominance to friendly forces during conflict, which is necessary for successful mission accomplishment.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604270N Electronic Warfare Development	Z1742 EW Technical Development

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.000	0.000	0.000
RDT&E Articles Quantity		N/A	N/A	N/A

- (U) Completed airborne IW pod test and certification.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.400	0.400	0.400
RDT&E Articles Quantity		N/A	N/A	N/A

- (U) Continue airborne IW jammer development, test and evaluation.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.200	0.200	0.200
RDT&E Articles Quantity		N/A	N/A	N/A

- (U) Continue unmanned aerial vehicle IW payload test and development

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604270N Electronic Warfare Development	Z1742 EW Technical Development

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.411	0.223	0.311
RDT&E Articles Quantity		N/A	N/A	9

- (U) Continue aircraft IW system design.

		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				

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604270N Electronic Warfare Development	Z1742 EW Technical Development

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:	1.035	0.832	0.917
Current BES/President's Budget	1.011	0.823	0.911
Total Adjustments	-0.024	-0.009	-0.006
Summary of Adjustments			
Congressional program reductions		-0.009	
Congressional undistributed reductions			
Congressional rescissions			
SBIR/STTR Transfer	-0.014		
Economic Assumptions			
Other Adjustments	-0.010		-0.006
Subtotal	-0.024	-0.009	-0.006

Schedule:

Not Applicable

Technical:

Not Applicable

R-1 SHOPPING LIST - Item No. 98

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604270N Electronic Warfare Development	Z1742 EW Technical Development

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost

Not Applicable

E. ACQUISITION STRATEGY:

Not Applicable
.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604270N Electronic Warfare Development			PROJECT NUMBER AND NAME Z1742 EW Technical 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
Primary Hardware Development	Var	Var	0.918	0.451	Var	0.300	Var	0.380	Var	0.400	2.449	
Ancillary Hardware 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			0.918	0.451		0.300		0.380		0.400	2.449	
Remarks:												
Development Support											0.000	
Software Development	Var	Var	0.406	0.100	Var	0.100	Var	0.100	Var	0.110	0.816	
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			0.406	0.100		0.100		0.100		0.110	0.816	
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604270N Electronic Warfare Development				PROJECT NUMBER AND NAME Z1742 EW Technical 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	Var	Var	0.700	0.210	Var	0.200	Var	0.200	Var	0.200	1.510	
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			0.700	0.210		0.200		0.200		0.200	1.510	
Remarks:												
Contractor Engineering Support	Var	Var	0.300	0.138	Var	0.120	Var	0.120	Var	0.120	0.798	
Government Engineering Support	Var	Var	0.300	0.112	Var	0.103	Var	0.111	Var	0.111	0.737	
Program Management Support											0.000	
Travel											0.000	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.600	0.250		0.223		0.231		0.231	1.535	
Remarks:												
Total Cost			2.624	1.011		0.823		0.911		0.941	6.310	
Remarks:												

R-1 SHOPPING LIST - Item No. 98

CLASSIFICATION: Unclassified

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-6**	PROGRAM ELEMENT NUMBER AND NAME 0604270N EW Development				PROJECT NUMBER AND NAME W9374 ACETEF and JRAAC			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost			**0.989**					
RDT&E Articl **Not Applicable**								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This project will demonstrate the ability to integrate high fidelity threat simulations located at the Joint Research Analysis and Assessment Center (JRAAC) with the installed system test capability located at the Air Combat Environment Test and Evaluation Facility (ACETEF). Capability will be demonstrated using the existing Secure-Defense Research and Engineering Network (S-DREN).

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-6	0604270N EW Development	W9374 ACETEF and JRAAC

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.000	0.989	0.000
RDT&E Articles Quantity				

Funding for labor and materials to integrate threat simulation at JRAAC into ACETEF.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				

1V2 IR Alert/Response System		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-6	0604270N EW Development	W9374 ACETEF and JRAAC

(U) C. PROGRAM CHANGE SUMMARY:

		FY 2003	FY 2004	FY 2005	FY 2006
(U) Funding:	(U) Funding:				
Previous Pres	Previous President's Budget:		0.000		
Current BES/I	Current BES/President's Budget		0.989		
Total Adjustm	Total Adjustments	0.000	0.989	0.000	0.000
	Summary of Adjustments				
	Congressional program reductions				
	Congressional undistributed reductions		-0.011		
	Congressional rescissions				
	SBIR/STTR Transfer				
	Economic Assumptions				
	Reprogrammings				
	Congressional increases		1.000		
	Subtotal	0.000	0.989	0.000	0.000

(U) Schedule: Schedul Not Applicable

Technic Not Applicable

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Not Applicable							

(U) P. E. 0604759, Major Test and Evaluation Investment

(U) Technical:

E. ACQUISITION STRATEGY: Not Applicable

F. MAJOR PERFORMERS: Not Applicable

R-1 SHOPPING LIST - Item No. 98

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 0604273N VHXX EXECUTIVE HELO DEVELOPMENT			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost		**26.953**	**195.233**	**777.449**	**692.128**	**502.495**	**274.797**	**167.697**
H3058 VXX Replacement		*** 26.953**	**195.233**	**** 777.449**	**** 692.128**	**502.495**	**274.797**	**167.697**

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

Marine Helicopter Squadron One (HMX-1) is required to provide safe and timely transportation for the President and Vice President of the United States, heads of state and others as directed by the White House Military Office (WHMO). The global nature of these commitments requires HMX-1 aircraft to deploy worldwide and operate in varying environmental and climatic conditions without mission degradation. Currently two Type, Model, Series (TMS) aircraft are used by HMX-1 for the Presidential support mission – the VH-3D and the VH-60N. Numerous modifications and improvements have been incorporated over the past several years to both aircraft commensurate with emerging technologies and White House requirements. In order for the VXX to be available to assume the Presidential vertical lift mission by 2008, three test article aircraft, five pilot production aircraft, system design and development efforts, maintenance trainers, and associated logistics must be initiated by 2004. The VHXX program provides the replacement for the VH-3D Presidential helicopter. The following areas need to be explored: Nuclear Effects, E3 /TEMPEST certification requirements, Survivability (Vulnerability/Susceptibility), Facilities upgrade/modifications- Source Selection Authority (SSA), Environmental Impact, Security, Cost Estimation, Requirements Analysis, Functional Analysis and Allocation, Risk Management, Crew System/Human Systems Integration (HSI), and Logistics Support Analysis. Contractor efforts are expected to include System Design and Development work, test article aircraft, and pilot production aircraft.

* PE 0604212N Project number H3058, VHXX Replacement FY2003 funds are PE 0604273N, Executive Helo Development Project number H3058.
**Due to a technical adjustment $51K in FY05 and $12K in FY06 funds remain in PE 0604273N, Executive Helo Development Project number H3058.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604273N VHXX EXECUTIVE HELO DEVELOPMENT				PROJECT NUMBER AND NAME H3058 VXX REPLACEMENT			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**26.953***	**195.233**	**777.449**	**692.128**	**502.495**	**274.797**	**167.697**
RDT&E Articles Qty			**8****			**3**		

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Marine Helicopter Squadron One (HMX-1) is required to provide safe and timely transportation for the President and Vice President of the United States, heads of state and others as directed by the White House Military Office (WHMO). The global nature of these commitments requires HMX-1 aircraft to deploy worldwide and operate in varying environmental and climatic conditions without mission degradation. Currently two Type, Model, Series (TMS) aircraft are used by HMX-1 for the Presidential support mission – the VH-3D and the VH-60N. Numerous modifications and improvements have been incorporated over the past several years to both aircraft commensurate with emerging technologies and White House requirements. In order for the VXX to be available to assume the Presidential vertical lift mission by 2008, three test article aircraft, five pilot production aircraft, system design and development efforts, maintenance trainers, and associated logistics must be initiated by 2004. The VHXX program provides the replacement for the VH-3D Presidential helicopter. The following areas need to be explored: Nuclear Effects, E3 /TEMPEST certification requirements, Survivability (Vulnerability/Susceptibility), Facilities upgrade/modifications- Source Selection Authority (SSA), Environmental Impact, Security, Cost Estimation, Requirements Analysis, Functional Analysis and Allocation, Risk Management, Crew System/Human Systems Integration (HSI), and Logistics Support Analysis. Contractor efforts are expected to include System Design and Development work, test article aircraft, and pilot production aircraft.

* New program element for effort previously included (FY02 - FY03) in Program Element 0604212N, ASW and Other Helo Development; Project number H3058, VHXX Replacement.

** Three (3) test articles and five (5) pilot production aircraft expected to be placed on contract 3Q FY 2004.

R-1 SHOPPING LIST - Item No. 99

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604273N VHXX EXECUTIVE HELO DEVELOPMENT	H3058 VXX REPLACEMENT

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.000	0.000	0.000
RDT&E Articles Quantity				

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		2.440	0.000	0.000
RDT&E Articles Quantity				

A Requirements Analysis, and Functional Analysis and Allocation will be contracted for VHXX Replacement utilizing an existing NAVAIR contractual vehicle.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.350	0.250	0.000
RDT&E Articles Quantity				

Trade Study to develop Systems Requirements Analysis

R-1 SHOPPING LIST - Item No. 99

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604273N VHXX EXECUTIVE HELO DEVELOPMENT	H3058 VXX REPLACEMENT

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		10.136	27.987	33.200
RDT&E Articles Quantity				

In-house, field activity, and contractor support of Integrated Product Teams (IPTs) and logistics activities to allow for preparation of the acquisition strategy, examination of equipment and avionics for the VHXX platform, and development of acquisition documentation. The Plan of Action and Milestones (POA&M) does not allow these functions to be accomplished sequentially. Efforts include, but are not limited to, government development support, integrated logistics support, engineering support, program management support, systems engineering support, and travel for VHXX program.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.000	153.875	725.949
RDT&E Articles Quantity			8	

Contract award for intial test article aircraft, long-lead pilot production aircraft efforts, System Design and Development (SDD) work efforts.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		13.027	0.000	0.000
RDT&E Articles Quantity				

Multiple contract awards for VHXX Alternative Design Concepts, including risk reduction efforts awarded to contractors aimed at mitigating risk to the program. Effort includes combination of existing programs to replace the VHF-FM system in the VH-3D and VH-60N Presidential support aircraft to meet NTIA compliance issues with the development of the VH-XX in order to develop a road map for all Presidential Vertical lift communication requirements in the future and allow the currently planned communication capabilities of the VH-3D and VH-60N to be seamlessly integrated into the VH-XX.

R-1 SHOPPING LIST - Item No. 99

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604273N VHXX EXECUTIVE HELO DEVELOPMENT	H3058 VXX REPLACEMENT

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		1.000	13.121	18.300
RDT&E Articles Quantity				

Test and Evaluation of test article aircraft, pilot production aircraft, and SDD assets.

R-1 SHOPPING LIST - Item No. 99

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604273N VHXX EXECUTIVE HELO DEVELOPMENT	H3058 VXX REPLACEMENT

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:	3.391	197.431	199.577
Current BES/President's Budget	26.953	195.233	777.449
Total Adjustments	23.562	-2.198	577.872
Summary of Adjustments			
Congressional program reductions			
Congressional undistributed reductions		-2.198	
Congressional rescissions			
SBIR/STTR Transfer	-0.014		
Economic Assumptions			-2.824
Reprogrammings	23.576		
Other Navy/OSD adjustments			
Congressional increases			
Reprioritization			580.696
Subtotal	23.562	-2.198	577.872

Schedule:

Not Applicable

Technical:

Not Applicable

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604273N VHXX EXECUTIVE HELO DEVELOPMENT	H3058 VXX REPLACEMENT

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
BLI 045500; V-XX						105.283	519.649	87.784	1054.400	1767.116

E. ACQUISITION STRATEGY:

Although not yet formally designated, it is assumed that the VH-XX will be designated an ACAT ID program. An Analysis of Alternatives was completed in FY03 to help determine which competing technology was the most appropriate to satisfy the Executive Vertical Lift requirement. Concept design studies are currently on-going. Request for Proposal (RFP) has been released with the selection of VH-XX concept and approval expected to occur at a Milestone Decision Review in FY2004.

R-1 SHOPPING LIST - Item No. 99

Exhibit R-3 Cost Analysis (page 1)											DATE: February 2004		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604273N VHXX EXECUTIVE HELO DEVELOPMENT			PROJECT NUMBER AND NAME H3058 VXX REPLACEMENT						
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	TBD	TBD				153.875	04/04	720.187	01/05	Continuing	Continuing	
Ancillary Hardware Development	TBD	TBD								Continuing	Continuing	
Aircraft Integration	TBD	TBD								Continuing	Continuing	
Ship Integration										Continuing	Continuing	
Ship Suitability										Continuing	Continuing	
Systems Engineering	Various	Various		0.645	03/03	5.384	01/04	5.762	01/05	Continuing	Continuing	
Training Development	TBD	TBD								Continuing	Continuing	
Licenses										Continuing	Continuing	
Tooling										Continuing	Continuing	
GFE	TBD	TBD								Continuing	Continuing	
Award Fees										Continuing	Continuing	
Subtotal Product Development			0.000	0.645		159.259		725.949		Continuing	Continuing	
Remarks: TBD Contracts not awarded.												
Development Support	Various	NAWCAD Pax River, MD		0.415	03/03	2.331	01/04	3.012	01/05	Continuing	Continuing	
Software Development	Various	Various								Continuing	Continuing	
Integrated Logistics Support	Various	Various		0.415	01/03	3.345	01/04	4.282	01/05	Continuing	Continuing	
Configuration Management	TBD	TBD								Continuing	Continuing	
Technical Data	TBD	TBD								Continuing	Continuing	
Studies & Analyses	Various	Various	0.698	11.027	02/03					Continuing	Continuing	
GFE										Continuing	Continuing	
Award Fees										Continuing	Continuing	
Subtotal Support			0.698	11.857		5.676		7.294		Continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 99

Exhibit R-3 Cost Analysis (page 2)

DATE: **February 2004**

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

PROGRAM ELEMENT: 0604273N VHXX EXECUTIVE HELO DEVELOPMENT

PROJECT NUMBER AND NAME: H3058 VXX REPLACEMENT

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/RX	NAWCAD Pax River, MD		1.000	01/03	13.121	01/04	18.300	01/05	Continuing	Continuing	
Operational Test & Evaluation	WX/RX	COMOPTEVFOR (HMX)								Continuing	Continuing	
Live Fire Test & Evaluation	Various	Various								Continuing	Continuing	
Test Assets	Various	Various								Continuing	Continuing	
Tooling	Various	Various								Continuing	Continuing	
GFE	Various	Various								Continuing	Continuing	
Award Fees										Continuing	Continuing	
Subtotal T&E			0.000	1.000		13.121		18.300		Continuing	Continuing	

Remarks:

Contractor Engineering Support	Various	Various		1.500	01/03			2.254	11/04	Continuing	Continuing	
Government Engineering Support	Various	Various		4.981	01/03	11.452	11/03	15.966	11/04	Continuing	Continuing	
Program Management Support	Various	Various		6.911	01/03	5.421	11/03	7.164	11/04	Continuing	Continuing	
Travel	WX	NAWCAD Pax River, MD		0.059	11/02	0.304	11/03	0.522	11/04	Continuing	Continuing	
Transportation										Continuing	Continuing	
SBIR Assessment										Continuing	Continuing	
Subtotal Management			0.000	13.451		17.177		25.906		Continuing	Continuing	

Remarks:

Total Cost			0.698	26.953		195.233		777.449		Continuing	Continuing	

Remarks:

R-1 SHOPPING LIST - Item No. 99

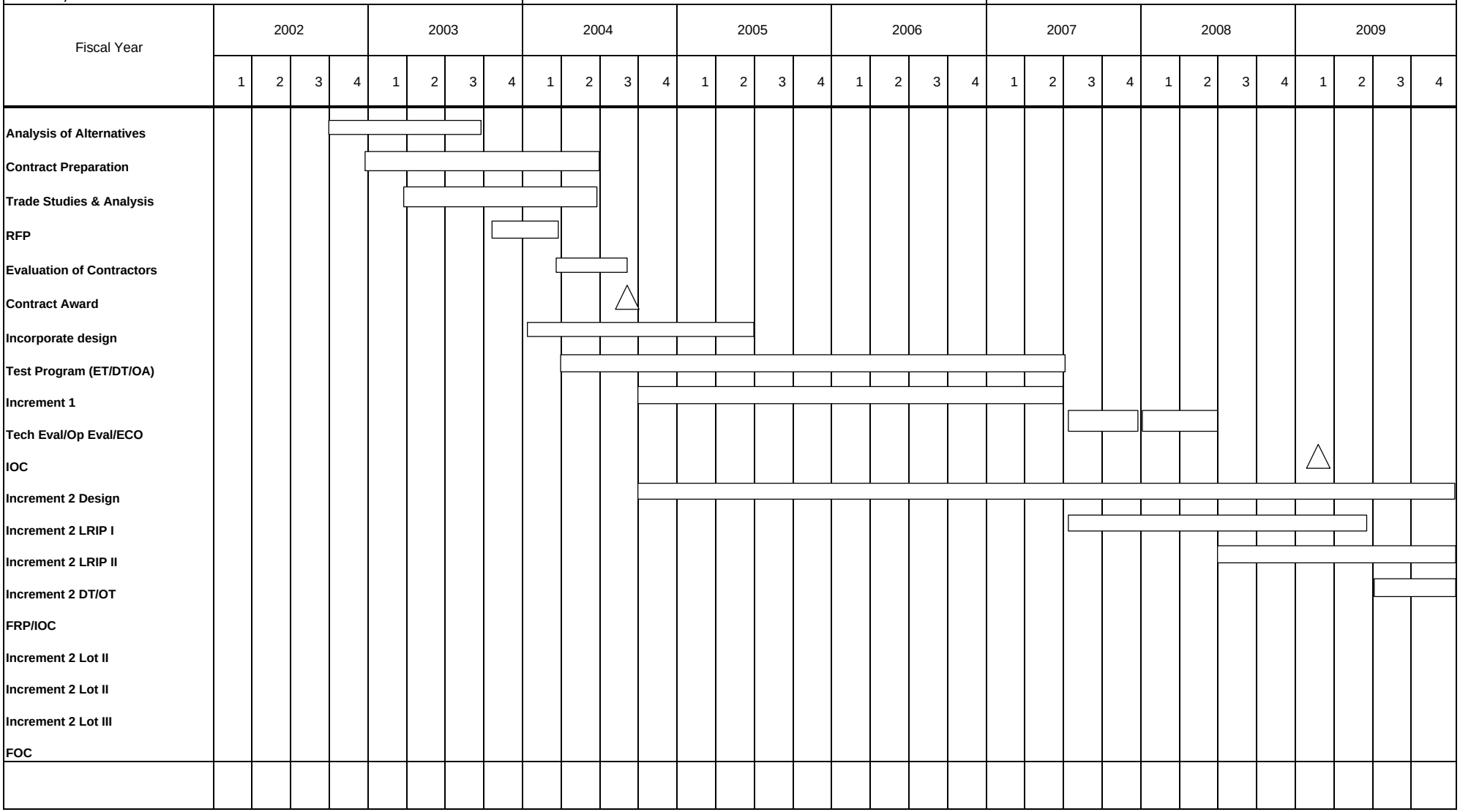
CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **February 2004**

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

PROGRAM ELEMENT NUMBER AND NAME: 0604273N VHXX EXECUTIVE HELO DEVELOPMENT

PROJECT NUMBER AND NAME: H3058 VXX REPLACEMENT



R-1 SHOPPING LIST - Item No. 99

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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-4**	PROGRAM ELEMENT 0604273N VHXX EXECUTIVE HELO DEVELOPMENT				PROJECT NUMBER AND NAME H3058 VXX REPLACEMENT			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Analysis of Alternatives	4Q	1Q-3Q						
Contract Preparation		1Q-4Q	1Q-2Q					
Trade Studies & Analysis		2Q-4Q	1Q-2Q					
System Development			1Q-4Q					
Contract Award			3Q					
Design and Build			1Q-4Q	1Q-4Q	1Q-4Q			
Test Program Activities			2Q-4Q	1Q-4Q	1Q-4Q	1Q-2Q		
TECHEVAL						3Q-4Q		
OPEVAL							1Q-2Q	
IOC								1Q
Increment 2 Design			4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Increment 2 Development Testing								3Q-4Q
Increment 2 LRIP I						3Q-4Q	1Q-4Q	1Q-2Q
Increment 2 LRIP II							3Q-4Q	1Q-4Q

R-1 SHOPPING LIST - Item No. 99

CLASSIFICATION:

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 PE: 0604280N TITLE: JOINT TACTICAL RADIO SYSTEMS						
COST ($ in Millions)	Prior Years Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		Cost to Complete	Total Program
Total PE Cost	**0.000**	**19.231**	**88.601**	**78.624**	**189.558**	**162.896**	**33.042**	**11.965**		**Continuing**	**Continuing**
3073 Joint Tactical Radio System-Maritime/Fixed (JTRS-M/F) Digital Modular Radio (DMR) Multifuctional Information Distribution System Joint Tactical Radio System (MIDS JTRS)	**0.000**	**19.231**	**86.871**	**56.216**	**177.845**	**162.896**	**33.042**	**11.965**		**Continuing**	**Continuing**
3020 Multifunctional Information Distribution System Joint Tactical Radio System (MIDS JTRS)	**0.000**	**0.000**	**0.000**	**22.408**	**11.713**	**0.000**	**0.000**	**0.000**		**0.000**	**34.121**
9375 Super Conductor Micro-Electronics	**0.000**	**0.000**	**1.730**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**		**0.000**	**1.730**
Quantity of RDT&E Articles											

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

The Joint Tactical Radio System-Maritime/Fixed (JTRS-M/F) will be designed to support communications readiness and mission success by providing military commanders with the ability to command, control and communicate with their forces via secure voice, video, and data media forms during all aspects of military operations. The JTRS-M/F will be a hardware configurable and software definable radio (SDR) system that provides increased interoperability, flexibility and adaptability to support the varied mission requirements of the warfighter. The JTRS-M/F procurement will provide radio sets that are software definable, multi-band, multi-mode capable, secure, network-centric, and able to provide simultaneous voice, data, and video communications over multiple frequency bands between 2 MegaHertz (MHz) and 2 GigaHertz (GHz) as well as scalable to meet the needs of multiple platforms. As a requirement, the JTRS-M/F will operate with legacy equipment and waveforms currently used by civilian and military surface, subsurface, and fixed platforms as well as incorporate new waveforms and CEAs as they are developed. JTRS-M/F will incorporate the following key concepts into its design: commonality across JTRS clusters, transformational communications, networking, automation and control, information gateways, and quality of service. The JTRS-M/F procurement specifically involves the development of Joint Tactical Radio (JTR) Set and Service Integration Kits (SIK) and the integration of these capabilities with Software Communication Architecture (SCA) compliant waveforms and Cryptographic Equipment Applications (CEA) provided by the JTRS Joint Program Office (JPO). The JTR Set is planned to consist of a JTR (receiver/exciter/modem), Cryptographic Sub-System (CS/S), common power amplifiers to meet the 2 MHz to 2 GHz frequency range, baseband (voice, video and data) Input/Output (I/O), common filters, Radio Frequency (RF) networking services, and basic Human Machine Interface (HMI) and control. The JTRS-M/F SIKs are planned to consist of RF legacy interface capability, service site-specific power amplifiers (e.g. High Frequency (HF) broadband amplifiers for Navy ships and 10 KW for U.S. Air Force fixed stations), couplers/multicouplers, antennae, baseband networking services, dynamic control, automatic RF switching, co-site mitigation devices, interference mitigation devices, and other Service-specific installation requirements. The combination of the JTR Set and the various SIKs will allow for a modular/scalable solution to meet the Joint Services' various JTRS-M/F implementation requirements. Note: In November 2003, USD(ATL) directed the merge of Clusters 3 and 4 (Navy & Air Force) to establish a combined JTRS Cluster, to be renamed AMF JTRS, Airborne Maritime/Fixed JTRS. Funding represents Navy's portion of AMF JTRS.

Super Conductor Micro-Electronics project - Funding will assist in the development of an All Digital Transceiver (ADT), which will improve a range of defense missions including tactical radio, satellite communications, signal intelligence, electronic warfare, and radar systems. This funding will also help to continue the Superconductor Micro-Electronics (SME) currently being developed in the Challenge Program-funded ONR SBIR phase III project, the All Digital Receiver (ADR), towards the development of an All Digital Transceiver.

The Digital Modular Radio (DMR) provides improvements for fleet radio requirements in the HF, VHF, and UHF frequency band. The DMR replaces and will be interoperable and backwards compatible with legacy systems. The DMR is a digital, modular, software programmable, multi-channel, multi-function and multi-band (2MHz-2 GHz) radio system.

The MIDS-LVT is a jam-resistant, secure, digital (voice and data) information distribution system, enabling rapid integrated communications, navigation and identification for tactical and command and control operations. The MIDS-LVT will be upgraded to become JTRS Software Communications Architecture compliant (MIDS JTRS), bringing a JTRS radio to space-constrained platforms. MIDS JTRS will provide programmable channels to support additional waveforms (WNW, EPLRS, DWTS, Link-11, Link-22, SINCGARS, HAVEQUICK, DAMA SATCOM, Soldier Radio, etc.) while retaining the Link-16 and TACAN interfaces with the legacy MIDS-LVT. The MIDS JTRS upgrade effort begins in FY04 ($17.678M), will continue in FY05 ($22.408M), and will be completed in FY06 ($11.713M). In FY04, MIDS JTRS will be executed under project unit 3073. Beginning in FY05, MIDS JTRS funding transferred to a new project unit number, 3020.

JUSTIFICATION FOR BUDGET ACTIVITY:
This program is funded under ENGINEERING AND MANUFACTURING DEVELOPMENT because it encompasses engineering and manufacturing development of new end-items prior to production approval decision.

R-1 SHOPPING LIST - Item No. 100

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2004				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME PE: 0604280N TITLE: JOINT TACTICAL RADIO SYS				PROJECT NUMBER AND NAME 3073 Airbrone Maritime Fixed Joint Tactical Radio System (JTRS-M/F)						
COST ($ in Millions)	Prior Years Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		Cost to Complete	Total Program
Total Project Cost	**0.000**	**19.231**	**86.871**	**56.216**	**177.845**	**162.896**	**33.042**	**11.965**		**Continuing**	**Continuing**
3073 Joint Tactical Radio System-Maritime/Fixed (JTRS-M/F)	**0.000**	**8.389**	**60.114**	**56.216**	**177.845**	**162.896**	**33.042**	**11.965**		**Continuing**	**Continuing**
3073 Digital Modular Radio (DMR)	**0.000**	**10.842**	**9.079**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**		**0.000**	**19.921**
3073 Multifunctional Information Distribution System Joint Tactical Radio System (MIDS JTRS)	**0.000**	**0.000**	**17.678**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**		**0.000**	**17.678**
RDT&E Articles Qty											**0**

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

The Joint Tactical Radio System-Maritime/Fixed (JTRS-M/F) will be designed to support communications readiness and mission success by providing military commanders with the ability to command, control and communicate with their forces via secure voice, video, and data media forms during all aspects of military operations. The JTRS-M/F will be a hardware configurable and software definable radio (SDR) system that provides increased interoperability, flexibility and adaptability to support the varied mission requirements of the warfighter. The JTRS-M/F procurement will provide radio sets that are software definable, multi-band, multi-mode capable, secure, network-centric, and able to provide simultaneous voice, data, and video communications over multiple frequency bands between 2 MegaHertz (MHz) and 2 GigaHertz (GHz) as well as scalable to meet the needs of multiple platforms. As a requirement, the JTRS-M/F will operate with legacy equipment and waveforms currently used by civilian and military surface, subsurface, and fixed platforms as well as incorporate new waveforms and CEAs as they are developed. JTRS-M/F will incorporate the following key concepts into its design: commonality across JTRS clusters, transformational communications, networking, automation and control, information gateways, and quality of service. The JTRS-M/F procurement specifically involves the development of Joint Tactical Radio (JTR) Set and Service Integration Kits (SIK) and the integration of these capabilities with Software Communication Architecture (SCA) compliant waveforms and Cryptographic Equipment Applications (CEA) provided by the JTRS Joint Program Office (JPO). The JTR Set is planned to consist of a JTR (receiver/exciter/modem), Cryptographic Sub-System (CS/S), common power amplifiers to meet the 2 MHz to 2 GHz frequency range, baseband (voice, video and data) Input/Output (I/O), common filters, Radio Frequency (RF) networking services, and basic Human Machine Interface (HMI) and control. The JTRS-M/F SIKs are planned to consist of RF legacy interface capability, service site-specific power amplifiers (e.g. High Frequency (HF) broadband amplifiers for Navy ships and 10 KW for U.S. Air Force fixed stations), couplers/multicouplers, antennae, baseband networking services, dynamic control, automatic RF switching, co-site mitigation devices, interference mitigation devices, and other Service-specific installation requirements. The combination of the JTR Set and the various SIKs will allow for a modular/scalable solution to meet the Joint Services' various JTRS-M/F implementation requirements. Note: In November 2003, USD(ATL) directed the merge of Clusters 3 and 4 (Navy & Air Force) to establish a combined JTRS Cluster, to be renamed AMF JTRS, Airborne Maritime/Fixed JTRS. Funding represents Navy's portion of AMF JTRS.

The Digital Modular Radio (DMR) provides improvements for fleet radio requirements in the HF, VHF, and UHF frequency band. The DMR replaces and will be interoperable and backwards compatible with legacy systems. The DMR is a digital, modular, software programmable, multi-channel, multi-function and multi-band (2MHz-2 GHz) radio system.

The MIDS-LVT is a jam-resistant, secure, digital (voice and data) information distribution system, enabling rapid integrated communications, navigation and identification for tactical and command and control operations. The MIDS-LVT will be upgraded to become JTRS Software Communications Architecture compliant (MIDS JTRS), bringing a JTRS radio to space-constrained platforms. MIDS JTRS will provide programmable channels to support additional waveforms (WNW, EPLRS, DWTS, Link-11, Link-22, SINCGARS, HAVEQUICK, DAMA SATCOM, Soldier Radio, etc.) while retaining the Link-16 and TACAN interfaces with the legacy MIDS-LVT. The MIDS JTRS upgrade effort begins in FY04 ($17.678M), will continue in FY05 ($22.408M), and will be completed in FY06 ($11.713M). In FY04, MIDS JTRS will be executed under project unit 3073. Beginning in FY05, MIDS JTRS funding transferred to a new project unit number, 3020.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-5	PE: 0604280N TITLE: JOINT TACTICAL RADIO SYSTEMS	3073 Joint Tactical Radio System-Maritime/Fixed (JTRS-M/F)

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
DMR	10.842	9.079	0.000
RDT&E Articles Quantity			

FY03: Prepared DMR Test and Evaluation Plan ($2.337M). Commenced development of 6.4 Software ($7.005M). Commenced development of HF Power Amplifier ($1.5M).

FY04: Complete modification of HF PA DMR ($1.3M). Continue modifying the 6.4 upgrade of the DMR ($6.851M). Test and evaluation (IOT&E) of DMR ($928K).

	FY 03	FY 04	FY 05
JTRS-M/F	8.389	60.114	56.216
RDT&E Articles Quantity			

FY03: Continued development of contract package for JTRS-M/F (Cluster 3) System Development & Demonstration (SDD) contract, prepared acquisition documentation in preparation for Milestone B, including CARD, ASR, APB, development cost of PLCCE. Continued preparation of Request for Proposal (RFP) ($8,389).

FY04: JTRS-M/F Pre-System Development and Demonstration Phase contract award to one or more vendor teams for development of an JTRS-M/F system covering 2 MHz - 2GHz that meets JTRS ORD Joint Service Requirements. Development is estimated at 3 years and is expected to continue through FY06. The new system will be comprised of a JTR Set and Service Integration Kit. Each vendor team will be required to develop and deliver 3 Engineering Development Models (EDM's) built off common building blocks and scaled to meet the requirements of a small, medium and large surface ship platform ($49,171). JTRS-M/F developmental engineering and management support ($10,943).

FY05: Conclude JTRS-M/F Pre-System Development and Demonstration Phase and begin full System Development and Demonstration Phase ($44,168). JTRS-M/F development engineering and management support ($12,048) .

R-1 SHOPPING LIST - Item No. 100

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-5	PE: 0604280N TITLE: JOINT TACTICAL RADIO SYSTEM	3073 Joint Tactical Radio System-Maritime/Fixed (JTRS-M/F)

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
MIDS JTRS	0.000	17.678	(MIDS JTRS funding transfers to project 3020 beginning FY05.)
RDT&E Articles Quantity			

FY04: Released MIDS JTRS Request for Proposal 25 Nov 2003 with proposals due 4 Feb 2004. Extended Phase 2A Specification Development effort for the Functional and Allocated baseline. Updating program documentation for an SAE/DAB review prior to contract award planned in April 2004.

Note: MIDS JTRS is included in project unit 3073 in FY04, then moves to project unit 3020 starting in FY05.

R-1 SHOPPING LIST - Item No. 100

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	PE: 0604280N TITLE: JOINT TACTICAL RADIO SYSTEMS	3073 Joint Tactical Radio System-Maritime/Fixed (JTRS-M/F)

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
President's Budget PB04:	19.913	87.943	84.140
President's Budget PB05:	19.231	86.871	56.216
Total Adjustments	-0.682	-1.072	-27.924
Summary of Adjustments			
Issue 66556 FY03 SBIR 5-May-03	-0.407		
Issue 66961 SPAWAR Service Cost Center Adj.		-0.070	-0.076
Realign JTRS OPN to JTRS RDT&E			33.995
Issue 67637 JTRS RE-PHASING			-4.000
Issue 67767 NWCF Rates- SPAWAR SSC Rates ADJ (JTRS)			-0.063
Issue 67124 MIDS JTRS Project Unit			-22.495
Section 8094: Mgmt Improvements		-0.232	
Section 8029 FFRDC Reduction		-0.023	
Section 8126 Efficiencies/Revised Econ. Assumptions		-0.747	
Issue 69379 Merge clusters 3&4- 5 mo preSDD delay			-35.000
Issue 68849 FY 2003 Update	-0.275		
Issue 69025 WCF - R&D - SPAWAR - PBD 430			-0.030
Issue 69045 PBD 426 Rates - SSC			0.075
Issue 69492 PBD-604 Inflation			-0.243
Issue 69512 PBD604 non purchase inflation			-0.053
Issue 69707 FY 05 ITR RDTEN Balancing			-0.034
Subtotal	-0.682	-1.072	-27.924

(U) Schedule:

DMR: FY03: Changes reflect OSD NII direction not to pursue DMR JTRS Software Communication Architecture (SCA) compliance. Current budget reflects vendor's delivery schedule of follow-on DMR software builds that provide additional required functionality.

JTRS: FY05: Adjustments reflect breakout of the DMR and JTRS programs and the merger of JTRS Clusters 3 & 4.

(U) Technical:

DMR: FY03: SCA Compliance is no longer being funded per OSD NII direction. Per OPNAV N61 SCA Compliance requirement is replaced with 6.4, HF PA, and additional HF functionality.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	PE: 0604280N TITLE: JOINT TACTICAL RADIO SYSTEM	3073 Joint Tactical Radio System-Maritime/Fixed (JTRS-M/F)

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
3010 – Ship Tactical Communications - JTRS	0.000	0.000	0.000	0.000	0.000	101.980	137.187	Continuing	Continuing
3010 - Ship Tactical Communications - DMR	0.000	11.902	1.550	2.609	1.884	0.000	0.000	0	17.945

(U) E. ACQUISITION STRATEGY:

	FY 2003	FY 2004	FY2005
Program Milestones: N/A			
Digital Modular Radio (DMR)	3Q LRIP III 4Q LRIP IV	3Q LRIP V	
JTRS-M/F		2Q RFP Release 3Q Pre-SDD Contract Award	
T&E Milestones:			
Digital Modular Radio (DMR)		3Q OT 2Q-3Q DT 3Q OPEVAL	
JTRS-M/F: N/A			

(U) F. MAJOR PERFORMERS:

DMR: General Dynamics Decisions Systems, Phoenix AZ - 6.4 Software Development, HF PA Development, and additional HF Capabilities.

JTRS-M/F: FY04: JTRS-M/F is a competitively awarded Pre-System Development and Demonstration contract expected to be awarded in Q3 FY04.

R-1 SHOPPING LIST - Item No. 100

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)											DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT PE: 0604280N TITLE: JOINT TACTICAL RADIO SYS				PROJECT NUMBER AND NAME 3073 Joint Tactical Radio System-Maritime/Fixed (JTRS-M/F)						
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
JTRS-M/F Dev Contract	CPIF	TBD				49.171	05/04	44.168		Continuing	Continuing	
MIDS JTRS HW/SW Development	CPIF	DLS Cedar Rapids, IA				8.470	Apr-04					
MIDS JTRS HW/SW Development	CPIF	ViaSat Inc. Carlsbad, CA				8.170	Apr-04					
H/W: DMR HF Power Amplifier	FFP	GDDS		1.500		1.300	TBD			Continuing	Continuing	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering - JTRS	WX	SSC-SD		1.438		2.141		2.768			6.347	
Systems Engineering - JTRS	WX	SSC-CH		2.545		2.766		2.906			8.217	
Systems Engineering - JTRS	Various	Various		0.245		1.158		1.212			2.615	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			0.000	5.728		73.176		51.054		Continuing	Continuing	

Remarks:

Note: MIDS JTRS is included in project unit X3073 in FY04, then moves to project unit X3020 starting in FY05.

Development Support											0.000	
Software Dev: DMR Build 6.4	FFP	GDDS		6.745		6.600	TBD	0.000	TBD		13.345	
Integrated Logistics Support - JTRS				0.725		0.758		0.590			2.073	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			0.000	7.470		7.358		0.590		0.000	15.418	

Remarks:

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)											DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT PE: 0604280N TITLE: JOINT TACTICAL RADIO SYS			PROJECT NUMBER AND NAME 3073 Joint Tactical Radio System-Maritime/Fixed (JTRS-M/F)						
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	various	various										
Operational Test & Evaluation											0.000	
Live Fire Test & Evaluation											0.000	
DMR Test & Evaluation (FOTE)	WX	SSC-SD		1.045		0.563				Continuing	Continuing	
DMR Test & Evaluation (FOTE)	WX	SSC-CH		1.292		0.365				Continuing	Continuing	
Test Assets											0.000	
Testing Support				0.341		0.472		0.742				
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.000	2.678		1.400		0.742		Continuing	Continuing	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support	various	various		3.355		4.937		3.830		Continuing	Continuing	
Travel											0.000	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	3.355		4.937		3.830		Continuing	Continuing	
Remarks:												
Total Cost			0.000	19.231		86.871		56.216		Continuing	Continuing	
Remarks:												

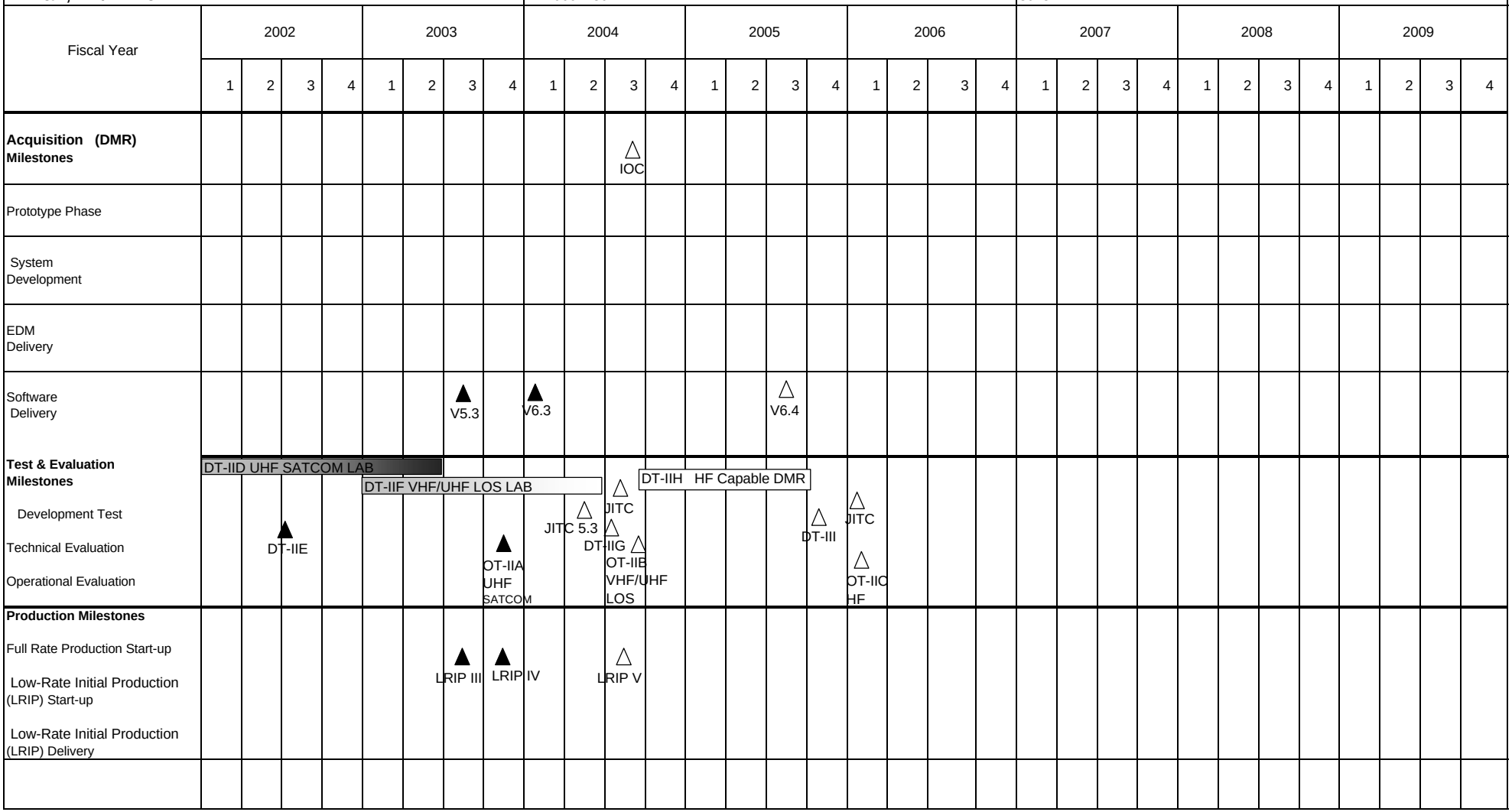
CLASSIFICATION:

EXHIBIT R4, Schedule Profile — DATE: **February 2004**

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

PROGRAM ELEMENT NUMBER AND NAME: PE: 0604280N TITLE: DMR

PROJECT NUMBER AND NAME: 3073 DMR



R-1 SHOPPING LIST - Item No. 100

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

Note: IOC on DDG 93 with Software Version 6.3

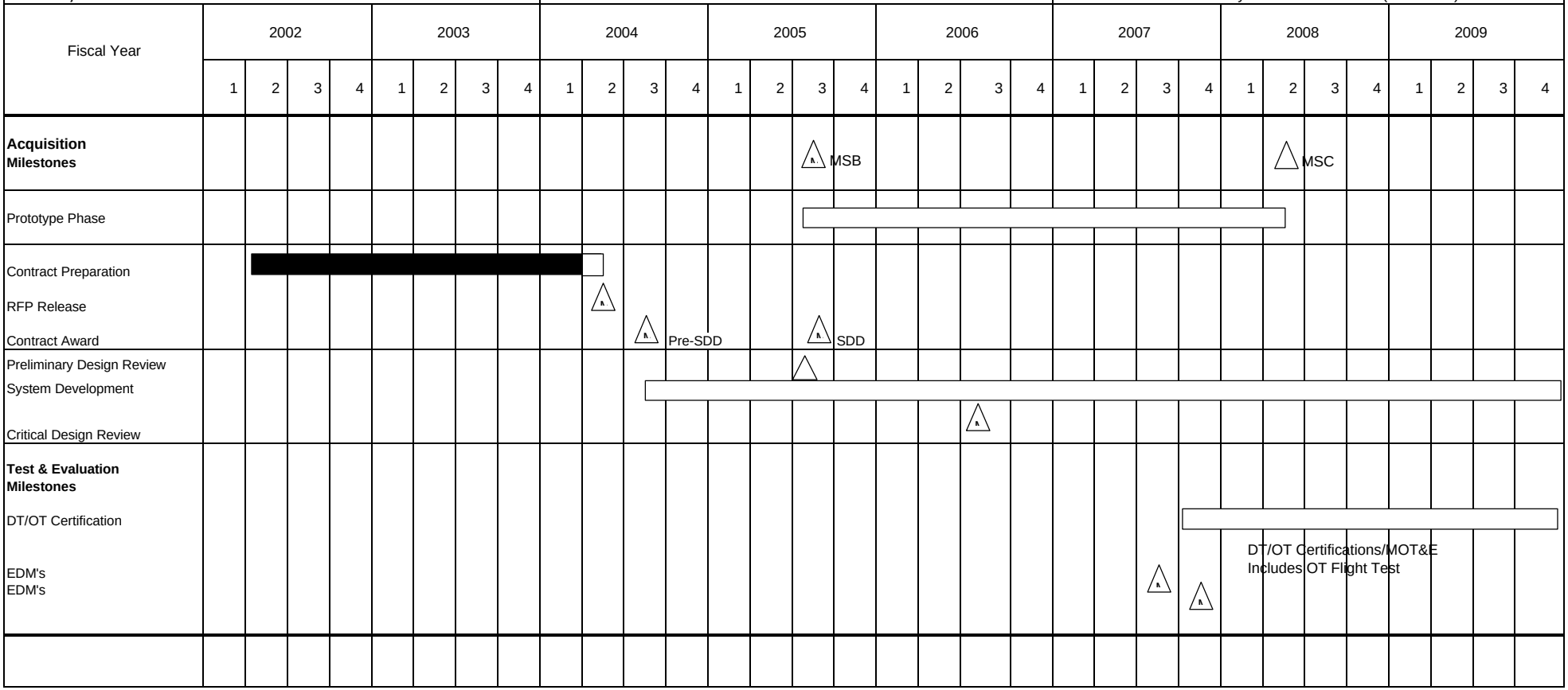
CLASSIFICATION:

Exhibit R-4a, Schedule Detail	**DMR**				DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT PE: 0604280N TITLE: DMR				PROJECT NUMBER AND NAME X3073 DMR			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Prototype Phase								
System Design Review (SDR)								
Milestone B (MS-B)								
Contract Preparation								
Contract Award Development								
Software Specification Review (SSR)								
Preliminary Design Review (PDR)								
System Development								
Critical Design Review (CDR)								
Quality Design and Build								
Test Readiness Review (TRR)								
DT/OT Certification								
Developmental Testing (DT-IIA)								
Eng Dev Model (EDM) Radar Delivery - Lab								
Software Delivery 1XXSW								
Preproduction Readiness Review (PRR)								
EDM Radar Delivery - Flt Related								
Milestone III (MS III)								
Contractor Testing								
Operational Testing (OT-IIB)			3Q					
Operational Testing (OT-IIC)					1Q			
Low Rate Initial Production Decision (LRIP III)		3Q						
Low Rate Initial Production Decision (LRIP IV)		4Q						
Low Rate Initial Production Decision (LRIP V)			3Q					
Software Delivery 2XXSW								
Developmental Testing (DT-IIF)			2Q					
Developmental Testing (DT-IIG)			3Q					
Developmental Testing (DT-IIH)				4Q				
Developmental Testing (DT-III)				4Q				
Start Low-Rate Initial Production II								
Operational Testing (OT-II)								
Developmental Testing (DT-IIC)								
Functional Configuration Audit (FCA)								
Low-Rate Initial Production I Delivery								
Technical Evaluation (TECHEVAL)								
Physical Configuration Audit								
Operational Evaluation (OT-II) (OPEVAL)								
Low-Rate Initail Production III Delivery								
Contract Award Production								
IOC								
Full Rate Production (FRP) Decision								
Full Rate Production Start								
First Deployment								

R-1 SHOPPING LIST - Item No. 100

CLASSIFICATION:

EXHIBIT R4, Schedule Profile	**JTRS-M/F**	DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /** **BA-5**	PROGRAM ELEMENT NUMBER AND NAME PE: 0604280N TITLE: JOINT TACTICAL RADIO SYSTEMS	PROJECT NUMBER AND NAME 3073 Joint Tactical Radio System-Maritime/Fixed (JTRS-M/F)



R-1 SHOPPING LIST - Item No. 100

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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail	**JTRS-M/F**					DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT PE: 0604280N TITLE: JOINT TACTICAL RADIO SYSTEMS				PROJECT NUMBER AND NAME 3073 Joint Tactical Radio System-Maritime/Fixed (JTRS-M/F)			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Prototype Phase				3Q			2 Q	
System Design Review (SDR)								
Milestone B (MS-B)				3Q				
Contract Preparation			2Q					
RFP Release			2Q					
Contract Award Pre-SDD			3Q					
Contract Award SDD				3Q				
Preliminary Design Review (PDR)				3Q				
System Development			3Q					4Q
Critical Design Review (CDR)					3Q			
Quality Design and Build								
Test Readiness Review (TRR)								
DT/OT Certification						4Q		
Eng Dev Model (EDM) Radar Delivery - Lab						3Q		
Software Delivery 1XXSW								
Preproduction Readiness Review (PRR)								
EDM Radar Delivery - Flt Related								
Milestone C (MS C)							2Q	
Contractor Testing								
Operational Testing (OT-IIA)								
Start Low-Rate Initial Production I (LRIP I)						4Q		
Software Delivery 2XXSW								
Start Low-Rate Initial Production II								
Operational Testing (OT-II)								
Developmental Testing (DT-IIC)						4Q		
Functional Configuration Audit (FCA)								
Low-Rate Initial Production I Delivery							3Q	
Technical Evaluation (TECHEVAL)								
Physical Configuration Audit								
Operational Evaluation (OT-II) (OPEVAL)						4Q		3Q
Low-Rate Initail Production II Delivery								
Contract Award Production								
IOC								
Full Rate Production (FRP) Decision								
Full Rate Production Start								
First Deployment								

R-1 SHOPPING LIST - Item No. 100

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME PE: 0604280N TITLE: JOINT TACTICAL RADIO SYSTEMS				PROJECT NUMBER AND NAME 3020 MIDS JTRS					
COST ($ in Millions)	Prior Years Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Total Program
Total Project Cost	**0.000**	**0.000**	**0.000**	**22.408**	**11.713**	**0.000**	**0.000**	**0.000**	**0.000**	**34.121**
3020 Multifunctional Information Distribution System Joint Tactical Radio System (MIDS JTRS)	**0.000**	**0.000**	**0.000**	**22.408**	**11.713**	**0.000**	**0.000**	**0.000**	**0.000**	**34.121**
RDT&E Articles Qty										**0**

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

The MIDS-LVT is a jam-resistant, secure, digital (voice and data) information distribution system, enabling rapid integrated communications, navigation and identification for tactical and command and control operations. The MIDS-LVT will be upgraded to become JTRS Software Communications Architecture compliant (MIDS JTRS), bringing a JTRS radio to space-constrained platforms. MIDS JTRS will provide programmable channels to support additional waveforms (WNW, EPLRS, DWTS, Link-11, Link-22, SINCGARS, HAVEQUICK, DAMA SATCOM, Soldier Radio, etc.) while retaining the Link-16 and TACAN interfaces with the legacy MIDS-LVT. The MIDS JTRS upgrade effort begins in FY04 ($17.678M), will continue in FY05 ($22.408M), and will be completed in FY06 ($11.713M).

(U) B. Accomplishments/Planned Program

FY05: Continue MIDS JTRS development effort. Conduct Preliminary Design Review, Software Specification Review and Critical Design Review. Start build of initial MIDS JTRS terminals for First Article Qualification Testing.

Note: MIDS JTRS is included in project unit 3073 in FY04, then moves to project unit 3020 starting in FY05.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	PE: 0604280N TITLE: JOINT TACTICAL RADIO SYSTEMS	3020 MIDS JTRS

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
FY04 President's Budget:	0.000	0.000	0.000
FY05 President's Budget:	0.000	0.000	22.408
Total Adjustments	0.000	0.000	22.408

Summary of Adjustments	
Issue 67124 MIDS JTRS Project Unit	22.495
Issue 69492 PBD 604 inflation	-0.060
Issue 69512 PBD 604 non purchase inflation	-0.013
Issue 69707 FY 05 ITR RDTEN Balancing	-0.014
Subtotal	22.408

(U) Schedule:

No Changes

(U) Technical:

No Changes

R-1 SHOPPING LIST - Item No. 100

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	PE: 0604280N TITLE: JOINT TACTICAL RADIO SYSTEMS	3020 MIDS JTRS

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost

No other funding exists for 3020, MIDS JTRS

(U) E. ACQUISITION STRATEGY:

MIDS JTRS will be an international cooperative development effort among the United States, France, Italy, Germany and Spain and will be initiated as a major modification to MIDS-LVT using an Engineering Change Proposal on the existing production contracts. The U.S. prime contractors from the MIDS-LVT program (Data Link Solutions and ViaSat, Inc.) will team with European industry to commonly design, develop and qualify the MIDS JTRS terminal. The MIDS JTRS terminal will be a one-for-one replacement for MIDS-LVT(1) utilizing the same footprint. After development, the U.S. will implement a continuous competition strategy that will be maintained throughout the MIDS JTRS production phase as was done successfully on MIDS-LVT.

(U) F. MAJOR PERFORMERS:

Prime Contractors: Data Link Solutions and ViaSat Inc. (United States)
Subcontractors: Thales (France), Marconi (Italy), EADS (Germany), Indra (Spain)

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT PE: 0604280N TITLE: JOINT TACTICAL RADIO SYSTEMS					PROJECT NUMBER AND NAME 3020 MIDS JTRS					
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
MIDS JTRS HW/SW Development	CPIF	Data Link Solutions Cedar Rapids, IA						10.454		Continuing	Continuing	
MIDS JTRS HW/SW Development	CPIF	ViaSat Inc. Carlsbad, CA						10.454		Continuing	Continuing	
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	0.000		0.000		20.908		0.000	20.908	
Remarks: Note: MIDS JTRS is included in project unit X3073 in FY04, then moves to project unit X3020 starting in FY05.												
Development Support											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:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT PE: 0604280N TITLE: JOINT TACTICAL RADIO SYSTEMS					PROJECT NUMBER AND NAME 3020 MIDS JTRS					
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	
Testing Support											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								0.900			0.900	
Government Engineering Support								0.300			0.300	
Program Management Support											0.000	
Travel								0.300			0.300	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	0.000		0.000		1.500		0.000	1.500	
Remarks:												
Total Cost			0.000	0.000		0.000		22.408		0.000	22.408	

R-1 SHOPPING LIST - Item No. 100

CLASSIFICATION:

EXHIBIT R4, Schedule Profile			DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME PE: 0604280N TITLE: JOINT TACTICAL RADIO SYSTEMS	PROJECT NUMBER AND NAME 3020 MIDS JTRS	

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
MIDS JTRS Migration			Studies				Specification Development				Phase 2B Contract Award		PDR			CDR	TRR		FAQT		1st Articles		LRIP									
Test & Evaluation Milestones TECHEVAL OPEVAL																			△					△								

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT PE: 0604280N TITLE: JOINT TACTICAL RADIO SYSTEMS				PROJECT NUMBER AND NAME 3020 MIDS JTRS		
Schedule Profile	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
MIDS JTRS Migration							
Phase 2A: Specification Development	3Q						
Phase 2A Extension: Specification Development		1Q					
Phase 2B: Design, Development, Fabrication and Qualification		3Q					
Software Specification Review (SSR)			1Q				
Preliminary Design Review (PDR)			1Q				
System Development		3Q			1Q		
Critical Design Review (CDR)			4Q				
Quality Design and Build			4Q	2Q			
Test Readiness Review (TRR)				1Q			
Contractor Testing				1Q			
Operational Testing				3Q			
Start Low Rate Initial Production					1Q		
Functional Configuration Audit (FCA)				4Q			
Low Rate Initial Production Delivery					4Q		
Technical Evaluation (TECHEVAL)				3Q			
Physical Configuration Audit					3Q		
Operational Evaluation (OT-IIC) (OPEVAL)					4Q		
Full Rate Production (FRP) Decision						2Q	
First Deployment						3Q	

R-1 SHOPPING LIST - Item No. 100

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME PE: 0604280N TITLE: JOINT TACTICAL RADIO SYS				PROJECT NUMBER AND NAME 9375 Super Conductor Micro-Electronics						
COST ($ in Millions)	Prior Years Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		Cost to Complete	Total Program
Total Project Cost	**0.000**	**0.000**	**1.730**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**			**1.730**
9375 Super Conductor Micro-Electronics	**0.000**	**0.000**	**1.730**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**			**1.730**
RDT&E Articles Qty											**0**

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

Super Conductor Micro-Electronics project - Funding will assist in the development of an All Digital Transceiver (ADT), which will improve a range of defense missions including tactical radio, satellite communications, signal intelligence, electronic warfare, and radar systems. This funding will also help to continue the Superconductor Micro-Electronics (SME) currently being developed in the Challenge Program-funded ONR SBIR phase III project, the All Digital Receiver (ADR), towards the development of an All Digital Transceiver.

R-1 SHOPPING LIST - Item No. 100

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-5	PE: 0604280N TITLE: JOINT TACTICAL RADIO SYSTEMS	9375 Super Conductor Micro-Electronics

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
9375 Super Conductor Micro-Electronics	0.000	1.730	0.000
RDT&E Articles Quantity			

FY04: Super Conductor Micro-Electronics project - Funding will assist in the development of an All Digital Transceiver (ADT), which will improve a range of defense missions including tactical radio, satellite communications, signal intelligence, electronic warfare, and radar systems. This funding will also help to continue the Superconductor Micro-Electronics (SME) currently being developed in the Challenge Program-funded ONR SBIR phase III project, the All Digital Receiver (ADR), towards the development of an All Digital Transceiver.

R-1 SHOPPING LIST - Item No. 100

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	PE: 0604280N TITLE: JOINT TACTICAL RADIO SYSTEMS	9375 Super Conductor Micro-Electronics

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
President's Budget PB04:	0.000	0.000	0.000
President's Budget PB05:	0.000	1.730	0.000
Total Adjustments	0.000	1.730	0.000
Summary of Adjustments			
Section 8094: Management Improvements		-0.005	
Section 8126: Effeciencies/Revised Econ. Assump.		-0.015	
FY04 Congressional Add		1.750	
Subtotal	0.000	1.730	0.000

(U) Schedule:

(U) Technical:

R-1 SHOPPING LIST - Item No. 100

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 PE 0604300N - DD (X) Total Ship Systems Engineering			
COST ($ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost	**668.472**	**1,052.273**	**1,431.585**	**1,701.238**	**1,314.772**	**897.563**	**592.981**
2463 / DD(X) 1 Construction	**0.000**	**0.000**	**221.116**	**637.421**	**546.406**	**480.063**	**355.755**
2464 / DD(X) System Design, Development and Int	**569.537**	**821.377**	**1,034.002**	**1,017.159**	**721.649**	**369.859**	**188.635**
2466 / Multi-Function Radar	**48.933**	**22.790**	**12.277**	**0.015**	**0.000**	**0.000**	**0.000**
2735 / Volume Search Radar	**47.703**	**72.243**	**57.667**	**0.002**	**0.000**	**0.000**	**0.000**
2880 / Power Node Control Centers (PNCC)	**1.348**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
4009 / Advanced Gun System (AGS)	**0.000**	**50.410**	**46.455**	**46.641**	**46.717**	**47.641**	**48.591**
4010 / Integrated Power System (IPS)	**0.000**	**72.202**	**60.068**	**0.000**	**0.000**	**0.000**	**0.000**
9062 / Reg Elec Pwr Tec Integ & Lev (REPTILE)	**0.951**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
9376 / DD (X) Alternative Engine	**0.000**	**6.923**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
9377 / Knowledge Projection for Fleet Maintenance	**0.000**	**1.978**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
9378 / Modular Radio	**0.000**	**3.362**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
9379 / Wirless LAN Design Tools	**0.000**	**0.988**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**

Defense Emergency Response Funds (DERF) Funds: N/A

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This Program Element (PE) provides funds for development of the DD(X) Class of U. S. Navy surface combatants, advanced development R&D which is integral to DD(X); and Detailed Design and Construction of the first DD(X) class ship. The mission of the DD(X) class is to provide affordable and credible independent forward presence/deterrence and operate as an integral part of Naval, Joint or Combined Maritime Forces. DD(X) will provide advanced land attack capability in support of the ground campaign and contribute to Naval, Joint or Combined battlespace dominance in littoral operations. DD(X) will establish and maintain surface and sub-surface superiority, provide local air defense, and incorporate signature reduction to operate in all threat environments. DD(X) will have seamless Joint Interoperability to integrate all source information for battlespace awareness and weapons direction. The PNCC Congressional add pursues a technology which will support present and future surface ship and submarine platforms as a building block for increased use of electrical equipment. PNCC has the potential to integrate all of the shipboard power functions, such as switching, conversion, distribution and system operation and protection. The Congressional add for REPTILE is an initiative for the advancement of naval platform and battle-force systems through the discovery, invention, integration, leveraging and demonstration of innovative electrical technologies for naval sea and land applications. The Alternative Engine provides a system alternative for the lead ship power solution and will further enhance the GE engine design. Knowledge Projection will develop a new system to remotely monitor Navy ships (systems and equipment), enable technicians to repair and maintain increasing complex equipment utilizing equipment failure characteristics, and share related repair knowledge with off-ship technical experts via the DOD/Navy communications systems. Wireless LAN Design Tools will develop a computer-based wireless LAN to reduce the costs of designing wireless LAN systems and to aid in developing cost-effective WLAN solutions for Navy ships.

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2004	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering				PROJECT NUMBER AND NAME 2463 - DD(X) 1 Construction		
COST ($ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost	**0.000**	**0.000**	**221.116**	**637.421**	**546.406**	**480.063**	**355.755**
RDT&E Articles Qty							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This project funds the detail design and construction of the first DD(X) Class Ship using RDT&E funding. DD(X), a multi-mission surface combatant tailored for land attack and maritime dominance, will provide independent forward presence and deterrence, and operate as an integral part of joint and combined expeditionary forces. In addition, the DD(X) program will provide a baseline for spiral development of technology and engineering to support a range of future surface ships such as the future cruiser (CG(X)) and the Littoral Combat Ship (LCS), to meet the maritime requirement well into the 21st century.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /	PE 0604300N - DD(X) Total Ship Systems Engineering	2463 - DD(X) 1 Construction

B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	0.000	221.116
RDT&E Articles Quantity			

Begin detailed production planning for first DD(X) to include: Transition design from the functional design done prior to Critical Design Review (CDR) to a 3-D Design (Zone design); Begin initial development of purchase specifications / drawings for all the significant equipment; Begin detail design of DD(X); Begin initial competition and selection of components, issue contracts and begin production of components; Begin initial material procurement of long lead equipment; Begin logistics support analysis -- develop crew training; Populate the Computer Aided Design (CAD) and Smart Product Model (SPM) with additional detail and expand standard parts libraries for use in SPM; Design fixtures and gigs to facilitate construction; Begin production design for early work packages to include work instructions, schedules, work locations, material list, tooling, facilities and manpower requirements.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000
RDT&E Articles Quantity			

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000
RDT&E Articles Quantity			

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	PE 0604300N - DD(X) Total Ship Systems Engineering	2463 - DD(X) 1 Construction

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY04 Pres Controls)	0.000	0.000	242.969
Current BES/President's Budget: (FY05 Pres Controls)	0.000	0.000	221.116
Total Adjustments	0.000	0.000	-21.853
Summary of Adjustments			
Inflation Adjustment			-0.718
Programmatic Adjustment			-21.000
Miscellaneous			-0.135
Subtotal	0.000	0.000	-21.853

Schedule:

Not Applicable

Technical:

Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	PE 0604300N - DD(X) Total Ship Systems Engineering	2463 - DD(X) 1 Construction

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
PE 0603513N / Shipboard Sys Component De	247.513	36.664	18.993	33.276	23.125	21.393	21.780	CONT	CONT
BLI 211900 / SCN	0.000	0.000	0.000	99.418	3,594.003	3,320.500	4,695.647	CONT	CONT

E. ACQUISITION STRATEGY:

(U) The DD(X) acquisition strategy encompasses five contract phases: Phase I – System Concepts, Phase II – Initial System Design, Phase III – System Design, Phase IV – Detail Design and Construction, and Phase V – Engineering and Logistics Life Cycle Support. The Navy awarded section 845/804 agreements for Phases I and II for two DD(X) Industry teams. Downselection to a single DD(X) Design Agent occurred 3rd quarter FY 2002 to begin Contract Phase III. The Lead DD(X) will be competitively awarded in FY 2005.

F. MAJOR PERFORMERS:

DD(X) Design Agent - Northrop Grumman Ship Systems

R-1 SHOPPING LIST - Item No. 101

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT PE 0604300N - DD(X) Total Ship Systems Engineering			PROJECT NUMBER AND NAME 2463 - DD(X) 1 Construction							
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
Product Development	Compet	TBD						221.116	4QFY05	2,479.884	2,701.000	
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	0.000		0.000		221.116		2,479.884	2,701.000	
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:												

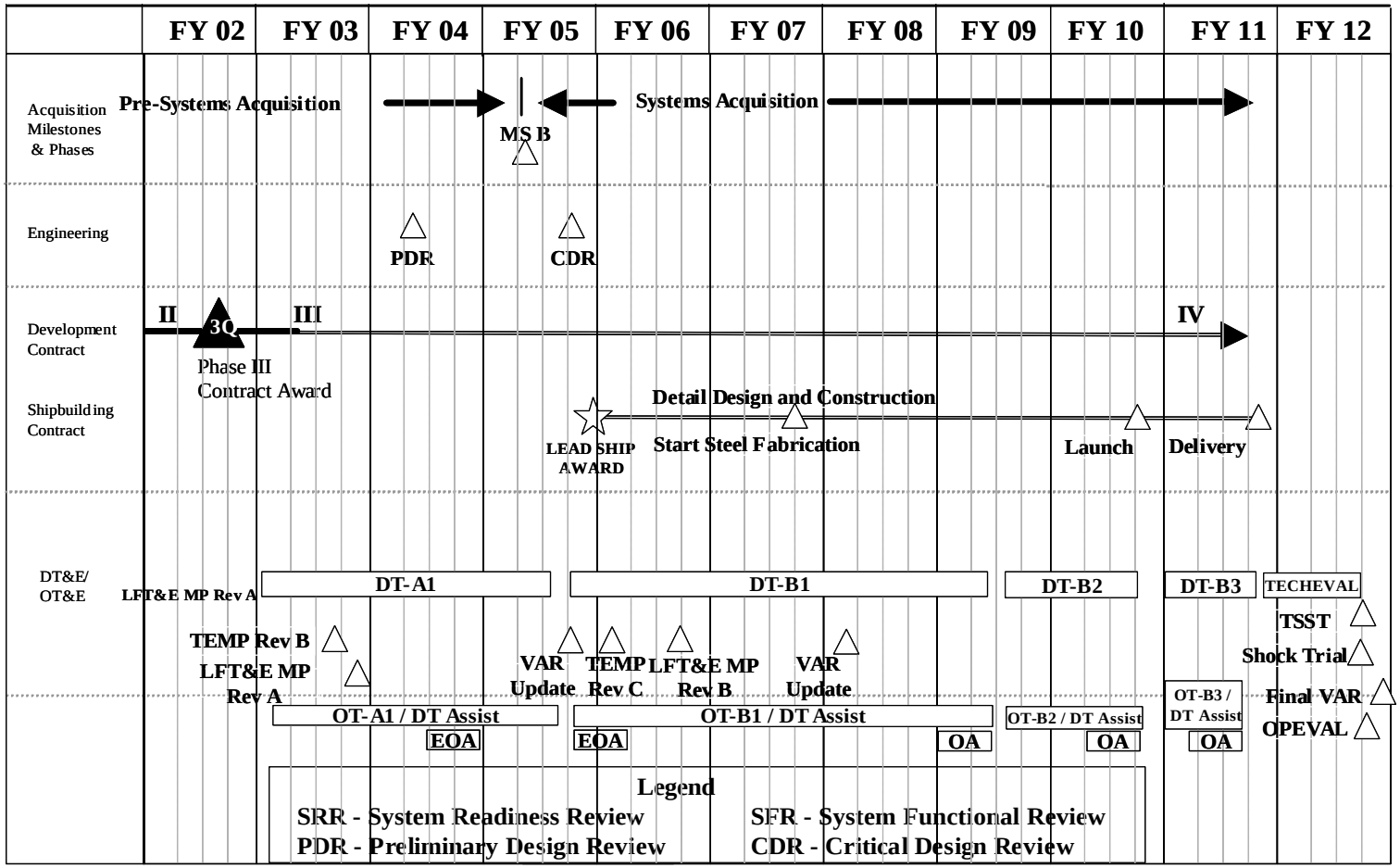
CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT PE 0604300N - DD(X) Total Ship Systems Engineering			PROJECT NUMBER AND NAME 2463 - DD(X) 1 Construction						
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											0.000	
Program Management Support											0.000	
Travel											0.000	
Labor (Research Personnel)											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			0.000	0.000		0.000		221.116		2,479.884	2,701.000	
Remarks:												

R-1 SHOPPING LIST - Item No. 101

CLASSIFICATION:

EXHIBIT R4, Schedule Profile		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering	PROJECT NUMBER AND NAME 2463 - DD(X) 1 Construction



R-1 SHOPPING LIST - Item No. 101

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT PE 0604300N - DD(X) Total Ship Systems Engineering				PROJECT NUMBER AND NAME 2463 - DD(X) 1 Construction			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2004	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering				PROJECT NUMBER AND NAME 2464 - DD(X) System Design, Development & Integratior		
COST ($ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost	**569.537**	**821.377**	**1,034.002**	**1,017.159**	**721.649**	**369.859**	**188.635**
RDT&E Articles Qty							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This project encompasses efforts for the total ship system engineering development and integration of Hull, Mechanical and Electrical (HM&E), communications, electronics, command and control, combat, weapons and shipboard systems into the DD(X) class. These engineering development and integration efforts include systems engineering, analysis, software development, interface design, technical documentation, and system/subsystem testing to ensure fully functional systems integration. These efforts also include the design, development and testing (factory, land-based and at-sea) of the following Engineering Development Models (EDMs): Total Ship Computing Enviroment, Advanced VLS, Integrated Deckhouse and Apertures, Autonomic Fire Suppression System, Infrared mock-ups, AGS magazine and Hull Form Scale Model. These systems engineering development efforts are required to ensure that DD(X) is a totally integrated ship system, delivering required warfighting technologies to the fleet within the reduced manning and cost goals. In addition, this project includes efforts to incorporate the EDMs into the overall DD(X) ship design.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	PE 0604300N - DD(X) Total Ship Systems Engineering	2464 - DD(X) System Design, Development & Integration

B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	507.213	740.918	923.780
RDT&E Articles Quantity			

In FY03 began planning for Preliminary Design Review (PDR), and conducted the Integrated Baseline Review (IBR) to establish the Performance Measurement Baseline (PMB). Updated the Operational Requirements Document. In FY04 conduct the PDR and begin planning for the Critial Design Review (CDR). In FY05 conduct the CDR and Milestone B. Begin preparing for the Detail Design and Construction phase.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	39.699	45.224	62.510
RDT&E Articles Quantity			

Continued support of the DD(X) Technical Team. The Technical Team provides the expertise to evaluate / support the DD(X) industry design in the areas of Combat Systems; Hull, Mechanical and Electrical; Command, Control, Communication and Computers; Modeling and Simulation; Total Ship Computing, and Test and Evaluation. Team will review and certify the DD(X) Design Agent software development.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	12.272	18.525	27.371
RDT&E Articles Quantity			

The DD(X) LFT&E Program focuses on the following areas: Mission Recoverability, Magazine Protection, Damaged Seaway Survival, Selected Equipment Vulnerability, and Advanced Weapons Threat Effects. These areas address critical elements of DD(X) System survivability as defined in the Test and Evaluation Master Plan (TEMP) 1560, the LFT&E Management Plan, and the Operational Requirements Document (ORD). In FY03, conducted WET and analyzed results to improve survivability methodologies and models. Planned and conducted other live fire, surviviability and lethality testing and analysis, consistent with the LFT&E Management Plan Rev A. In FY04, begin testing of EDMs that will be incorporated into the DD(X) Ship Design. In FY05, Complete the Vulnerability Assessment Report (VAR) for the DD(X) Phase III prior to the DD(X) CDR.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	PE 0604300N - DD(X) Total Ship Systems Engineering	2464 - DD(X) System Design, Development & Integration

B. Accomplishments/Planned Program (Cont.)

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	10.353	16.710	20.341
RDT&E Articles Quantity			

Continue identification and risk mitigation efforts in high risk areas such as Manning, Life Cycle Engineering and Support (LCE&S), and Total Ship Computing. Continue Manning/Human Systems Integration (HSI) and LCE&S Integrated Product Teams (IPTs) to address the impact of how industry-developed concepts will impact the future Navy support infrastructure in these functional areas. Monitor the industry-developed risk watch list and evaluate as a mechanism for reporting risk metrics in DD(X) Aquisition reporting documentation. Review and develop proposed policy changes as a result of DD(X) industry concepts that impact Navy manning and life cycle support structure as a result of industry proposals. Establish Executive Steering Groups to review/ monitor specific Phase III technology development focus areas: Integrated Power System (IPS) and propulsion, Radar Suite and Software.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000
RDT&E Articles Quantity			

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000
RDT&E Articles Quantity			

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	PE 0604300N - DD(X) Total Ship Systems Engineering	2464 - DD(X) System Design, Development & Integration

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY04 Pres Controls)	588.849	845.890	1,039.714
Current BES/President's Budget: (FY05 Pres Controls)	569.537	821.377	1,034.002
Total Adjustments	-19.312	-24.513	-5.712
Summary of Adjustments			
SBIR	-13.563		
Internal Realignment	-0.400		
Cancelled Accounts	-1.505		
Reprogrammings-BTR	-3.844		
Congressional Reductions		-15.000	
Miscellaneous Reductions		-9.506	
Inflation Adjustments			-4.010
Miscellaneous Adjustments		-0.007	-0.601
NWCF Rate Adjustments			-1.101
Subtotal	-19.312	-24.513	-5.712

Schedule:

Not Applicable

Technical:

Not Applicable

R-1 SHOPPING LIST - Item No. 101

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	PE 0604300N - DD(X) Total Ship Systems Engineering	2464 - DD(X) System Design, Development & Integration

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
PE 0603513N / Shipboard Sys Component De	247.513	36.664	18.993	33.276	23.125	21.393	21.780	CONT	CONT
BLI 211900 / SCN	0.000	0.000	0.000	99.418	3,594.003	3,320.500	4,695.647	CONT	CONT

E. ACQUISITION STRATEGY:

(U) The DD (X) acquisition strategy encompasses five contract phases: Phase I – System Concepts, Phase II – Initial System Design, Phase III – System Design, Phase IV – Detail Design and Construction, and Phase V – Engineering and Logistics Life Cycle Support. The Navy awarded section 845/804 agreements for Phases I and II for two DD (X) Industry teams. Downselection to a single DD (X) Design Agent occurred 3rd quarter FY 2002 to begin Contract Phase III.

F. MAJOR PERFORMERS:

DD(X) Design Agent - Northrop Grumman Ship Systems
Government Field Activities - NSWC Carderock, NSWC Dahlgren.
Universities -

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT PE 0604300N - DD(X) Total Ship Systems Engineering				PROJECT NUMBER AND NAME 2464 - DD(X) System Design, Development & Integration						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date (1)	FY 04 Cost	FY 04 Award Date (1)	FY 05 Cost	FY 05 Award Date (1)	Cost to Complete	Total Cost	Target Value of Contract
Initial System Concepts - Phase I	OTA	DD(X) Industry Team	54.800	0.000	N/A	0.000	N/A	0.000	N/A	0.000	54.800	
Initial System Design - Phase II	OTA	DD(X) Industry Team	139.919	0.000	N/A	0.000	N/A	0.000	N/A	0.000	139.919	
Primary H/W Development- Phase III	CPAF	DD(X) Design Agent	78.000	507.213	1QFY03	730.918	1QFY04	913.780	1QFY05	Continuing	Continuing	
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			272.719	507.213		730.918		913.780		CONT.	CONT.	

Remarks: (1) The DD(X) Design Agent contract (FY03-FY05) is incrementally funded. The contract was awarded in April 2002. The yearly increment will be funded in the 1st Quarter of the fiscal year.

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: Support costs are included in the Development contract costs.

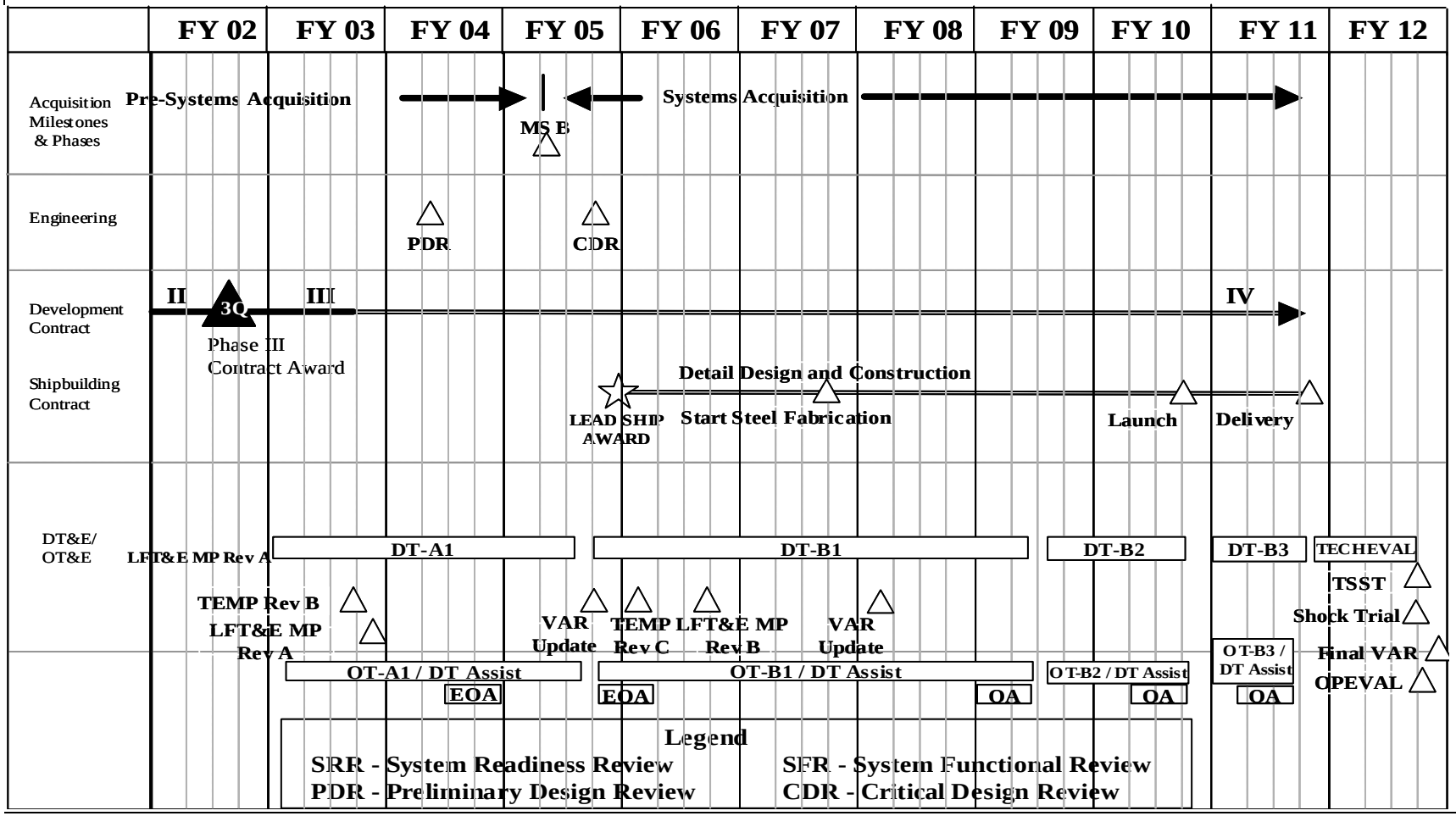
CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT PE 0604300N - DD(X) Total Ship Systems Engineering				PROJECT NUMBER AND NAME 2464 - DD(X) System Design, Development & Integration						
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
Live Fire Test & Evaluation	OTA	DD(X) Industry Teams	4.875	0.000	N/A	0.000	N/A	0.000	N/A	Continuing	Continuing	
Live Fire Test & Evaluation	CAPF	DD(X) Design Agent	0.000	4.100	12/02	0.000	N/A	0.000	N/A	Continuing	Continuing	
Live Fire Test & Evaluation	WR	NSWC CD Bethesda MD	10.262	4.550	11/02	7.921	11/03	8.921	11/04	Continuing	Continuing	
Live Fire Test & Evaluation	WR	NSWC DD Dahlgren VA	0.200	1.750	11/02	1.450	11/03	1.500	11/04	Continuing	Continuing	
Live Fire Test & Evaluation	Various	Various	5.150	1.872	11/02	9.154	11/03	16.950	11/04	Continuing	Continuing	
GFE												
Award Fees												
Subtotal T&E			20.487	12.272		18.525		27.371		CONT.	CONT.	
Remarks:												
Contractor Engineering Support	GSA/FFP	Anteon Arlington VA	6.800	8.817	11/02	9.320	11/03	11.083	11/04	Continuing	Continuing	
	GSA	GRCI, Falls Church VA	2.500	3.842	11/02	3.845	11/03	4.100	11/04	Continuing	Continuing	
	Misc	Various	6.100	2.565	11/02	2.668	11/03	2.890	11/04	Continuing	Continuing	
Government Engineering Support	WR	NSWC DD Dahlgren VA	41.232	9.905	11/02	15.855	11/03	24.005	11/04	Continuing	Continuing	
	WR	NSWC CD Bethesda MD	16.916	9.790	11/02	14.895	11/03	18.895	11/04	Continuing	Continuing	
	WR	NSWC CR Crane IN	3.712	1.000	11/02	2.000	11/03	2.575	11/04	Continuing	Continuing	
	WR	NSWC PHD Pt Hueneme CA	4.205	2.500	11/02	3.344	11/03	4.650	11/04	Continuing	Continuing	
	WR	SSCSD Dan Diego CA	5.657	1.204	11/02	2.604	11/03	3.404	11/04	Continuing	Continuing	
	WR	NUWC/N Newport RI	2.855	1.250	11/02	2.800	11/03	3.000	11/04	Continuing	Continuing	
	WR	NSWC/PC Panama City, FL	0.980	0.400	11/02	2.000	11/03	2.723	11/04	Continuing	Continuing	
	Various	Other Govt Activities	11.316	1.825	11/02	3.401	11/03	5.091	11/04	Continuing	Continuing	
Program Management Support	Various	Various	9.509	3.031	11/02	3.727	11/03	3.960	11/04	Continuing	Continuing	
Travel	Various	Various	1.712	0.700	Various	1.500	Various	1.500	Various	Continuing	Continuing	
Labor (Research Personnel)	CPFF	APL/JHU Laurel MD	8.357	3.223	11/02	3.975	11/03	4.975	11/04	Continuing	Continuing	
SBIR Assessment												
Subtotal Management			121.851	50.052		71.934		92.851		CONT.	CONT.	
Remarks:												
Total Cost			415.057	569.537		821.377		1,034.002		CONT.	CONT.	
Remarks:												

R-1 SHOPPING LIST - Item No. 101

CLASSIFICATION:

EXHIBIT R4, Schedule Profile		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering	PROJECT NUMBER AND NAME 2464 - DD(X) System Design, Development & Integration



R-1 SHOPPING LIST - Item No. 101

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT PE 0604300N - DD(X) Total Ship Systems Engineerin			PROJECT NUMBER AND NAME 2464 - DD(X) System Design, Development & Integration			
Schedule Profile	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
System Design and Development	1Q-4Q	1Q-4Q					
Preliminary Design Review		2Q-3Q					
Milestone B			2Q				
Lead Ship Award			4Q				
Critical Design Review			4Q				
Detail Design and Construction			4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Developmental Testing (DT-IIB1)			4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-2Q
Developmental Testing (DT-IIB2)							3Q-4Q

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2004	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering				PROJECT NUMBER AND NAME 2466 - Multi-Function Radar (MFR)		
COST ($ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost	**48.933**	**22.790**	**12.277**	**0.015**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty	**1**						

***(1) Transferred to PE0603513N, Project 4019**

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This project provides funds for the development of the Multi-Function Radar (MFR) in association with DD(X) . This provides DD(X) and other applicable surface ships with an affordable, high performance radar for ship defense well into the next century. This system is based on solid state, active array radar technology and will provide search, detect, track, and weapon control functions while dramatically reducing manning and life-cycle costs associated with multiple systems that perform these functions today. The MFR will achieve a level of force protection that greatly enhances ship defense capability against all threats envisioned in the littoral environment. A Test Article was delivered to Wallops Island in FY 03 to support Developmental Test/Operational Assessment (DT/OA) land-based and at-sea testing.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	PE 0604300N - DD(X) Total Ship Systems Engineering	2466 - Multi-Function Radar (MFR)

B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	37.063	5.969	0.000
RDT&E Articles Quantity	1		

Engineering and Manufacturing Development (E&MD) phase of MFR hardware and software. Delivered and installed Engineering Development Model (EDM) in FY03 at Navy Land Based Test Site to begin Factory Testing. Complete Factory Qualification Testing, conduct Factory Integration Testing, and begin land based testing in FY04. Complete land based testing in FY05 and prepare for at-sea testing. Began transition to production efforts.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	4.796	5.694	8.300
RDT&E Articles Quantity			

Government Engineering Services and Program Management support for E&MD. Perform oversight and assessment of MFR E&MD efforts including factory and land-based Test and Evaluation. Begin transition to production, including the development, fabrication, documentation and engineering support associated with the following efforts: (1) high speed automated manufacturing equipment, (2) test equipment and associated test program sets, (3) systems engineering and test engineering support and (4) failure analysis, parts engineering and configuration management. Provide support for integration of MFR into the DD(X) radar suite and overall ship systems. Provide engineering support for transition of MFR EDM to the MFR production system for DD(X).

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	6.262	9.028	2.400
RDT&E Articles Quantity			

Evaluation, planning, documentation, scheduling and conduct of Developmental Test / Operational Assessment. Hardware / Software updates resulting from DT/OA. Complete Navy Land Based Testing.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	PE 0604300N - DD(X) Total Ship Systems Engineering	2466 - Multi-Function Radar (MFR)

B. Accomplishments/Planned Program (Cont.)

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.812	2.099	1.577
RDT&E Articles Quantity			

Provide Program Management in support of the above milestones.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000
RDT&E Articles Quantity			

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000
RDT&E Articles Quantity			

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	PE 0604300N - DD(X) Total Ship Systems Engineering	2466 - Multi-Function Radar (MFR)

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY04 Pres Controls)	46.300	23.047	12.393
Current BES/President's Budget: (FY05 Pres Controls)	48.933	22.790	12.277
Total Adjustments	2.633	-0.257	-0.116
Summary of Adjustments			
SBIR	-0.029		
Internal Realignment	0.706		
Cancelled Accounts	-0.118		
Inflation Adjustments			-0.040
Reprogrammings	2.074		
Congressional Undistributed Reduction		-0.257	
Miscellaneous Adjustments			-0.008
NWCF Rate Adjustments			-0.068
Subtotal	2.633	-0.257	-0.116

Schedule:

Not Applicable

Technical:

Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	PE 0604300N - DD(X) Total Ship Systems Engineering	2466 - Multi-Function Radar (MFR)

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
PE 0603513N / Shipboard Sys Component De	247.513	36.664	18.993	33.276	23.125	21.393	21.780	CONT	CONT
BLI 211900 / SCN	0.000	0.000	0.000	99.418	3,594.003	3,320.500	4,695.647	CONT	CONT

E. ACQUISITION STRATEGY:

(U) In FY 1999, the Government selected a single MFR contractor (Raytheon) to begin Phase III E&MD. EDM delivered in FY 2003. The Navy truncated the Raytheon contract to align development efforts with the DD(X) development.

F. MAJOR PERFORMERS:

DD(X) Design Agent - Northrop Grumman Ship Systems
Government Field Activities -
Universities -

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT PE 0604300N - DD(X) Total Ship Systems Engineering				PROJECT NUMBER AND NAME 2466 - Multi-Function Radar (MFR)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date (1)	FY 04 Cost	FY 04 Award Date (1)	FY 05 Cost	FY 05 Award Date (1)	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	CPAF/IF	Prime E&MD (Raytheon)	175.079	22.074	1QFY03	0.000	1QFY04	0.000	N/A	Continuing	Continuing	
	CPAF	DD(X) Design Agent	2.434	14.989	Various	5.969	2QFY04	0.000	N/A	Continuing	Continuing	
	CP	Various	12.414	0.000	N/A	0.000	N/A	0.000	N/A	0.000	12.414	
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			189.927	37.063		5.969		0.000		CONT.	CONT.	

Remarks: (1) The DD(X) Design Agent contract (FY03-FY05) is incrementally funded. The contract was awarded in April 2002. The yearly increment will be funded in the 1st Quarter of the fiscal year.

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:

CLASSIFICATION:

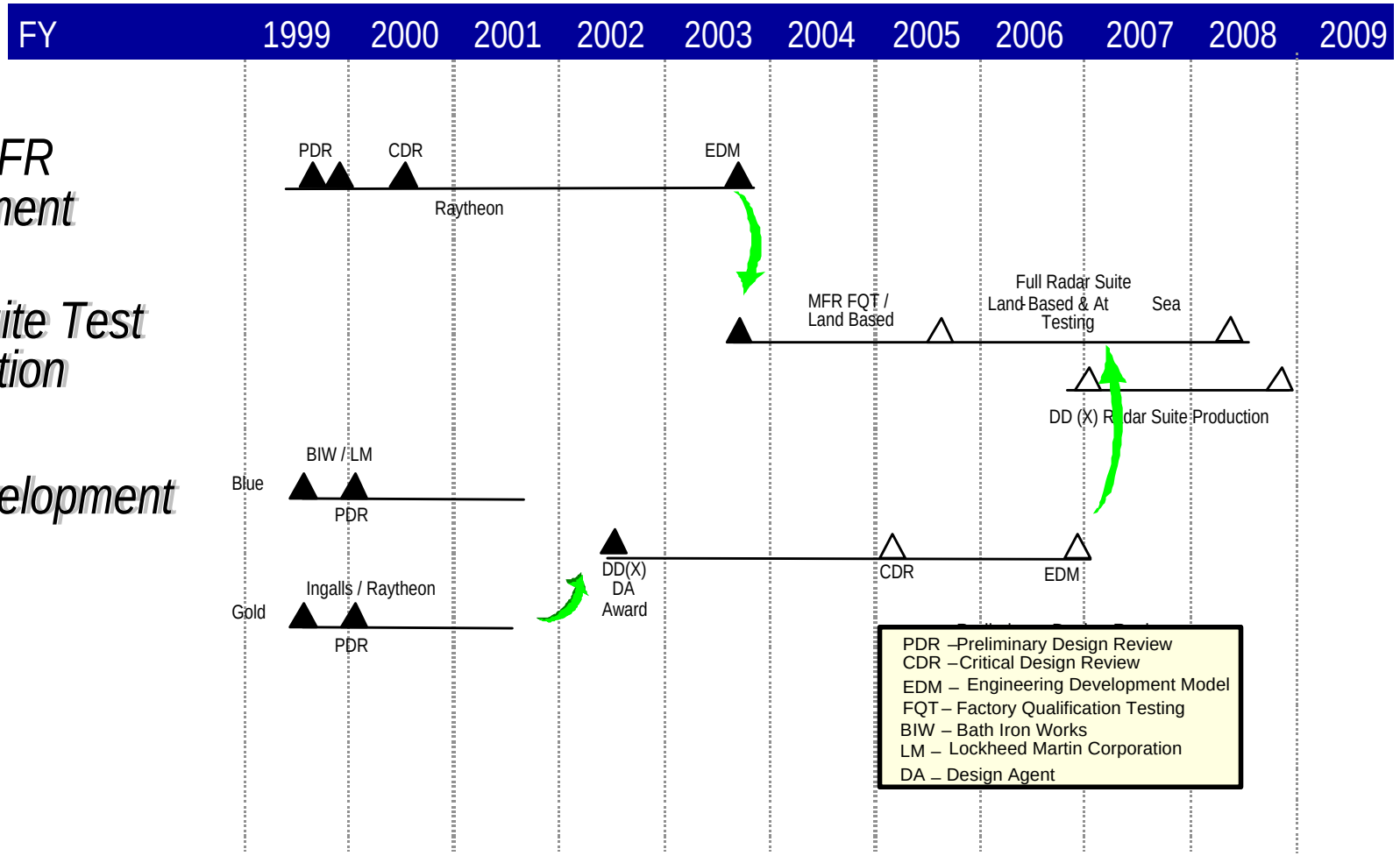
Exhibit R-3 Cost Analysis (page 2) | DATE: **February 2004**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA-5** | PROGRAM ELEMENT: PE 0604300N - DD(X) Total Ship Systems Engineering | PROJECT NUMBER AND NAME: 2466 - Multi-Function Radar (MFR)

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	Various	Various	7.466	1.817	11/02	2.386	11/03	1.500	11/04	Continuing	Continuing	
	CPAF	SCSC Wallops Island VA	1.262	0.894	11/02	1.388	11/03	0.000	11/04	0.000	3.544	
	SS/CPFF	JHU/APL Laurel MD	1.495	0.946	11/02	0.565	11/03	0.300	11/04	Continuing	Continuing	
	WR	NSWC PHD Pt Hueneme CA	1.044	0.426	11/02	1.630	11/03	0.300	11/04	Continuing	Continuing	
	WR	NSWC DD Dahlgren VA	0.000	0.984	11/02	2.333	11/03	0.300	11/04	Continuing	Continuing	
	WR/RC	NAWC Pt Mugu CA	0.000	1.195	11/02	0.726	11/03	0.000	11/04	0.000	1.921	
Subtotal T&E			11.267	6.262		9.028		2.400		CONT.	CONT.	
Remarks:												
Government Engineering Support	WR	NSWC DD Dahlgren VA	5.067	0.510	11/02	1.500	11/03	1.971	11/04	Continuing	Continuing	
	WR	NSWC PHD Pt Hueneme CA	2.764	0.201	11/02	1.199	11/03	0.900	11/04	Continuing	Continuing	
	SS/CPFF	APL/JHU Laurel MD	3.220	0.264	11/02	0.188	11/03	0.700	11/04	Continuing	Continuing	
	WR	Various	4.571	3.821	11/02	2.807	11/03	4.729	11/04	Continuing	Continuing	
Government Engineering Support											0.000	
Program Management Support	C/CPFF	Various	3.995	0.812	11/02	2.099	11/03	1.577	11/04	Continuing	Continuing	
Travel												
Labor (Research Personnel)												
SBIR Assessment												
Subtotal Management			19.617	5.608		7.793		9.877		CONT.	CONT.	
Remarks:												
Total Cost			220.811	48.933		22.790		12.277		CONT.	CONT.	
Remarks:												

CLASSIFICATION:

EXHIBIT R4, Schedule Profile		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering	PROJECT NUMBER AND NAME 2466 - Multi-Function Radar (MFR)



R-1 SHOPPING LIST - Item No. 101

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E BA-5**	PROGRAM ELEMENT PE 0604300N - DD(X) Total Ship Systems Engineering				PROJECT NUMBER AND NAME 2466 - Multi-Function Radar (MFR)		
Schedule Profile	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Radar EDM Delivery	2Q						
Factory Qualification Testing/Land Based Testing	3Q-4Q	1Q-4Q	1Q-2Q				

EXHIBIT R-2a, RDT&E Project Justification						DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering				PROJECT NUMBER AND NAME 2735 - Volume Search Radar (VSR)		
COST ($ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost	**47.703**	**72.243**	**57.667**	**0.002**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty		**1**					

*** $21M transferred from PE0604300N, Project 2463**

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This project provides funds for the development of the S-Band Volume Search Radar (VSR) in association with DD(X). This provides DD(X) and other applicable surface ships with an affordable, high performance air search radar. This system is based on solid state, active array radar technology and will provide search, detect, and track while dramatically reducing manning and life-cycle costs associated with multiple systems that perform these functions today. VSR provides long range above-the-horizon surveillance and timely cueing to Multi-Function Radar (MFR). A Test Article will be available in FY06 to support Developmental Test/Operational Assessment (DT/OA) land-based and at-sea testing.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /	PE 0604300N - DD(X) Total Ship Systems Engineering	2735 - Volume Search Radar (VSR)

B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	36.057	66.501	51.527
RDT&E Articles Quantity		1	

Completed Phase II development efforts. In Phase III DD(X) Design Agent will finalize S-Band VSR design and procurement Engineering Development Model (EDM) hardware and will begin fabrication. Began test and evaluation planning. In FY06, delivery of EDM to Wallops to conduct VSR Factory Qualification Testing and prepare for Land Based Testing in FY05.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	9.643	5.742	6.140
RDT&E Articles Quantity			

Government Engineering Services and Program Management support for E&MD. Perform oversight and assessment of VSR E&MD efforts including Test and Evaluation. Support VSR Land Based Testing.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	2.003	0.000	0.000
RDT&E Articles Quantity			

Provide Program Management in support of the above milestones.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	PE 0604300N - DD(X) Total Ship Systems Engineering	2735 - Volume Search Radar (VSR)

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY04 Pres Controls)	50.659	45.057	36.896
Current BES/President's Budget: (FY05 Pres Controls)	47.703	72.243	57.667
Total Adjustments	-2.956	27.186	20.771
Summary of Adjustments			
SBIR	-1.445		
Realignment	0.693		
Cancelled Accounts	-0.130		
Congressional Undistributed Reductions		-0.814	
Congressional Add: S-Band Dev		28.000	
NWCF Rate Adjustments			-0.006
Programmatic Adjustment	-2.074		21.000
Miscellaneous Adjustments			-0.223
Subtotal	-2.956	27.186	20.771

Schedule:

Not Applicable

Technical:

Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	PE 0604300N - DD(X) Total Ship Systems Engineering	2735 - Volume Search Radar (VSR)

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
PE 0603513N / Shipboard Sys Component De	247.513	36.664	18.993	33.276	23.125	21.393	21.780	CONT	CONT
BLI 211900 / SCN	0.000	0.000	0.000	99.418	3,594.003	3,320.500	4,695.647	CONT	CONT

E. ACQUISITION STRATEGY:

(U) Downselection to a DD (X) Design Agent occurred 3rd quarter FY2002. The DD(X) Design Agent will initiate fabrication delivery of the VSR EDM in FY 2004. MFR/VSR Radar Suite DT/OA is anticipated in FY 2003 through FY 2005.

F. MAJOR PERFORMERS:

DD(X) Design Agent - Northrop Grumman Ship Systems
Government Field Activities - NAWC China Lake, NAWC Pt Mugu, NAWC TSD, NSWC Carderock, NSWC Crane, NSWC Dahlgren, NSWC Newport, NSWC Panama City, NSWC Port Hueneme, Naval Research Laboratory, SPAWAR Systems Center
Universities - John Hopkins University / Applied Physics Laboratory, Applied Research Labs at University of Texas, University of Washington and Penn State University, Georgia Tech Research Institute

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT PE 0604300N - DD(X) Total Ship Systems Engineering				PROJECT NUMBER AND NAME 2735 - Volume Search Radar (VSR)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date (1)	FY 04 Cost	FY 04 Award Date (1)	FY 05 Cost	FY 05 Award Date (1)	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	OTA	DD(X) Industry Team	50.000	0.000	N/A	0.000	N/A	0.000	N/A	0.000	50.000	
	CPAF	DD(X) Design Agent	23.000	36.057	1QFY03	60.501	1QFY04	51.527	1QFY05	Continuing	Continuing	
Ship Integration	CPAF	Lockheed Martin SBAR N00024-02-C-5321				6.000	2QFY04				6.000	
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			73.000	36.057		66.501		51.527		CONT.	CONT.	

Remarks: (1) The DD(X) Design Agent contract (FY03-FY05) is incrementally funded. The contract was awarded in April 2002. The yearly increment will be funded in the 1st Quarter of the fiscal year.

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:

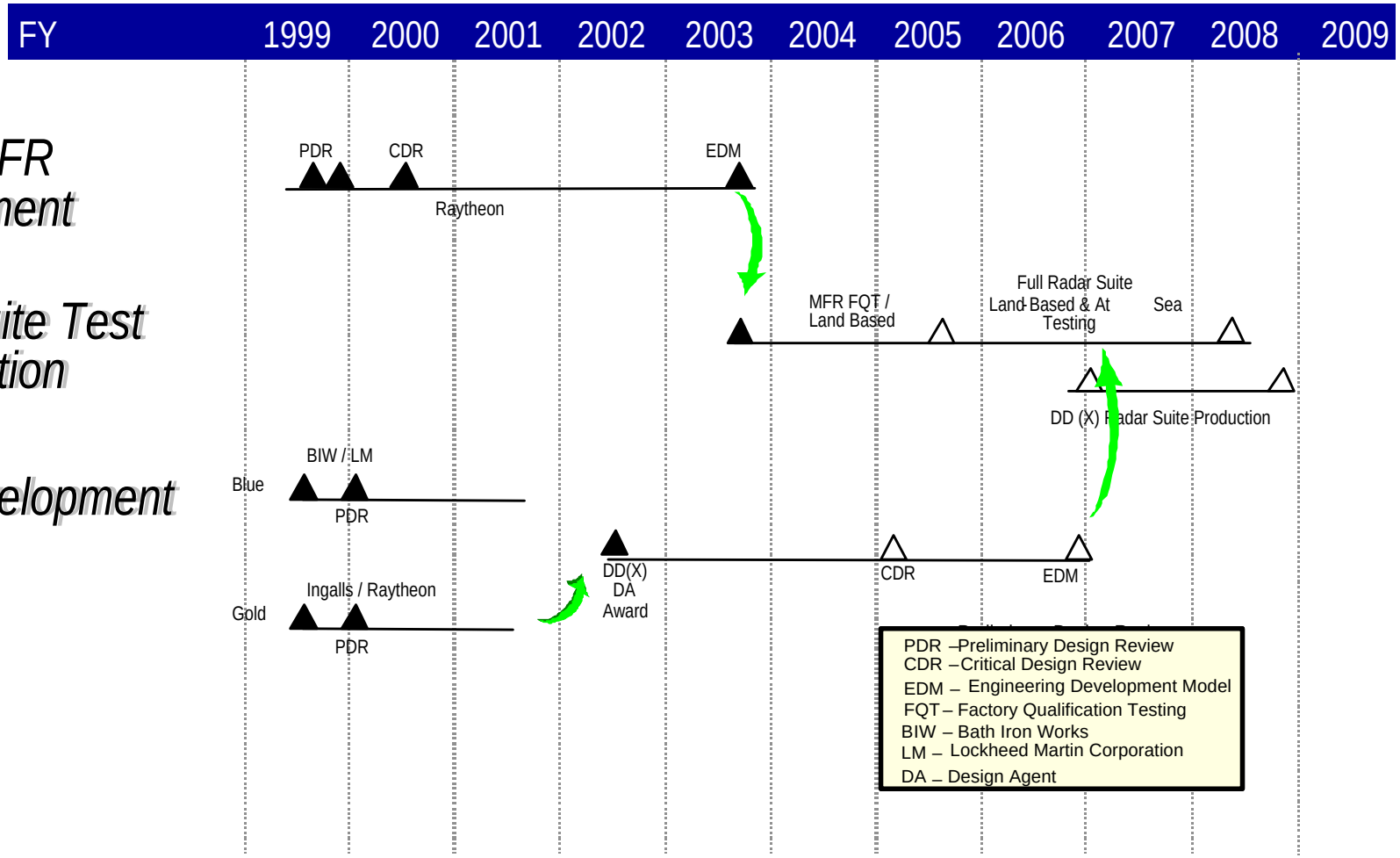
CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT PE 0604300N - DD(X) Total Ship Systems Engineering				PROJECT NUMBER AND NAME 2735 - Volume Search Radar (VSR)						
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	CPAF	SCSC Wallops Island VA	0.600	0.000	N/A	0.000	N/A	0.000	N/A	0.000	0.600	
	Various	Various	0.497	0.000	N/A	0.000	N/A	0.000	N/A	0.000	0.497	
											0.000	
Subtotal T&E			1.097	0.000		0.000		0.000		0.000	1.097	
Remarks:												
Government Engineering Support	WR	NSWC DD Dahlgren VA	1.646	1.860	11/02	0.000	11/03	0.000	11/04	Continuing	Continuing	
	WR	NSWC PHD Pt Hueneme CA	0.000	1.230	11/02	0.000	N/A	0.000	N/A	0.000	1.230	
	WR	Various	3.937	6.553	11/02	5.742	11/03	6.140	11/04	Continuing	Continuing	
Government Engineering Support												
Program Management Support	CPFF	Various	0.627	2.003	11/02	0.000	11/03	0.000	11/04	Continuing	Continuing	
Travel												
Labor (Research Personnel)												
SBIR Assessment												
Subtotal Management			6.210	11.646		5.742		6.140		CONT.	CONT.	
Remarks:												
Total Cost			80.307	47.703		72.243		57.667		CONT.	CONT.	
Remarks:												

R-1 SHOPPING LIST - Item No. 101

CLASSIFICATION:

EXHIBIT R4, Schedule Profile		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering	PROJECT NUMBER AND NAME 2735 - Volume Search Radar (VSR)



R-1 SHOPPING LIST - Item No. 101

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT PE 0604300N - DD(X) Total Ship Systems Engineering				PROJECT NUMBER AND NAME 2735 - Volume Search Radar (VSR)		
Schedule Profile	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Preliminary Design Review		3Q					
Critical Design Review			1Q				
EDM Delivery to Land Based Test Site				4Q			
Factory Qualification / Land-Based Testing					1Q - 4Q		
At-Sea Testing						1Q - 2Q	

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2004	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering				PROJECT NUMBER AND NAME 4009 - Advanced Gun System (AGS)		
COST ($ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost	**0.000**	***50.41**	**46.455**	**46.641**	**46.717**	**47.641**	**48.591**
RDT&E Articles Qty		**1**					

***Transferred from PE 0603513N, AGS Project 2467**

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

These funds provide for the development of the Advanced Gun System (AGS) associated with the development of DD(X). The AGS will consist of a major caliber gun, an automated ammunition handling system, and a family of munitions/propelling charges. The AGS will, at a minimum, meet the Land Attack and Surface Dominance Missions assigned to the gun system. The system will provide a high rate of fire (approximately 12 rounds per minute) with a magazine capacity sufficient in size for meeting USMC operational requirements.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /	PE 0604300N - DD(X) Total Ship Systems Engineering	4009 - Advanced Gun System (AGS)

B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	13.040	0.000
RDT&E Articles Quantity		1	

Fabricate Assembly and test Magazine Engineering Development Model (EDM).

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	9.253	0.000
RDT&E Articles Quantity			

Conduct Upper Gun Mount EDM Testing

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	7.823	0.000
RDT&E Articles Quantity			

Fabricate Assembly and Test Integration System Control (ISC).

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /	PE 0604300N - DD(X) Total Ship Systems Engineering	4009 - Advanced Gun System (AGS)

B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	13.040	20.328
RDT&E Articles Quantity			

Continue LRLAP EDM development and testing.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	7.254	0.000
RDT&E Articles Quantity			

Support Ship Design development with Gun, Magazine, LRLAP integration efforts.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	0.000	18.970
RDT&E Articles Quantity			

Commence integration of Gun, Magazine, ISC EDMs.

R-1 SHOPPING LIST - Item No. 101

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	PE 0604300N - DD(X) Total Ship Systems Engineering	4009 - Advanced Gun System (AGS)

B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	0.000	7.157
RDT&E Articles Quantity			

Commence Land Based testing of AGS EDM.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000
RDT&E Articles Quantity			

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000
RDT&E Articles Quantity			

R-1 SHOPPING LIST - Item No. 101

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	PE 0604300N - DD(X) Total Ship Systems Engineering	4009 - Advanced Gun System (AGS)

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY04 Pres Controls)	0.000	50.978	46.726
Current BES/President's Budget: (FY05 Pres Controls)	0.000	50.410	46.455
Total Adjustments	0.000	-0.568	-0.271
Summary of Adjustments			
Congressional undistributed reductions		-0.568	
Miscellaneous Adjustments			-0.271
Subtotal	0.000	-0.568	-0.271

Schedule:

Not Applicable

Technical:

Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	PE 0604300N - DD(X) Total Ship Systems Engineering	4009 - Advanced Gun System (AGS)

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
PE 0603513N / Shipboard Sys Component De	247.513	36.664	18.993	33.276	23.125	21.393	21.780	CONT	CONT
BLI 211900 / SCN	0.000	0.000	0.000	99.418	3,594.003	3,320.500	4,695.647	CONT	CONT

E. ACQUISITION STRATEGY:

(U) The Navy conducted a comparison of concepts for the DD(X) Advanced Gun System, the results of which were reported to Congress by SECNAV on 10/99. The Advanced Gun System will be acquired in conjunction with the DD(X) development schedule. Initial phases were conducted under section 845/804 other transaction authority. Initial phases include: Phase I – Concept Formulation, Phase II - Initial Prototype Development. Downselection to a single DD(X) Design Agent occurred in 3rd quarter FY02 to begin Phase III. The AGS EDM development will continue under this contract.

F. MAJOR PERFORMERS:

Contractors - United Defense Limited Partnership and DD(X) Design Agent - Northrop Grumman Ship Systems
Field Activities - NSWC Carderock, NSWC Dahlgren, NSWC Port Hueneme, NSWC Port Hueneme Louisville detachment, NSWC Indian Head
Universities - N/A

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT PE 0604300N - DD(X) Total Ship Systems Engineering			PROJECT NUMBER AND NAME 4009 - Advanced Gun System (AGS)							
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 (1)	FY 05 Cost	FY 05 Award Date (1)	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	CPAF	DD(X) Design Agent	157.342			45.064	1QFY04	36.935	1QFY05	Continuing	Continuing	
	845/804	DD(X) Industry Teams	177.435							0.000	177.435	
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			334.777	0.000		45.064		36.935		CONT.	CONT.	

Remarks: (1) The DD(X) Design Agent contract (FY03-FY05) is incrementally funded. The contract was awarded in April 2002. The yearly increment will be funded in the 1st Quarter of the fiscal year.
(2) The FY03 and Prior Year Cost are reflected in PE 0603513N, project 2467.

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:

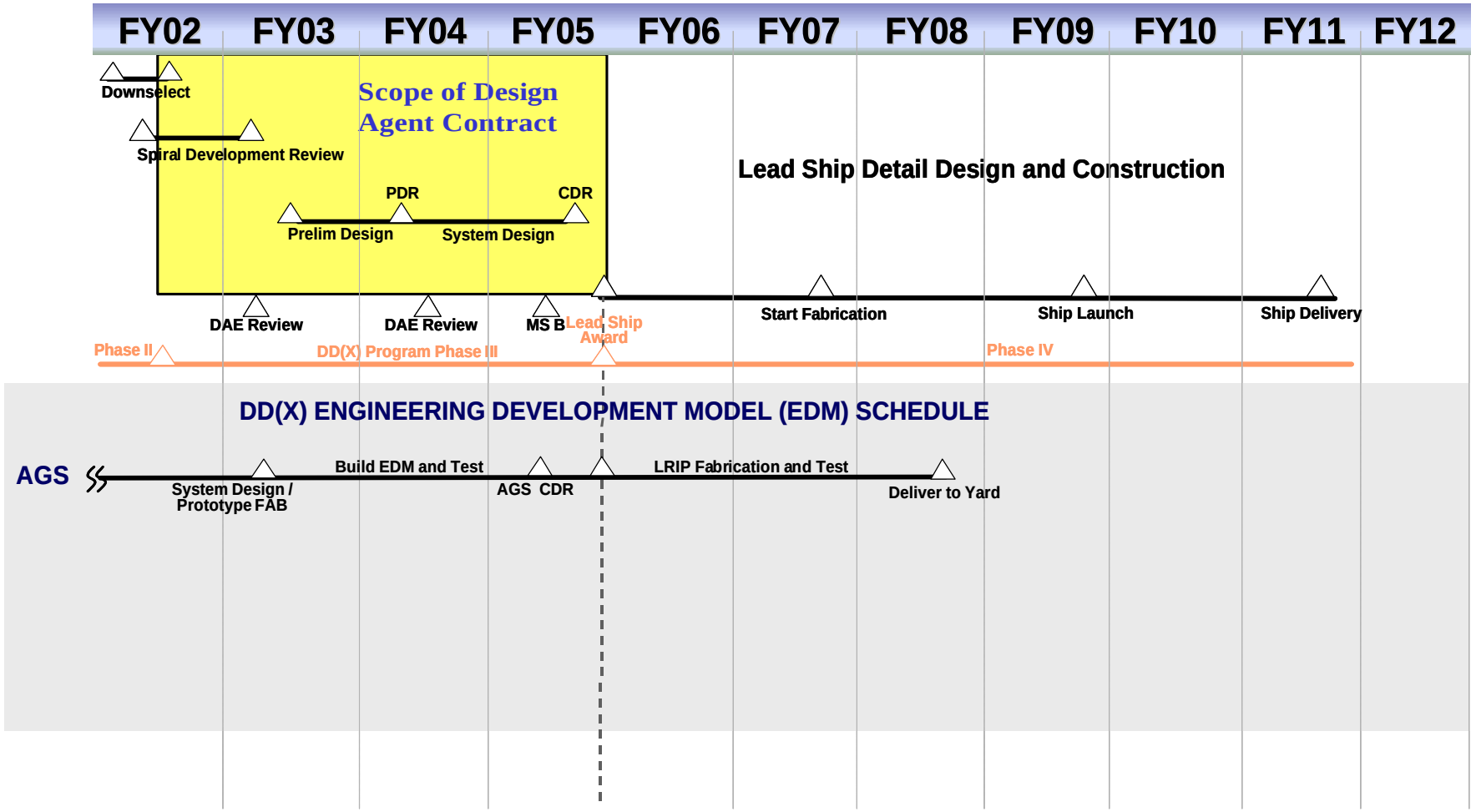
CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT PE 0604300N - DD(X) Total Ship Systems Engineering			PROJECT NUMBER AND NAME 4009 - Advanced Gun System (AGS)						
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	
											0.000	
											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Contractor Engineering Support	GSA/CPFF	Anteon Arlington VA	3.776			1.200	10/03	2.594	10/04	Continuing	Continuing	
	Various	Other Contractors	1.444			0.746	Various	0.776	Various	Continuing	Continuing	
Government Engineering Support	WR	NSWC DD Dahlgren VA	14.011			1.200	10/03	3.000	10/04	Continuing	Continuing	
	WR	NSWC PHD Pt Hueneme CA	6.942			1.200	10/03	1.600	10/04	Continuing	Continuing	
	WR	Other Gov't Activities	10.824			1.000	Various	1.550	Various	Continuing	Continuing	
Program Management Support												
Travel												
Labor (Research Personnel)												
SBIR Assessment												
Subtotal Management			36.997	0.000		5.346		9.520		0.000	51.863	
Remarks: (1) The FY03 and Prior Year Cost are reflected in PE 0603513N, project 2467.												
Total Cost			371.774	0.000		50.410		46.455		0.000	468.639	
Remarks:												

R-1 SHOPPING LIST - Item No. 101

CLASSIFICATION:

EXHIBIT R4, Schedule Profile		DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering	PROJECT NUMBER AND NAME 4009 - Advanced Gun System (AGS)



R-1 SHOPPING LIST - Item No. 101

Exhibit R-4a, Schedule Detail						DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT PE 0604300N - DD(X) Total Ship Systems Engineering				PROJECT NUMBER AND NAME 4009 - Advanced Gun System (AGS)		
Schedule Profile	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
System Design and Development	1Q-4Q	1Q-4Q					
Preliminary Design Review		2Q-3Q					
Milestone B			2Q				
Lead Ship Award			4Q				
AGS Critical Design Review			3Q				
DD(X) Critical Design Review			4Q				
Detail Design and Construction			4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
AGS LRIP Start				1Q			
AGS Delivery (1st Unit)						3Q	
Developmental Testing (DT-IIB1)			4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-2Q
Developmental Testing (DT-IIB2)							3Q-4Q

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2004	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604300N/ DD(X) Total Ship Sys Engineering				PROJECT NUMBER AND NAME 4010/Integrated Power Systems on DD(X)		
COST ($ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost	**0.000**	**72.202**	**60.068**	**0.000**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty	**0**	**0**	**0**	**0**	**0**	**0**	**0**

***FY 2004 and FY 2005 IPS DD(X) funds transferred from PE 0603513N IPS Project 2471**

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project provides funds to develop and test integrated power system Engineering Development Modules (EDMs) for DD (X) including Permanent Magnet (PM) motor and motor drive technologies . On 6 January 2000, SECNAV announced Navy intent that DD(X) be an electric drive ship with integrated power architecture. IPS reduces acquisition and operating costs of naval ships and increases military effectiveness. IPS provides total ship electric power, including electric propulsion, power conversion and distribution, and mission load interfaces to the electric power system. IPS leverages investments in technologies that will be useable by both military and commercial sectors.

- (U) IPS has the potential to revolutionize the design, construction, and operation of U.S. naval ships by using electricity as the primary energy transfer medium aboard ship. The flexibility of electric power transmission allows power generating modules with various power ratings to be connected to propulsion loads and ship service in any arrangement that supports the ship's mission at lowest overall cost. Systems engineering in IPS is focused on increasing the commonality of components used across ship types and in developing modules which will be integral to standardization, zonal system architectures, and generic shipbuilding strategies. The purpose of increased commonality is to reduce the total cost of ship ownership by using common modules composed of standard components and/or standard interfaces.

- (U) IPS addresses ship platform program goals through: reduced ship acquisition cost through integration of propulsion and ship's service prime movers; lower ship operational costs resulting from more flexible operating characteristics and more efficient components; reduced ship construction costs by allowing more extensive modular construction of power generation, distribution, and loads; improved ship survivability and reduced vulnerability through increased arrangement flexibility and improved electrical system survivability; reduced manning through improved power management systems and reduced on-board maintenance requirements; improved ship signature characteristics; improved design adaptability to meet future requirements of multiple ship types or missions; integrating power management and protection by fully utilizing the power electronics in the system to perform fault protection as well as power conversion and load management functions; simplified technology insertion which allows new technologies to be installed within IPS much less expensively than presently possible; and, reduced machinery system acquisition costs through utilization of commercially shared technologies and components.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-5	0604300N/ DD(X) Total Ship Sys Engineering	4010/Integrated Power Systems on DD(X)

B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	72.202	60.068
RDT&E Articles Quantity	0	0	0

Platform Specific Development: FY03 funds are in PE 0603513N Project 2471. Fabricate two (2) DD(X) IPS Engineering Development Models (EDMs) for land based and at-sea testing. Perform factory acceptance tests of major components. In support of DD(X) IPS EDM land based and at sea testing, complete test site preparations and prepare test plans. Deliver DD(X) IPS EDMs to land based and at sea test platforms. Install, checkout, integrate and conduct land based and at sea testing.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604300N/ DD(X) Total Ship Sys Engineering	4010/Integrated Power Systems on DD(X)

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY04 Pres Controls)	0.000	73.015	60.300
Current BES/President's Budget: (FY05 Pres Controls)	0.000	72.202	60.068
Total Adjustments	0.000	-0.813	-0.232
Summary of Adjustments			
Congressional undistributed reductions		-0.813	
Miscellaneous Adjustments			-0.232
Subtotal	0.000	-0.813	-0.232

Schedule:

Not Applicable

Technical:

Not Applicalbe

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604300N/ DD(X) Total Ship Sys Engineering	4010/Integrated Power Systems on DD(X)

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
PE 0603513N/ Shipboard Sys Component	247.513	36.664	18.993	33.276	23.125	21.393	21.780	CONT	CONT
PE 211900 / SCN	0.000	0.000	0.000	99.418	3,594.003	3,320.500	4,695.647	CONT	CONT

E. ACQUISITION STRATEGY:

(U) IPS is a candidate system for DD(X) and all other future surface ships.

F. MAJOR PERFORMERS:

IPS DD(X) Design Agent, Northrop Grumman Ship Systems

R-1 SHOPPING LIST - Item No. 101

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2004				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604300N/ DD(X) Total Ship Sys Engineering			PROJECT NUMBER AND NAME 4010/Integrated Power Systems on DD(X)						
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 (1)	FY 05 Cost	FY 05 Award Date (1)	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	CPAF	DD(X) Design Agent	154.500			72.202	1QFY04	60.068	1QFY05	CONT	CONT	
	845/804	DD(X) Industry Teams	66.661									
Ancillary Hardware Development											0.000	
Systems Engineering											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			221.161	0.000		72.202		60.068		CONT	CONT	

Remarks: (1) The DD(X) Design Agent contract (FY03-FY05) is incrementally funded. The contract was awarded in April 2002. The yearly increment will be funded in the 1st Quarter of the fiscal year.
(2) The FY03 and Prior Year Cost are reflected in PE 0603513N, project 2471.

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

Remarks:

CLASSIFICATION:

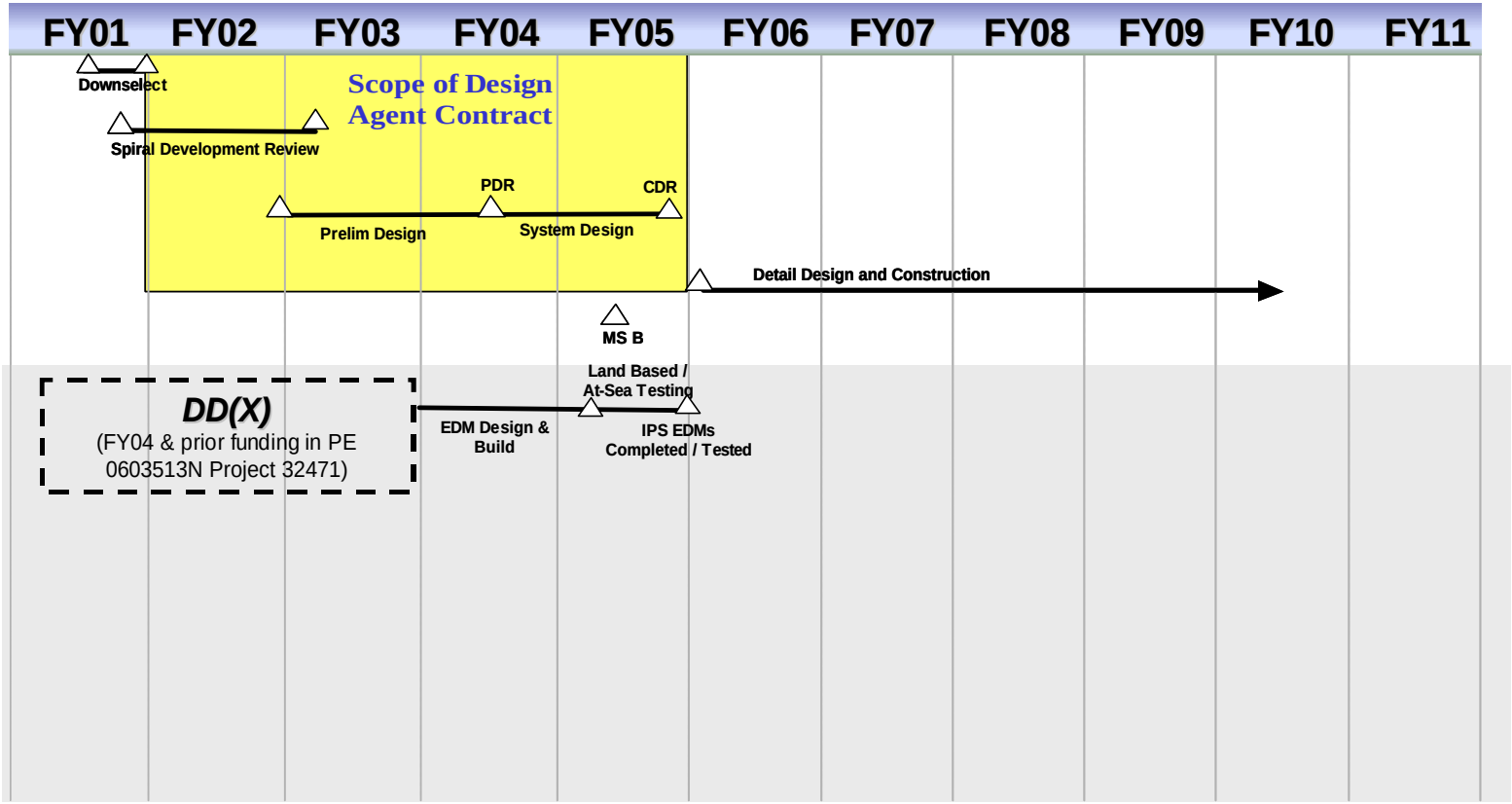
Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604300N/ DD(X) Total Ship Sys Engineering			PROJECT NUMBER AND NAME 4010/Integrated Power Systems on DD(X)						
Cost Categories	Contract Method & Type	Performing 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												
Operational Test & Evaluation												
Test Assets												
Tooling												
GFE												
Award Fees												
Subtotal T&E			0.000	0.000		0.000		0.000		CONT	CONT	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support											0.000	
Travel											0.000	
Labor (Research Personnel)											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		CONT	CONT	
Remarks:												
Total Cost			0.000	0.000		72.202		60.068		CONT	CONT	
Remarks:												

R-1 SHOPPING LIST - Item No. 101

CLASSIFICATION:

EXHIBIT R4, Schedule Profile		DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604300N/ DD(X) Total Ship Sys Engineering	PROJECT NUMBER AND NAME 4010/Integrated Power Systems on DD(X)

IPS Schedule



CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT& BA-5**	PROGRAM ELEMENT 0604300N/ DD(X) Total Ship Sys Engineering			PROJECT NUMBER AND NAME 4010/Integrated Power Systems on DD(X)			
Schedule Profile	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Design & Build		1Q-4Q	1Q				
Land Based Testing of IPS DD(X) EDMs			1Q-4Q				

CLASSIFICATION:

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 0604307N/AEGIS COMBAT SYSTEM ENGINEERING			
COST ($ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost	**331.213**	**213.470**	**146.463**	**178.365**	**206.955**	**250.170**	**256.759**
1447/Surface Combatant Combat System/AEGIS Open Arch.	279.250	205.400	146.463	169.091	167.041	180.733	155.502
1776/Surface Combatant Weapon System Mods	2.122	0.455	0.000	0.000	0.000	0.000	0.000
3044/Solid State Spy Radar/Improved Readiness AN/SPY-1	6.150	2.967	0.000	9.274	39.914	69.437	101.257
9066/AEGIS Tactical Display	17.515	0.000	0.000	0.000	0.000	0.000	0.000
9221/DDG-51 Optimized Manning	2.380	0.000	0.000	0.000	0.000	0.000	0.000
9222/ Knowledge Projection	1.428	0.000	0.000	0.000	0.000	0.000	0.000
9223/Silicon Carbide MMIC Production	1.428	1.286	0.000	0.000	0.000	0.000	0.000
9225/S-Band Radar Research	20.940	0.000	0.000	0.000	0.000	0.000	0.000
9381/Deployable Smartlink Comm Upgrades		1.978					
9382/Integrated Logistics (IDESC)		0.396					
9383/Smart Integration Data Env. (SIDE)		0.988					

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The AEGIS Combat System (ACS) provides immediate and effective capability to counter the current and expected air, surface, and sub-surface threats. Changes in the threat capability and advances in technology such as fiber optics, local area networks, and high performance computing require corresponding AEGIS Weapon System (AWS) and ACS changes. This program provides the ACS engineering and weapon system developments necessary for a continued increase in the capability of AEGIS Cruisers and Destroyers. In addition to developing and integrating improvements to the AWS, this program integrates combat capabilities developed in other Navy R&D programs into the ACS. Modifications of AWS computer programs must be made to integrate these capabilities into the ACS so that battle effectiveness and ACS performance will be retained against the evolving threat. Selected AWS and ACS upgrades will be backfitted into CG 47 Class and DDG 51 Class ships already in the Fleet, providing new key warfighting capability while reducing life cycle maintenance costs. In addition, with the advent of using Commercial Off-the-Shelf (COTS) equipment extensively throughout the combat system, COTS refresh development efforts will be necessary to pace the core Baseline development work and are included. This Program Element also introduces CG/DDG Open Architecture (OA) effort, including rearchitected computer programs, to the AEGIS fleet. CG/DDG OA positions the AEGIS fleet for maximum warfighting improvements and life cycle support benefit and produces a system, which is considerably less difficult to maintain and modernize and mitigates the cost of inevitable required and repetitive technology refresh.

R-1 SHOPPING LIST - Item No. 102

EXHIBIT R-2a, RDT&E Project Justification			DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**	PROGRAM ELEMENT NAME AND NUMBER **AEGIS COMBAT SYS ENG PE 0604307N**	PROJECT NAME AND NUMBER: **1447/9066 Surface Combatant Combat System**	

COST ($ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost To Complet	Total Cost
Surf Combatant Combat Sys/1447/9066	**296.765**	**205.400**	**146.463**	**169.091**	**167.041**	**180.733**	**155.502**	**CONT.**	**CONT.**
RDT&E Articles Qty **Not Applicable**									

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This program provides Cruiser and Destroyer ACS upgrades and integrates new equipment and systems to pace the threat and capture advances in technology. Examples of captured advanced technologies are: fiber optics, distributed architecture, and high performance computing, all of which require corresponding AWS and ACS changes. ACS is upgraded in Baselines. Baseline 2 (CG 52-58) consists of the Vertical Launching System, TOMAHAWK Weapon System, and Anti-Submarine Warfare upgrades. Baseline 3 (CG 59-64) includes the AN/SPY-1B Radar and AN/UYQ-21 consoles. Baseline 4 (CG 65-73) integrates the AN/UYK-43/44 computers with superset computer programs developed for the DDG 51. Baseline 5 was introduced in FY 1992 ships and includes the Joint Tactical Information Distribution System (JTIDS) Command and Control Processor, Tactical Data Information Link 16, Combat Direction Finding, Tactical Data Information Exchange System, AN/SLQ-32 (V)3 Active Electronic Counter Countermeasures, and AEGIS Extended Range (ER) Missile. Baseline 5 was developed in two steps (Phases): Phase I integrated AEGIS ER and supported the missile Initial Operational Capability; Phase III integrated system upgrades including Defensive Electronic Attack, Track Load Control algorithms, and Track Initiation Processor (integrated on 5.3, DDGs 68+); JTIDS and the OJ-663 color display Tactical Graphics Capability into the ACS. Baseline 6 Phase I supported OPEVAL of CEC in CGs 66 and 69 and was introduced in the DDG 51 class beginning with the last ship, DDG 79. Baseline 6 Phase III was introduced to the first ship in FY 1997, DDG 85. Baseline 6 Phase III upgrades include embarked helicopters, Fiber Optics as applied to Data Multiplexing (FODMS), implementation of affordability initiatives, the Radar Set Controller Environmental Simulator (RSCES) and Battle Force Tactical Trainer (BFTT), Advanced Display System, Evolved SeaSparrow Missile (ESSM), Identification (ID) upgrades Phase I, Advanced TOMAHAWK Weapon System (ATWCS) Phase II, Fire Control System Upgrades, and the Joint Maritime Command Information System (JMCIS). Baseline 7 Phase I is installed on the third DDG 51 Class ship in FY 1998, DDG 91. Major Baseline 7 upgrades include but are not limited to introduction and integration of a new radar (AN/SPY-1D(V) upgrade), COTS-based advanced computer processing and the Remote Mine Hunting System. The Cruiser Modernization program will upgrade cruisers with Land Attack and other warfighting capabilities. Experiences aboard AEGIS ships and shore sites have shown that COTS equipment will require a nominal four year cyclical refresh (periodic replacement) plan. This is a fact of life. Currently, these refresh efforts are not "plug and play;" rather they require additional developmental efforts that will necessitate replacement of new components with updated operating systems, device drivers, and interfaces. COTS refresh efforts are required and have been funded for Baseline 7 Phase I, and two variants of 7 Phase IC (due to different radar configurations and COTS Refresh periods). Baseline 5.4 was planned to allow the accelerated introduction of CEC integration on backfit DDGs and test activity necessary to field CEC on Baseline 5 DDGs (DDGs 51-78). The effort was subsequently cancelled due to the misalignment of Baseline 5.4 fielding schedules and CEC procurement schedules. This program introduces a CG/DDG Open Architecture (OA) effort, including rearchitected computer programs, to the AEGIS fleet. CG/DDG OA positions the AEGIS fleet for maximum warfighting improvements and life cycle support benefit and produces a system, which is considerably less difficult to maintain and modernize and mitigates the cost of inevitable required and repetitive technology refresh.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604307N/AEGIS COMBAT SYSTEM ENGINEERING	1447/9066 Surface Combatant Combat System

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Efforts/Subtotal Cost		6.011	0.000	0.000
RDT&E Articles Quantity				

Accomplishments: Completed the maturation of Baseline 6 Phase III computer program in support of ESSM DT/OT. Delivered final Quality Assured (QA) load in December 2002. Implemented quality standard by reducing Computer Program Change Request (CPCR) count and number of deficiency workarounds.

Planned: n/a

		FY 03	FY 04	FY 05
Accomplishments/Efforts/Subtotal Cost		10.525	0.000	0.000
RDT&E Articles Quantity				

Accomplishments: Initiated the development of Baseline 5.4. Conducted an Initial Design Review and a Final Design Review in order to define the interface design between CEC and a Baseline 5 DDG Combat System. The effort was subsequently cancelled to permit fielding of more capable CEC systems at a later date.
Planned: n/a

		FY 03	FY 04	FY 05
Accomplishments/Efforts/Subtotal Cost		56.350	27.000	27.196
RDT&E Articles Quantity				

Accomplishments: Continued with extensive Baseline 7 Phase I Engineering Test and Evaluation (ET&E) and Multi-Element Integration and Test (MEIT) at Combat Systems Engineering Development Site (CSEDS) and the Production Test Center (PTC). Completed first Acceptance Test Procedure (ATP) on DDG 91 equipment . Conducted engineering assessment of Baseline 7 Phase I capabilities. Successfully completed Trial A & B on DDG 91.
Planned: Continue maturation of Baseline 7 Phase I in support of Land Based SPY-1D(V) DT/OT and DDG 91-96 ship building milestones. Conduct demonstration of Baseline 7 Phase I capabilities. Includes support of AWS Baseline Replan initiatives: capture of high priority CPCR fixes into Baseline 7 Phase I variants (7IC, 7IR); reducing number of deficiency workarounds; NSWC-DD Forward Engineering Test Team and SPY-1D (V) TECHEVAL/OPEVAL.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604307N/AEGIS COMBAT SYSTEM ENGINEERING	1447/9066 Surface Combatant Combat System

B. Accomplishments/Planned Program (Cont.)

		FY 03	FY 04	FY 05
Accomplishments/Efforts/Subtotal Cost		20.588	17.374	13.000
RDT&E Articles Quantity				

Accomplishments: Analyzed and assessed candidate components to replace Diminishing Manufacturing Sources (DMS) equipment in Baseline 7 Phase I and recommended COTS equipment solution for Baseline 7 Phase I Refresh, to be introduced on DDG 103. Conducted equipment In Process Review (IPR) in order to make final selection. Conducted SDR and PDR. Initiated Design, Code, and Test efforts for Baseline 7 Phase I Refresh. Continue level of effort necessary for COTS selection for future baseline efforts (ie. Baseline 7 Phase IC Refresh).
Planned: Continue coding, debugging and testing of Baseline 7 Phase I COTS Refresh necessary for fielding DDGs 103-107. Conduct computer program CDR and PTC Readiness Review. Provides an implementation path for AEGIS CG/DDG Open Architecture (OA).

		FY 03	FY 04	FY 05
Accomplishments/Efforts/Subtotal Cost		24.000	51.752	44.324
RDT&E Articles Quantity				

Accomplishments: Implemented redefinition of B/L 7 Phase II as a Spiral development plan. Conducted first Lifecycle Objective Review of planned efforts.
Planned: Baseline 7 phase II has evolved into a three Spiral development effort to implement CG/DDG Open Architecture (OA) by providing open architected elements to the AEGIS Fleet earlier. Effort re-architects Aegis computer program for the following elements: SPY (Radar), AEGIS Display System (ADS), and Weapon Control System (WCS). Incrementally introduces the re-architected elements in a spiral fashion in Baseline 7 Phase 1C in support of CG Modernization program (Baseline 2 through 4 Cruisers) and 7 Phase 1 Refresh.

		FY 03	FY 04	FY 05
Accomplishments/Efforts/Subtotal Cost		80.277	64.407	28.697
RDT&E Articles Quantity				

Accomplishments: Continued development of Baseline 7 Phase IC computer program for the Cruiser Modernization Program which incorporates improved warfighting capabilities in the Air Dominance, Force Protection and BMC4I areas for Baseline 2 through 4 Cruisers. Conducted successful Critical Design Review (CDR) and In-process Review (IPR). Commenced coding efforts. Implementing plan for AEGIS Open Architecture for SPY element.

Planned: Continue coding, debug, test and integration efforts for integration of warfighting capabilities.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604307N/AEGIS COMBAT SYSTEM ENGINEERING	1447/9066 Surface Combatant Combat System

B. Accomplishments/Planned Program (Cont.)

		FY 03	FY 04	FY 05
Accomplishments/Efforts/Subtotal Cost		17.515	0.000	0.000
RDT&E Articles Quantity				

Accomplishments: (FY03 Congressional Plus-up / K9066) Conducted AEGIS Tactical Display Upgrade efforts , as a risk mitigator in the field of Human Systems Interface (HSI), in Baseline 7 Phase IR . Becomes the basis for open AEGIS Display System (ADS) element of our CG/DDG OA Spiral development.

		FY 03	FY 04	FY 05
Accomplishments/Efforts/Subtotal Cost		35.500	0.000	0.000
RDT&E Articles Quantity				

Accomplishments: Navy Area Theater Transfer to the Navy to disable Area TBMD code, carry out the orderly termination of Area TBMD program and conduct those efforts necessary to complete Baseline 6 Phase III and Baseline 7 Phase I computer program development. Efforts included the update of documentation including revised technical specifications, training manuals, and curriculum; engineering and ship waterfront integration support and maintain necessary infrastructure including site operations; conducted regression testing of Baseline 6 Phase III and Baseline 7 Phase I to verify and validate AAW performance after disabling TBMD code.

		FY 03	FY 04	FY 05
Accomplishments/Efforts/Subtotal Cost		19.220	26.627	13.488
RDT&E Articles Quantity				

Accomplishments/Planned: Continued to provide the RDT&E share of operations and maintenance of the Combat System Engineering Development Site(CSEDs), Program Generation Center, Computer Program Test Site, and Land Based Test Site.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604307N/AEGIS COMBAT SYSTEM ENGINEERING	1447/9066 Surface Combatant Combat System

B. Accomplishments/Planned Program (Cont.)

		FY 03	FY 04	FY 05
Accomplishments/Efforts/Subtotal Cost		17.447	18.240	19.758
RDT&E Articles Quantity				

Accomplishments./Planned: Provided funds for labs and field activities to support forward fit and backfit baseline upgrade in order to conduct engineering and scientific studies and analysis to minimize the risk in the introduction of increased warfighting capability including CEC and ESSM. Studies produced by the Applied Physics Lab and the NSWC-DD ensure effective introduction of COTS. NSWC DD personnel also provide on site technical support at contractor facilities during development, testing, and evaluation of upgrades to the ACS.

		FY 03	FY 04	FY 05
Accomplishments/Efforts/Subtotal Cost		5.145	0.000	0.000
RDT&E Articles Quantity				

Accomplishments: Successfully completed transition of AADC system from JHU/APL to Prime Contractor, GDAIS.

		FY 03	FY 04	FY 05
Accomplishments/Efforts/Subtotal Cost		4.100	0.000	0.000
RDT&E Articles Quantity				

Planned/Accomplishments: Provided the initial funds necessary to allow for the implementation of the SIAP Blk 0 correlation/development Interface Change Proposal (ICP) into AEGIS Baselines. Effort subsequently cancelled.

R-1 SHOPPING LIST - Item No. 102

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604307N/AEGIS COMBAT SYSTEM ENGINEERING	1447/9066 Surface Combatant Combat System

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous BES/President's Budget: (FY04/05 Pres Controls)	302.946	205.273	203.629
Current BES/OSD Budget: (FY05 FMB Controls)	296.765	205.400	146.463
Total Adjustments	-6.181	0.127	-57.166
Summary of Adjustments			
Economic Assumptions	-0.767		
Reprogrammings	1.210		
Programmatic Adjustments	-0.087	0.127	-56.190
Manpower Reductions			-0.329
NWCF Rates			-0.647
SBIR	-6.537		
PR 05:			
Subtotal	-6.181	0.127	-57.166

Schedule:

1) Baseline 7 Phase II has been redefined as a Spiral development plan known as AEGIS (CG/DDG) Open Architecture, to provide open architected elements to the AEGIS Fleet earlier.
2) Added SDR/PDR/CDR process and a demo for Baseline 7 Phase IR .
3) Moved SPY-1D(V) Land based DT/OT.

Technical:

1) Baseline 5.4 which was the planned enabler for Cooperative Engagement Capabilities (CEC) integration on backfit DDGs (DDG 51-78) has been cancelled.
2) The sponsor has requested that the AADC program office obtain Joint acceptance by matching the AADC capability to Joint Air Defense Requirements.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604307N/AEGIS COMBAT SYSTEM ENGINEERING	1447/9066 Surface Combatant Combat System

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
SCN LI2122 - DDG 51*	2681.3	3193	3444.9	192.2	291.6			Cont.	Cont.
OPN LI5246 - AEGIS Supt. Eqp	152.229	96.669	57.517	107.083	81.724	104.678	87.549	Cont.	Cont.
								Cont.	Cont.

* TOA excludes outfitting and post delivery.

E. ACQUISITION STRATEGY:

Combat System Improvements are implemented in Baselines as described in the project mission statement. In FY 1998, Lockheed Martin was awarded a five year omnibus contract (sole source) to develop and integrate combat system improvements, which will fund all remaining AEGIS Baseline Upgrade Development efforts. After the baseline has been completed and tested, the computer program and associated equipment are delivered to the new construction shipbuilders where the program and equipment are installed and tested along with all other elements of the shipboard combat system and associated combat support systems. The computer program is a GFE deliverable to the Production Test Center for equipment test and check out.

F. MAJOR PERFORMERS:

Lockheed Martin, Moorestown, NJ (Combat System Design Agent/Prime Contractor)
NSWC/DD, Dahlgren, VA (Lifetime Support Engineering Agent)
NSWC/PHD, Port Hueneme, CA (In-Service Engineering Agent)

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604307N/AEGIS COMBAT SYSTEM ENGINEERING			PROJECT NUMBER AND NAME 1447/9066 Surface Combatant Combat System						
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
Systems Engineering	SS/CPAF	Lockheed, Moorestown, NJ	695.992	200.174	01/03	121.106	01/04	95.361	01/05	Cont.	Cont.	
Systems Engineering	SS/CPFF	APL, Baltimore MD	26.607	1.036	10/02	0.800	10/03	0.240	10/04	Cont.	Cont.	
Systems Engineering	WR/RCP	NSWC, Dahlgren VA	114.969	42.850	11/03	45.218	11/03	17.690	11/04	Cont.	Cont.	
Systems Engineering	BPA	PCI, VA Beach, VA	7.950	3.444	10/02	2.175	10/03	1.532	10/04	Cont.	Cont.	
Systems Engineering	WR	NSWC, PHD CA	17.397	4.471	11/02	3.628	11/03	2.487	11/04	Cont.	Cont.	
Systems Engineering	WR/RCP	NWAS, Corona CA	13.020	3.539	11/02	2.650	11/03	1.011	11/04	Cont.	Cont.	
Systems Engineering	SS/CPAF	Litton	0.997								0.997	
Systems Engineering	SS/CPAF	Boeing	0.990								0.990	
Systems Engineering	SS/CPAF	General Dynamics	32.399	2.615	06/03	1.596	06/04			Cont.	Cont.	
Systems Engineering	WR	SPAWAR	3.925	0.839	11/02	0.936	11/03	0.702	11/04	Cont.	Cont.	
Systems Engineering	CPFF	Techmatics	2.000									
Systems Engineering	WR/RCP	Miscellaneous	31.797	1.342	Various	1.200	Various	2.006	Various	Cont.	Cont.	
Systems Engineering	WR/RCP	Dam Neck	6.443	0.572	Various	0.500	Various	0.000	Various	Cont.	Cont.	
Award Fees	SS/CPAF	Lockheed, Moorestown, NJ	93.865	24.015	07/03	14.061	07/04	14.334	07/05	Cont.	Cont.	
Award Fees	SS/CPAF	BAE Systems, Rockville, MD	0.580								0.580	
Award Fees	SS/CPAF	PCI, VA Beach, VA	0.625								0.625	
Award Fees	SS/CPAF	General Dynamics	3.600	0.121	06/03	0.100	06/04			Cont.	Cont.	
Award Fees	WR/RCP	Miscellaneous	2.790								2.790	
Subtotal Product Development			1055.946	285.018		193.970		135.363		Cont.	Cont.	
Support	CPFF	APL, Baltimore MD	7.796	0.605	10/02	0.530	10/03	0.438	10/04	Cont.	Cont.	
Support	WR	NSWC, Pt. Hueneme, CA	4.501	0.507	11/02	0.500	11/03	0.367	11/04	Cont.	Cont.	
Support	WR	NSWC, Dahlgren VA	2.667	0.060	Various	0.060	Various	0.043	Various	Cont.	Cont.	
Support	WR/RCP	Miscellaneous	6.509	1.725	Various	1.500	Various	1.973	Various	Cont.	Cont.	
Subtotal Support			21.473	2.897		2.590		2.821		Cont.	Cont.	

Remarks:

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604307N/AEGIS COMBAT SYSTEM ENGINEERING				PROJECT NUMBER AND N/+ 1447/9066 Surface Combatant Combat System						
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
Test and Evaluation	SS/CPAF	Lockheed, Moorestown, NJ	16.322	3.300	07/03	3.300	07/04	2.390	07/05	Cont.	Cont.	
Test and Evaluation	WR	NSWC, Pt. Hueneme, CA	6.084	0.756	11/02	0.750	11/03	0.547	11/04	Cont.	Cont.	
Test and Evaluation	CPFF	APL, Baltimore MD	3.500							Cont.	Cont.	
Test and Evaluation	WR/RCP	Miscellaneous	9.512	2.015	Various	2.000	Various	2.829	Various	Cont.	Cont.	
										Cont.	Cont.	
										Cont.	Cont.	
										Cont.	Cont.	
Subtotal T&E			35.418	6.071		6.050		5.766		Cont.	Cont.	
Remarks:												
Program Management Support	BPA	BAE Systems, Rockville MD	26.600	2.389	10/02	2.400	10/03	2.115	10/04	Cont.	Cont.	
	WR/RCP	Miscellaneous	6.856	0.390	Various	0.390	Various	0.398	Various	Cont.	Cont.	
										Cont.	Cont.	
										Cont.	Cont.	
										Cont.	Cont.	
SBIR Assessment										Cont.	Cont.	
Subtotal Management			33.456	2.779		2.790		2.513		Cont.	Cont.	
Remarks:												
Total Cost			1,146.293	296.765		205.400		146.463		Cont.	Cont.	
Remarks:												

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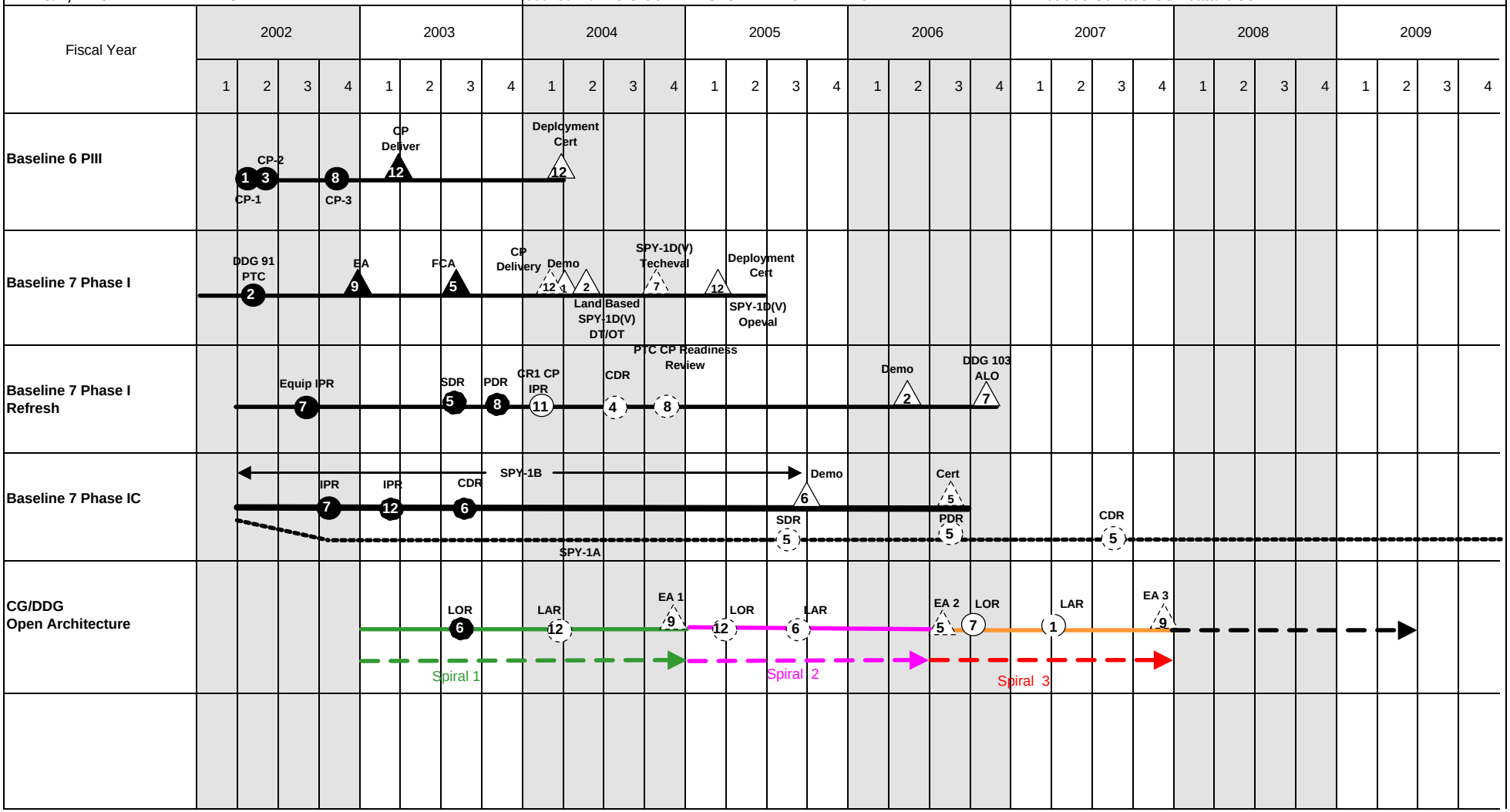
CLASSIFICATION:

EXHIBIT R4, Schedule Profile

DATE: **February 2004**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604307N/AEGIS COMBAT SYSTEM ENGINEERING	1447/9066 Surface Combatant Com



CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT 0604307N/AEGIS COMBAT SYSTEM ENGINEERING				PROJECT NUMBER AND NAME 1447/9066 Surface Combatant Com			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
6 Phase III								
CP-1								
CP-2								
CP-3								
CP Delivery		1Q						
CP Deployment Cert			1Q					
7 Phase I								
DDG 91 PTC								
EA								
FCA		3Q						
CP Delivery			1Q					
Demo			2Q					
Land Based SPY-1D(V) DT/OT			2Q					
SPY-1D(V) Techeval			4Q					
SPY-1D(V) Opeval				1Q				
Deployment Cert				1Q				
7 Phase I Refresh								
Equipment IPR								
SDR		3Q						
PDR		4Q						
CR 1 CP IPR			1Q					
CDR			3Q					
PTC CP Readiness Review			4Q					
Demo					2Q			
DDG 103 ALO					4Q			
7 Phase I C								
IPR (SPY-1B)		1Q						
CDR (SPY-1B)		3Q						
SDR (SPY-1A)				3Q				
Demo (SPY-1B)				3Q				
Cert (SPY-1B)					3Q			
PDR (SPY-1A)					3Q			
CDR (SPY-1A)						3Q		
CG/DDG Open Architecture								
LOR		3Q						
LAR			1Q					
EA 1			4Q					
LOR				1Q				
LAR				3Q				
EA2					3Q			
LOR					4Q			
LAR						2Q		
EA3						4Q		

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604307N/AEGIS COMBAT SYSTEM ENGINEERING			PROJECT NUMBER AND NAME 1776 / Surface Combatant Weapon Sys Mods				
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**2.122**	**0.455**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This program provides for modifications to the AWS MK-7 to counter the threat as articulated in ONI System Threat Assessment Report, ONI-TA-012-99 dated Oct 1999 and subsequent updates. The modifications will be introduced into CG 47 Class and DDG 51 Class ships.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604307N/AEGIS COMBAT SYSTEM ENGINEERING	1776/Surface Combatant Weapon Sys Mods

B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Radar System Engineering Studies	1.259	0.455	
RDT&E Articles Quantity			

Accomplishments/Planned: Perform system engineering studies to analyze threats and propose upgrades to meet threats. Perform system engineering studies to enable the AEGIS Weapon System to meet the evolving threat and improve performance in various environments. These studies will lead to detailed equipment designs and/or lead to proposed computer program upgrades. Current efforts include Automatic Adaptive Mode Control Operation (AAMCO) improvements, Enhanced Ultra Low Threat, Surface Search for AN/SPY-1D(V), and Dynamic Test Target Enhancements. Provide SPY radar technical studies and consultation to Detection System Manager for ships currently in service. Address new threats and requirements, perform trade studies and recommend solutions. Support plans for future radar upgrades through systems analysis, hardware trade-offs, and architecture considerations. Support definition and implementation of new BMD radar modes.

	FY 03	FY 04	FY 05
AWS Warfighting Improvements	0.746		
RDT&E Articles Quantity			

Planned: AWS Warfighting Improvements tasking. Perform system engineering to adapt AWS forward fit solution to in-service ships via backfit to allow them to counter the evolving threat. Efforts already identified include AN/SPY-1D(V) TIP Testability.

	FY 03	FY 04	FY 05
Operational Readiness Test System			
RDT&E Articles Quantity			

R-1 SHOPPING LIST - Item No. 102

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604307N/AEGIS COMBAT SYSTEM ENGINEERING	1776/Surface Combatant Weapon Sys Mods

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 03 Pres Controls)	4.257	0.460	4.419
Current BES/President's Budget: (FY04/05 Pres Controls)	2.122	0.455	0.000
Total Adjustments	-2.135	-0.005	-4.419
Summary of Adjustments			
Congressional rescissions			
SBIR/STTR Transfer	-0.080		
Economic Assumptions			
Reprogrammings	-2.042		
Programmatic Adjustments	-0.013	-0.005	-4.419
Total:	-2.135	-0.005	-4.419

Schedule:

The Navy has decided to terminate this program after the FY04 work is complete.

Technical: The Navy has decided to terminate this program after the FY04 work is complete.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604307N/AEGIS COMBAT SYSTEM ENGINEERING	1776/Surface Combatant Weapon Sys Mods

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
SCN LI2122 - DDG 51*	2681.3	3193	3444.9	192.2	291.6			Cont.	Cont.
OPN LI5246 - AEGIS Supt. Eqp	152.229	96.669	57.517	107.083	81.724	104.678	87.549	Cont.	Cont.
RDT&E,N 0603382N - Advanced Combat System Technolog	3.214	5.73	67.605	61.637	31.168	31.716	32.429	Cont.	Cont.

* TOA excludes outfitting and post delivery.

E. ACQUISITION STRATEGY: *

Lockheed Martin is the sole producer of the AEGIS Weapon System (AWS) except for the AN/SPY-1 Radar transmitter and the MK 99 CWI transmitter and illuminator which are produced by Raytheon. It is anticipated that all AWS modifications will be procured from the original equipment manufacturer.

F. MAJOR PERFORMERS: **

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

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604307N/AEGIS COMBAT SYSTEM ENGINEERING				PROJECT NUMBER AND NAME 1776/Surface Combatant Weapon Sys Mods						
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
Systems Engineering	SS/CPAF	Lockheed, Moorestown, NJ	23.354	0.808	11/02	0.000		0.000		Cont.	Cont.	
Systems Engineering	WR/RCP	Naval Labratories	1.680	0.384		0.455		0.000		Cont.	Cont.	
Systems Engineering	WR/RCP	NSWC/DD	0.050	0.234		0.000		0.000		Cont.	Cont.	
Systems Engineering	WR/RCP	Wright Patterson AFB	0.250	0.162		0.000		0.000		Cont.	Cont.	
Systems Engineering		CDSA Dam Neck	3.905	0.000		0.000		0.000		Cont.	Cont.	
Systems Engineering		NSWC/Crane	0.981	0.000		0.000		0.000		Cont.	Cont.	
Systems Engineering	WR/RCP	Miscellaneous	2.032	0.534		0.000		0.000		Cont.	Cont.	
Award Fees			0.996	0.000		0.000		0.000		Cont.	Cont.	
Subtotal Product Development			33.248	2.122		0.455		0.000		Cont.	Cont.	
Remarks:												
Support	WR/RCP	Miscellaneous	1.060	0.000		0.000		0.000		Cont.	Cont.	
Subtotal Support			1.060	0.000		0.000		0.000		Cont.	Cont.	
Total Cost:			34.308	2.122		0.455		0.000		Cont.	Cont.	
Remarks:												

R-1 SHOPPING LIST - Item No 102

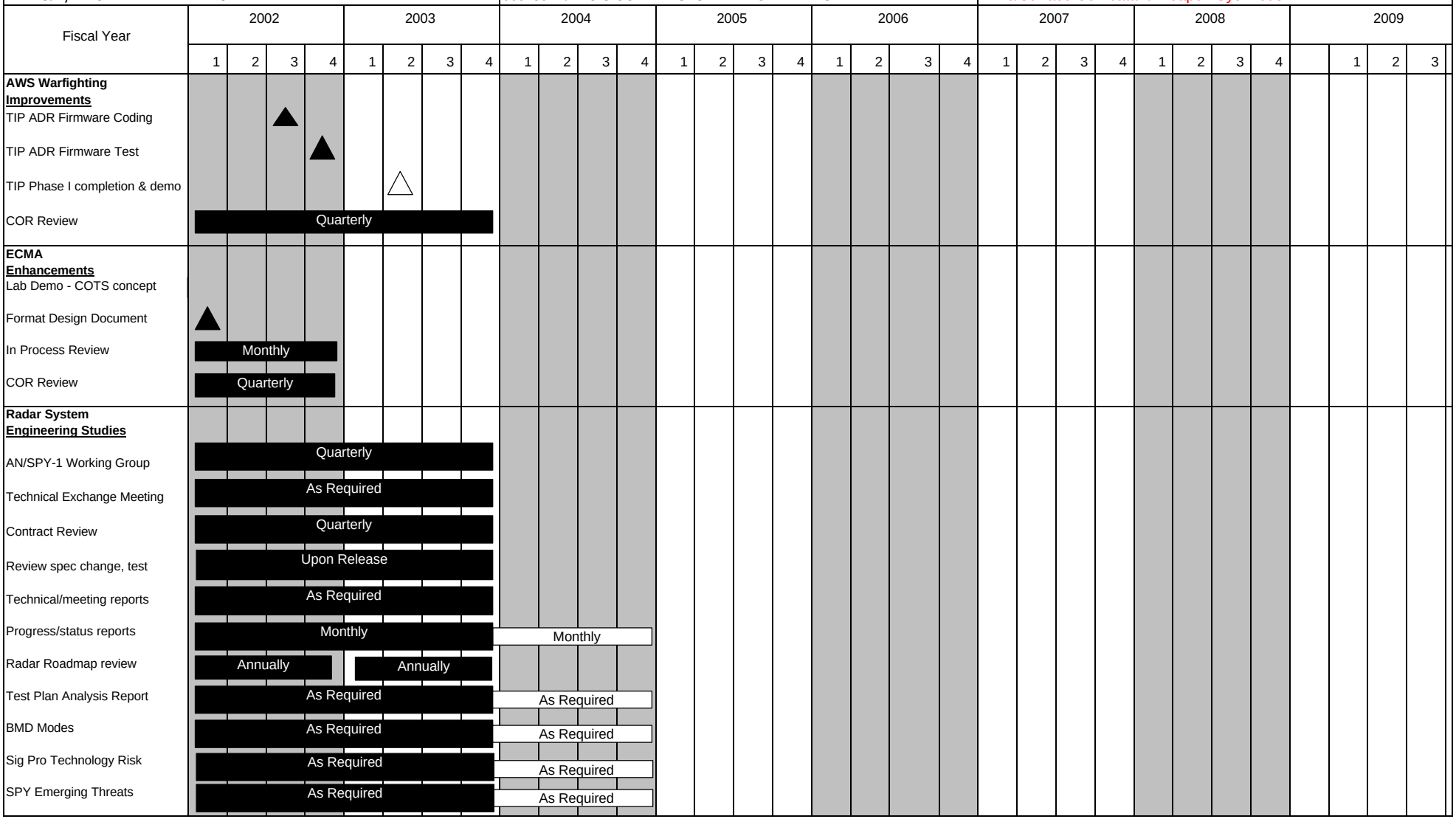
CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **February 2004**

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

PROGRAM ELEMENT NUMBER AND NAME: 0604307N/AEGIS COMBAT SYSTEM ENGINEERING

PROJECT NUMBER AND NAME: 1776/Surface Combatant Weapon Sys Mods



R-1 SHOPPING LIST - Item No. 102

- Not required for Budget Activities 1, 2, 3, and 6

CLASSIFICATION:

Exhibit R-4a, Schedule Detail:						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT 0604307N/AEGIS COMBAT SYSTEM ENGINEERING				PROJECT NUMBER AND NAME 1776/Surface Combatant Weapon Sys Mods			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
AWS Warfighting Improvements								
TIP ADR Firmware Coding								
TIP ADR Firmware Test, Software Mode 1 Test								
TIP Phase 1 completion and demonstration		2 Q						
Contracting Officer Representative (COR) Review		1-4 Q						
ECMA Enhancements								
Lab demonstration - COTS concept								
Format Design Document								
In Process Reviews								
Contracting Officer Representative (COR) Review								
Radar Systems Engineering								
AN/SPY-1 Working Group Meeting		1-4 Q						
Technical Exchange Meetings		As required						
Contract Review		1-4 Q						
Review specification changes, test procedures		Upon release						
Technical/meeting reports		As required						
Progress/status reports		Monthly	Monthly					
Radar Roadmap review and update		Annually						
Test Plan Analysis Report		As required	As required					
BMD Modes		As required	As required					
Sig Pro Technology Risk		As required	As required					
SPY Emerging Threats		As required	As required					

R-1 SHOPPING LIST - Item No. 102

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**	PROGRAM ELEMENT NAME AND NUMBER **AEGIS COMBAT SYS ENG PE 0604307N**	PROJECT NAME AND NUMBER: **9381/DEPLOYABLE SMARTLINK COMMUNICATIONS UPGRADE**	

COST ($ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost To Complet	Total Cost
Deployable Smartlink Communications Upgrade	**0.000**	**1.978**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**1.978**
RDT&E Articles Qty **Not Applicable**									

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Congressional plus-up for Small Business Innovative Research (SBIR) Phase III design and development of the Malibu Research antenna system.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA 5	**AEGIS COMBAT SYS ENG PE 0604307N**	**9381/DEPLOYABLE SMARTLINK COMMUNICATIONS UPGRADE**

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2002	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 03 Pres Controls)			0.000	
Current BES/President's Budget: (FY04/05 Pres Controls)			1.978	
Total Adjustments	0.000	0.000	1.978	0.000
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions				
Congressional rescissions				
Minor Program Adjustments			-0.022	
SBIR/STTR Transfer				
Economic Assumptions				
Reprogrammings				
Congressional increases			2.000	
Subtotal	0.000	0.000	1.978	0.000

Schedule:

Not Applicable.

Technical:

Not Applicable.

Funding:

Not Applicable.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA 5	**AEGIS COMBAT SYS ENG PE 0604307N**	**9381/DEPLOYABLE SMARTLINK COMMUNICATIONS UPGRADE**

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
Not Applicable										

E. ACQUISITION STRATEGY: *

Utilizing the SBIR Phase III contract develop the Deployable Smartlink Communications System incorporating system upgrades through test and evaluation that mitigate technical and operational risks to achieve a system that is acquirable by the Navy

F. MAJOR PERFORMERS: **

NSWC Dahlgren - Project Management
Malibu Research - Prime Contractor
NSWC Crane - Acquisition Plan/T&E
NSWC Carderock - Alteration Instl'n Team Contracting
GD /BIW PY - DDG alteration design and integration

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

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)					DATE: **February 2004**						
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**		PROGRAM ELEMENT **AEGIS COMBAT SYS ENG PE 0604307N**			PROJECT NUMBER AND NAME **9381/DEPLOYABLE SMARTLINK COMMUNICATIONS UPGRADE**						
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
Systems Engineering	CPFF	Malibu Research, Inc.				1.678	03/04					
		NSWC Dahlgren										
System Engineering	CPAF	GD/BIW Plng.Yard				0.050	03/04					
		SUPSHIP Bath										
Ship Installation	CPFF	Alteration Instln Team/TBD				0.150	TBD					
		NSWC Carderock										
Subtotal Product Development			0.000	0.000		1.878		0.000				
Remarks:												
Support												
Subtotal Support			0.000	0.000		0.000		0.000				
Remarks:												

R-1 SHOPPING LIST - Item No. 102

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)											DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**		PROGRAM ELEMENT **AEGIS COMBAT SYS ENG PE 0604307N**				PROJECT NUMBER AND NAME **9381/DEPLOYABLE SMARTLINK COMMUNICATIONS UPGRADE**						
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
Test and Evaluation		NSWC Crane				0.050	02/04					
Award Fees												
Subtotal T&E			0.000	0.000		0.050		0.000		0.000		
Remarks:												
Program Management		NSWC Crane				0.050	02/04					
Subtotal Management			0.000	0.000		0.050		0.000		0.000		
Remarks:												
Total Cost			0.000	0.000		1.978		0.000				
Remarks:												

R-1 SHOPPING LIST - Item No. 102

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																															DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**									PROGRAM ELEMENT NUMBER AND NAME **AEGIS COMBAT SYS ENG PE 0604307N**														PROJECT NUMBER AND NAME **9381/DEPLOYABLE SMARTLINK COMMUNICATIONS UPGRADE**											
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																																
System Design/ Development											DR	IPR	Install & Test	CDR																		
Software Delopment																																
Test & Evaluation Milestones																																
Land Based Testing Prototype Demo											RCS Test II																					
Deliveries														Prototype Removal																		

R-1 SHOPPING LIST - Item No. 102

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**	PROGRAM ELEMENT **AEGIS COMBAT SYS ENG PE 0604307N**				PROJECT NUMBER AND NAME **9381/DEPLOYABLE SMARTLINK COMMUNICATIONS UPGRADE**			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Prototype Phase			1-4Q	1Q				
System Design			1-4Q	1Q				
Software Delivery								
Test & Evaluation								
RCS LAND BASED ASSESSMENT			3Q					
PROTOTYPE DEMO AT-SEA (TW-04) and Removal			4Q	1Q				
Deliverables								
PROTOTYPE SYSTEM			3Q					

R-1 SHOPPING LIST - Item No. 102

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**	PROGRAM ELEMENT NAME AND NUMBER **AEGIS COMBAT SYS ENG PE 0604307N**	PROJECT NAME AND NUMBER: **9382/Integrated Logistics (IDESC)**	

COST ($ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost To Complet	Total Cost
Integrated Logistics (IDESC)	**0.000**	**0.396**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.396**
RDT&E Articles Qty									

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Congressional Plus-Up for Integrated Logistics (Integrated Data Environment Service Center/IDESC). The IDE is intended to provide Program Managers with the capability to realistically manage program cycle time reductions and total ownership costs while having a direct, positive effect on operational readiness. The Integrated Logistic Support (ILS) IDE is expected to provide framework and collaborative environment to integrate the acquisition and sustainment processes, now so disjointed in the DOD to provide managers the tools to control life cycle acquisition and sustainment.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N/BA-5	0604307N/AEGIS COMBAT SYSTEM ENGINEERING	9382/Integrated Logistics (IDESC)

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Integrated Logistics (IDESC)		0.000	0.396	0.000
RDT&E Articles Quantity				

Accomplishments: To date the contractors performance has been outstanding. In a pilot project supported by this office to validate certain technical capabilities and to provide leadership and program management, NetIDEAS and LM NE&SS completed its work on time, with budget and exceeded technical requirements.

Planned: The ILS and IDE objectives for PEO Ships Business Systems are:
1) Support DOD's transformation to integrated system product support.
2) Provide Industry based ILS connectivity to the DOD acquisition process.
3) Assist DOD's industrial partners in building and using product supply chains.
4) Integrate the private sector with the DOD program stakeholders through a collaborative engineering and work environment.
5) Initiate and manage life cycle behavior among all stakeholders of a product using operational readiness and total ownership costs as measures of success.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N/BA-5	0604307N/AEGIS COMBAT SYSTEM ENGINEERING	9382/Integrated Logistics (IDESC)

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2002	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 03 Pres Controls)			0.000	
Current BES/President's Budget: (FY04/05 Pres Controls)			0.396	
Total Adjustments	0.000	0.000	0.396	0.000
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions				
Congressional rescissions				
Minor Program Adjustments			-0.004	
SBIR/STTR Transfer				
Economic Assumptions				
Reprogrammings				
Congressional increases			0.400	
Subtotal	0.000	0.000	0.396	0.000

Schedule: N/A

Technical: N/A

Funding: N/A

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N/BA-5	0604307N/AEGIS COMBAT SYSTEM ENGINEERING	9382/Integrated Logistics (IDESC)

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
Not Applicable									

E. ACQUISITION STRATEGY:

Utilizing the Lockheed Martin Lifetime Support Contract to develop the IDESC. Today, data collection and information management through a product's life cycle is done in manual and serial process. Renewed emphasis on maintenance and modernization to existing fleet resources has exacerbated the need for improved methods of designing, monitoring and implementing modernization programs. Modernization programs rely heavily on engineering and product data that is contained in many different locations, within disparate and heterogeneous systems and has ownership by many different activities. There is a significant and increasing cost associated with the proper planning, designing, implementing, monitoring and tracking all of the data, processes and personnel required to meet the demands of our modernization programs. The ability to meet modernization goals has a direct impact on the fleet sailor and the Navy's ability to meet the mission demands.

It is now feasible to use commercial technology to integrate engineering databases so that they function as a virtually integrated management data environment, allowing near real time information sharing across the enterprise without the need to replace legacy systems. This solution also provides the ability for true collaboration using the web. This greatly enhances the accuracy and timeliness of the information provided to decision-makers and improves their ability to assess and correct problems early. This would permit total visibility for program managers and all parties who contribute to maintenance and modernization, enabling them to collaborate early in the process and decrease total ownership cost (TOC).

F. MAJOR PERFORMERS:

NetIDEAS, Inc. (NetIDEAS)

Lockheed Martin Naval Electronics and Surveillance Systems (LM NE&SS)

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N/BA-5**		PROGRAM ELEMENT 0604307N/AEGIS COMBAT SYSTEM ENGINEERING			PROJECT NUMBER AND NAME 9382/Integrated Logistics (IDESC)							
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
Systems Engineering	FFP	NetIDEAS Inc. Mount Laurel, NJ				0.196	03/04					
Systems Engineering	CPAF	LMCO, Moorestown, NJ				0.020	03/04					
Subtotal Product Development			0.000	0.000		0.216		0.000				
Remarks:												
Support	FFP	NetIDEAS Inc. Mount Laurel, NJ				0.100	03/04					
Subtotal Support			0.000	0.000		0.100		0.000				
Remarks:												

R-1 SHOPPING LIST - Item No. 102

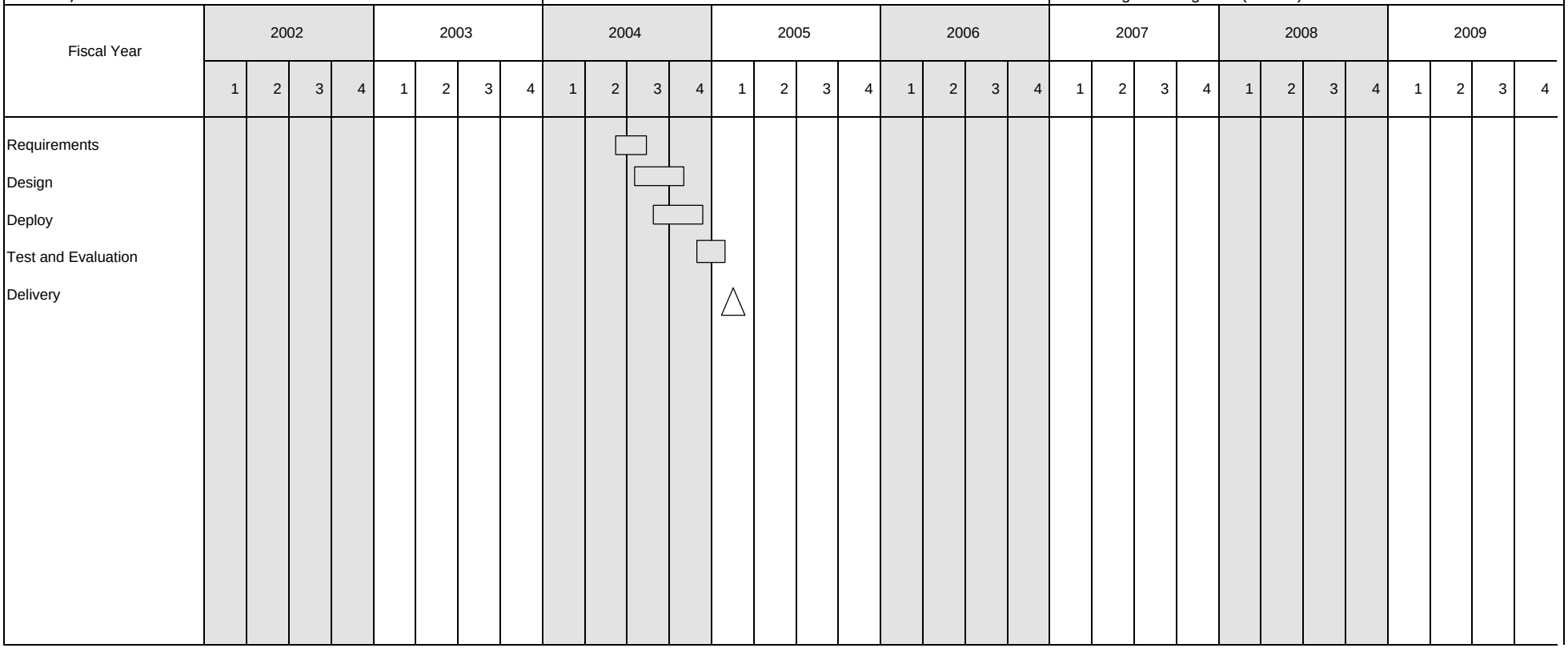
CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N/BA-5**		PROGRAM ELEMENT 0604307N/AEGIS COMBAT SYSTEM ENGINEERING				PROJECT NUMBER AND N/+ 9382/Integrated Logistics (IDESC)						
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
Test and Evaluation	FFP	NetIDEAS Inc. Mount Laurel, NJ				0.050	03/04					
Subtotal T&E			0.000	0.000		0.050		0.000				
Remarks:												
Program Management Support	CPAF	LMCO, Moorestown, NJ				0.010	03/04					
Program Management Support	FFP	NetIDEAS Inc. Mount Laurel, NJ				0.020	03/04					
Subtotal Management			0.000	0.000		0.030		0.000				
Remarks:												
Total Cost			0.000	0.000		0.396		0.000				
Remarks:												

R-1 SHOPPING LIST - Item No. 102

CLASSIFICATION:

EXHIBIT R4, Schedule Profile			DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N/BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604307N/AEGIS COMBAT SYSTEM ENGINEERING	PROJECT NUMBER AND NAME 9382/Integrated Logistics (IDESC)	



R-1 SHOPPING LIST - Item No. 102

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N/BA-5**	PROGRAM ELEMENT 0604307N/AEGIS COMBAT SYSTEM ENGINEERING				PROJECT NUMBER AND NAME 9382/Integrated Logistics (IDESC)			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Requirements			1-2Q					
Design			2-3Q					
Deploy			3-4Q					
Test and Evaluation			4Q	1Q				
Delivery				1Q				

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**	PROGRAM ELEMENT NAME AND NUMBER **AEGIS COMBAT SYS ENG PE 0604307N**	PROJECT NAME AND NUMBER: **9383/Smart Integrated Data Environment (SIDE)**	

COST ($ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost To Complet	Total Cost
Smart Integrated Data Environment (SIDE)	**0.000**	**0.988**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.988**
RDT&E Articles Qty									

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Smart Integrated Data Environment (SIDE) is a concept for a fully interactive, ship-wide integration of physical plant and supporting operations, maintenance, logistics, training, and other data. Decision-aids and automated processes are further integrated to make the data both dynamic and useful at every echelon of the organization. SIDE has potential to increase productivity and, hence, decrease Sailor workload. The funding will be used for the development of a limited capability, shore-based prototype that will prove the concept and provide an automated Engineering Operating Sequencing System (EOSS)/Combat Systems Operating Sequencing Systems (CSOSS) equipment tag-out capability for shore based validation teams. This initial capability subsequently will be transitioned to shipboard use and further developed to incorporate the full range of potential capability.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N/BA-5	0604307N/AEGIS COMBAT SYSTEM ENGINEERING	9383/Smart Integrated Data Environment (SIDE)

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
SIDE Prototype Development		0.000	0.988	0.000
RDT&E Articles Quantity				

Accomplishments: N/A

Planned:
- Develop a shore-based prototype that will provide an automated Engineering Operating Sequencing System (EOSS)/Combat Systems Operating Sequencing Systems (CSOSS) equipment tag-out capability for shore based validation teams.
- Transition prototype to shipboard system.
- Expand system capability to include automated processes and decision-aids.

R-1 SHOPPING LIST - Item No. 102

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N/BA-5	0604307N/AEGIS COMBAT SYSTEM ENGINEERING	9383/Smart Integrated Data Environment (SIDE)

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2002	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 03 Pres Controls)			0.000	
Current BES/President's Budget: (FY04/05 Pres Controls)			0.988	
Total Adjustments	0.000	0.000	0.988	0.000
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions				
Congressional rescissions				
Minor Program Adjustments			-0.012	
SBIR/STTR Transfer				
Economic Assumptions				
Reprogrammings				
Congressional increases			1.000	
Subtotal	0.000	0.000	0.988	0.000

Schedule:

Not Applicable

Technical:

Not Applicable

Funding:

Not Applicable

R-1 SHOPPING LIST - Item No. 102

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N/BA-5	0604307N/AEGIS COMBAT SYSTEM ENGINEERING	9383/Smart Integrated Data Environment (SIDE)

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
Not Applicable									

E. ACQUISITION STRATEGY:

Utilize the Congressional Plus-up in FY04 to develop a prototype system for proof of concept. Transition to shipboard system in FY05 and expand capabilities in outyears. This program is for development of prototype only. A milestone decision will be based on successful completion of the prototype.

F. MAJOR PERFORMERS:

Delex Systems, Inc., Vienna, VA

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N/BA-5**		PROGRAM ELEMENT 0604307N/AEGIS COMBAT SYSTEM ENGINEERING			PROJECT NUMBER AND NAME 9383/Smart Integrated Data Environment (SIDE)							
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
SIDE Prototype Development	T&M	Delex Systems, Inc.				0.988	02/04					
Subtotal Product Development			0.000	0.000		0.988		0.000				
Remarks:												
Support												
Subtotal Support			0.000	0.000		0.000		0.000				
Remarks:												

R-1 SHOPPING LIST - Item No. 102

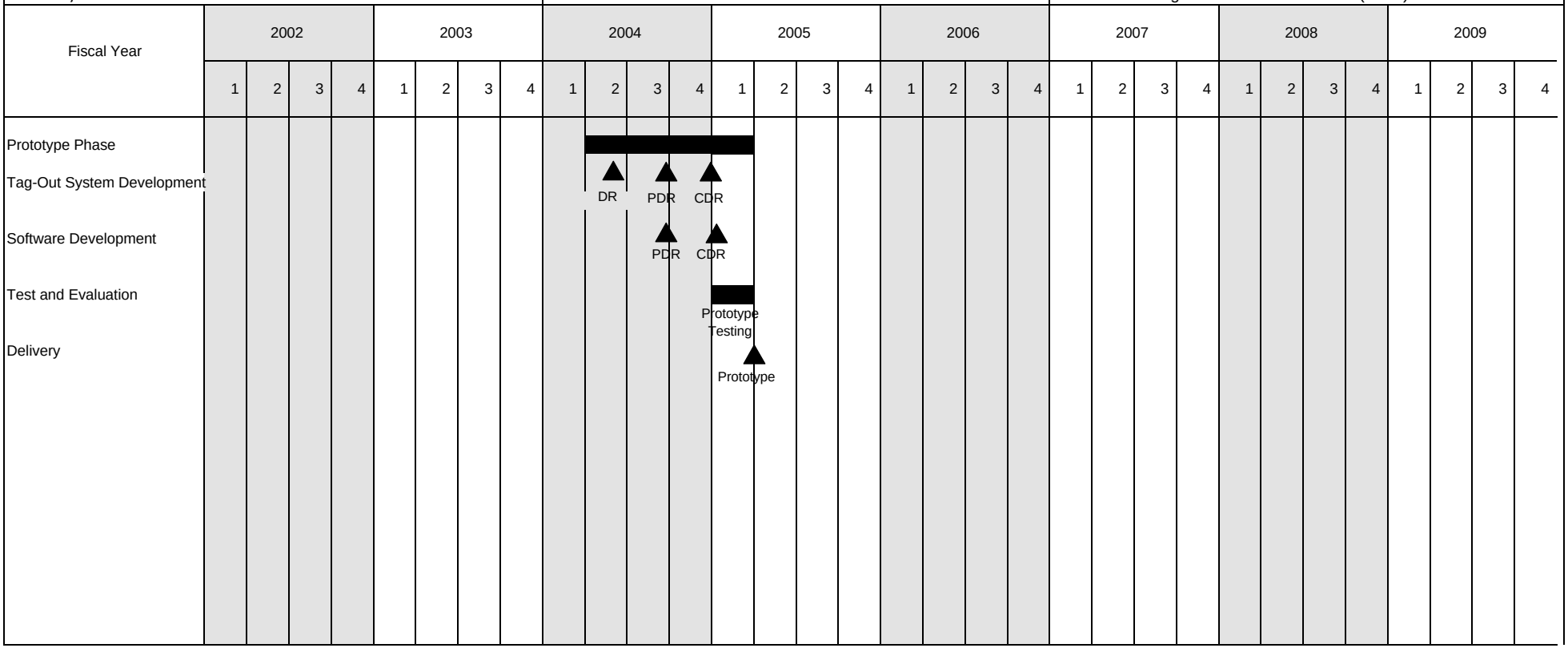
CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N/BA-5**			PROGRAM ELEMENT 0604307N/AEGIS COMBAT SYSTEM ENGINEERING			PROJECT NUMBER AND N/+ 9383/Smart Integrated Data Environment (SIDE)						
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
Test and Evaluation												
Subtotal T&E			0.000	0.000		0.000		0.000				
Remarks:												
Program Management Support												
Subtotal Management			0.000	0.000		0.000		0.000				
Remarks:												
Total Cost			0.000	0.000	0.000	0.988	0.000	0.000				
Remarks:												

R-1 SHOPPING LIST - Item No. 102

CLASSIFICATION:

EXHIBIT R4, Schedule Profile			DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N/BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604307N/AEGIS COMBAT SYSTEM ENGINEERING	PROJECT NUMBER AND NAME 9383/Smart Integrated Data Environment (SIDE)	



R-1 SHOPPING LIST - Item No. 102

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
RDT&E, N/BA-5	0604307N/AEGIS COMBAT SYSTEM ENGINEERING				9383/Smart Integrated Data Environment (SIDE)			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
			2-4Q	1Q				
Prototype Phase								
Tag-Out System Development			2-4Q	1Q				
Model Development			2-3Q					
Design Review			2Q					
Preliminary Design Review			3Q					
Critical Design Review			4Q					
Software Delivery								
Preliminary Design Review			3Q					
Critical Design Review			4Q					
Coding Complete				1Q				
Test and Evaluation			4Q					
Test Readiness Review								
Prototype Testing				1Q				
Deliverables								
Prototype				1Q				

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604307N / AEGIS COMBAT SYSTEM ENGINEERING				PROJECT NUMBER AND NAME 3044 / 9223 / 9225 - SOLID STATE SPY RADAR			
COST ($ in Millions)	FY 2002	FY 2003	FY 2004*	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost	**0.000**	**28.518**	**4.253**	**0.000**	**9.274**	**39.914**	**69.437**	**101.257**
RDT&E Articles Qty	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

SOLID STATE SPY RADAR / SILICON CARBIDE MMIC PRODUCIBILITY PROGRAM:
The Solid State SPY Radar is being developed to support Theater Air and Missile Defense requirements as part of a next generation cruiser, CG(X), radar suite. The S-Band Solid State SPY Radar will provide multimission capabilities, supporting both long range, exoatmospheric detection, tracking and discrimination of ballistic missiles, as well as robust Ballistic Missile Defense and Self Defense against air and surface threats. For the BMD capability, increased radar sensitivity and bandwidth over the current SPY-1 system is needed to detect, track and support engagements of advanced ballistic missile threats at the required ranges. For the Ballistic Missile Defense and Self Defense capability, increased sensitivity and clutter rejection capability is needed to detect, react to, and engage stressing Very Low Observable /Very Low Flyer (VLO/VLF) threats in the presence of heavy land, sea, and rain clutter. This effort provides for the development of an S-Band solid state replacement for the SPY-1 Radar with the required capabilities to pace the evolving threat.

AN/SPY-1 READINESS IMPROVEMENT PROGRAM:
The SPY-1 Readiness Improvement program is the productizing of an intelligent automated maintenance tool, which will improve operational & combat effectiveness while improving system availability of the AN/SPY-1 Series radar. This intelligent maintenance tool, the Multi-Function Distributed Analysis Tool (MFDAT) will significantly reduce SPY-1 radar system alignment & maintenance time, increase system availability, and increase operational precision through more reliable alignment. The SPY-1 radar system is the Navy's primary radar for air defense and ballistic missile defense and will be so for the next 20+ years. This program will improve SPY-1 Series Radar operational availability and precision through the use of an automated, intelligent maintenance tool enabling the Sailor to maintain peak alignment and accurately diagnose and correct trouble conditions. The increase will allow for the transitioning of the MFDAT from the prototype developed under a SBIR Phase II program to full-scale production system capable of being fielded on combat naval vessels. The funding will complete the non-recurring engineering costs for engineering costs for development and provide production drawings, interface and maintenance documents, as well as calibration procedures.

THIS PROGRAM HAS BEEN UNFUNDED IN FY05 BY ISSUE 50092.

* FY 2004 includes:
- Congressional plus-up for Silicon Carbide MMIC Producibility Program
- Improved Readiness for AN/SPY-1 Radar

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604307N / AEGIS COMBAT SYSTEM ENGINEERING	3044 / 9223 / 9225 - SOLID STATE SPY RADAR

B. Accomplishments/Planned Program

	FY 02	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		22.069		
RDT&E Articles Quantity		0		

S-BAND RADAR DEVELOPMENT
Planned:
- Initiate radar preliminary design
- Develop system and subsystem specifications
- Identify and initiate risk reduction experiments and demonstrations of enabling technologies, including high-power amplifiers (including advanced materials), Transmit/Reciever (T/R)

	FY 02	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		1.410	1.000	
RDT&E Articles Quantity		0	0	

ADVANCED TECHNOLOGY MMIC DEVELOPMENT
Planned:
- Improve the producibility (I.e. yield and cost) of high power Silicon Carbide (SiC) MMIC power amplifiers.
- Non recurring engineering design of high power SiC MMICs. Recurring fabrication to support future capability radar demonstrations

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604307N / AEGIS COMBAT SYSTEM ENGINEERING	3044 / 9223 / 9225 - SOLID STATE SPY RADAR

B. Accomplishments/Planned Program

	FY 02	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		4.989	3.242	
RDT&E Articles Quantity		0	0	

SYSTEMS ENGINEERING
Planned:
- Participate in the development of threat definitions, performance requirements and radar specifications; perform radar systems performance analysis.
- Participate in Integrated Product Teams (IPTs) and Working Groups (WGs) to resolve critical issues.
- Perform supporting studies and analyses.

	FY 02	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.050	0.011	
RDT&E Articles Quantity		0	0	

PROGRAM MANAGEMENT SUPPORT
Planned:
- Program planning, assessmnet of technical alternatives, risk identification and mitigation.
- Cost and schedule development and execution.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604307N / AEGIS COMBAT SYSTEM ENGINEERING	3044 / 9223 / 9225 - SOLID STATE SPY RADAR

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:	29.311	0.000	0.000
Current President's Budget: (PB 05 Controls)	28.515	4.253	
Total Adjustments	-0.796	4.253	0.000
Summary of Adjustments			
Economic Assumptions	0.101	-0.047	
SBIR Reductions	0.695		
Congressional increases		4.300	
Subtotal	0.796	4.253	0.000

Schedule:

Not applicable.

Technical:

Not Applicable.

Funding:

FY 2004 includes:
- Congressional add for Silicon Carbide MMIC Producibility Program
- Improved Readiness for AN/SPY-1 Radar

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604307N / AEGIS COMBAT SYSTEM ENGINEERING				PROJECT NUMBER AND NAME 3044 / 9223 / 9225 - SOLID STATE SPY RADAR						
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
S-Band Radar Development	SS/CPAF	Lockheed Martin (NJ)	N/A	22.204	01/03	N/A	N/A	N/A	N/A	Cont.	Cont.	Cont.
Advanced Technology MMIC Dev		CREE	N/A	1.785	01/03	1.000	N/A	N/A	N/A	Cont.	Cont.	Cont.
System Engineering	TBD	MIKROS	N/A	0.000	N/A	2.776	02/04	N/A	N/A	Cont.	Cont.	Cont.
	WR	NSWC DD	N/A	1.250	01/03	0.056	02/04	N/A	N/A	Cont.	Cont.	Cont.
	CPFF	JHU/APL	N/A	1.514	01/03	0.100	02/04	N/A	N/A	Cont.	Cont.	Cont.
	MIPR	MIT/LL	N/A	0.850	01/03	N/A	N/A	N/A	N/A	Cont.	Cont.	Cont.
	WR	NRL	N/A	0.150	01/03	0.100	02/04	N/A	N/A	Cont.	Cont.	Cont.
	WR	SYSTEMS ENG GROUP	N/A	0.350	01/03	N/A	N/A	N/A	N/A	Cont.	Cont.	Cont.
	GSA	Various	N/A	0.250	01/03	0.150	02/04	N/A	N/A	Cont.	Cont.	Cont.
	WR/RCP	Various	N/A	0.115	01/03	0.060	02/04	N/A	N/A	Cont.	Cont.	Cont.
Subtotal Product Development			0.000	28.468		4.242		0.000		Cont.	Cont.	Cont.
Remarks:												
Support / Management Services	GSA	Computer Science Services		0.025	01/03	N/A	N/A	N/A	N/A	Cont.	Cont.	Cont.
	GSA	Systems Planning & Analysis		0.025	01/03	0.011	02/04	N/A	N/A	Cont.	Cont.	Cont.
Subtotal Support			0.000	0.050		0.011		0.000		0.000	0.061	Cont.
Remarks:												
Total Cost			0.000	28.518		4.253		0.000		Cont.	Cont.	Cont.

R-1 SHOPPING LIST - Item No. 102

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604307N / AEGIS COMBAT SYSTEM ENGINEERING			PROJECT NUMBER AND NAME 3044 / 9223 / 9225 - SOLID STATE SPY RADAR							
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												
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	Cont.
Remarks:												
Contractor Engineering Support												
Government Engineering Support												
Program Management Support												
Travel												
Labor (Research Personnel)												
SBIR Assessment												
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	Cont.
Remarks:												
Total Cost			0.000	28.518		4.253		0.000		Cont.	Cont.	Cont.
Remarks:												

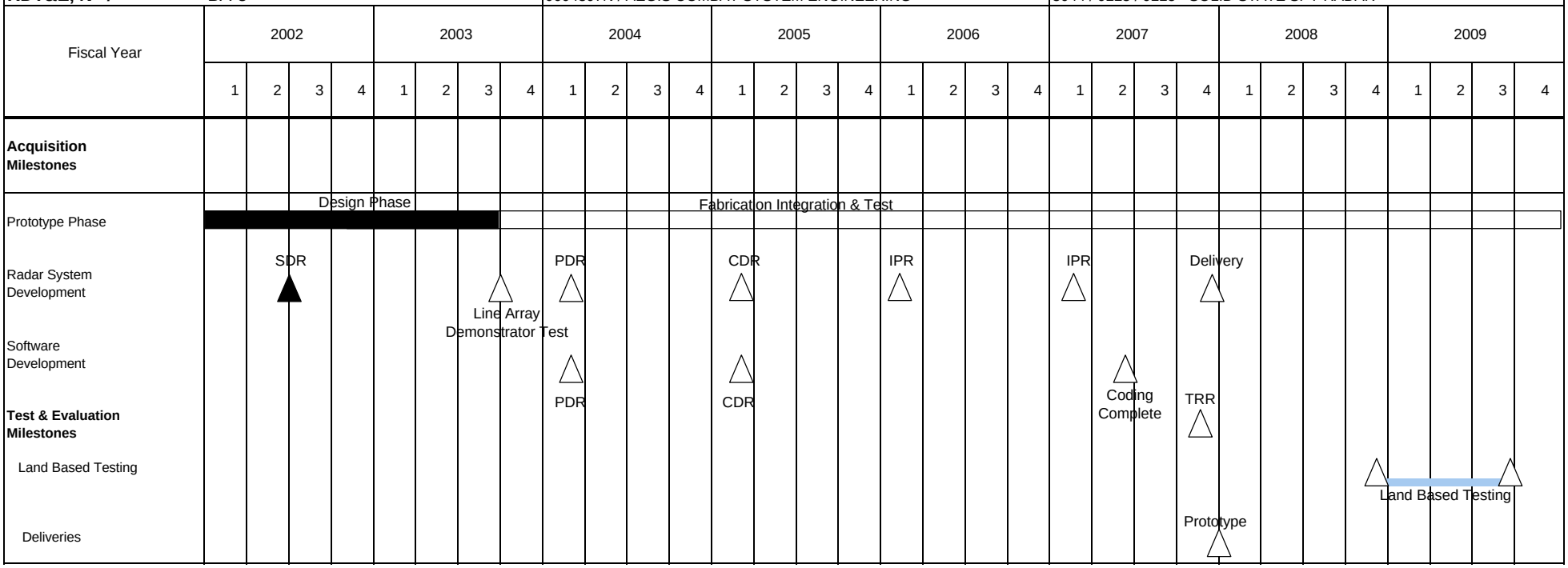
R-1 SHOPPING LIST - Item No. 102

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	0604307N / AEGIS COMBAT SYSTEM ENGINEERING	3044 / 9223 / 9225 - SOLID STATE SPY RADAR



R-1 SHOPPING LIST - Item No. 102

FY02 - Funded via Ballistic Missile Defense Agency (BMD).

CDR	Critical Design Review
IPR	In-Progress Review
PDR	Preliminary Design Review
SDR	System Design review
TRR	Test Readiness Review

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT 0604307N / AEGIS COMBAT SYSTEM ENGINEERING				PROJECT NUMBER AND NAME 3044 / 9223 / 9225 - SOLID STATE SPY RADAR			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Prototype Phase	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q		
Radar System Development								
System Design Review (SDR)	3Q							
Line Array Demonstration Test		3Q						
Preliminary Design Review (PDR)			1Q					
Critical Design Review (CDR)				1Q				
In-Process Review (IPR)					1Q	1Q		
Delivery						4Q		
Software Delivery								
Preliminary Design Review (PDR)			1Q					
Critical Design Review (CDR)				1Q				
Coding Complete						2Q		
Test & Evaluation								
Test Readiness Review (TRR)						4Q		
Land Based Test						4Q	1Q-4Q	1Q-3Q
Deliverables								
Prototype						4Q		

R-1 SHOPPING LIST - Item No. 102

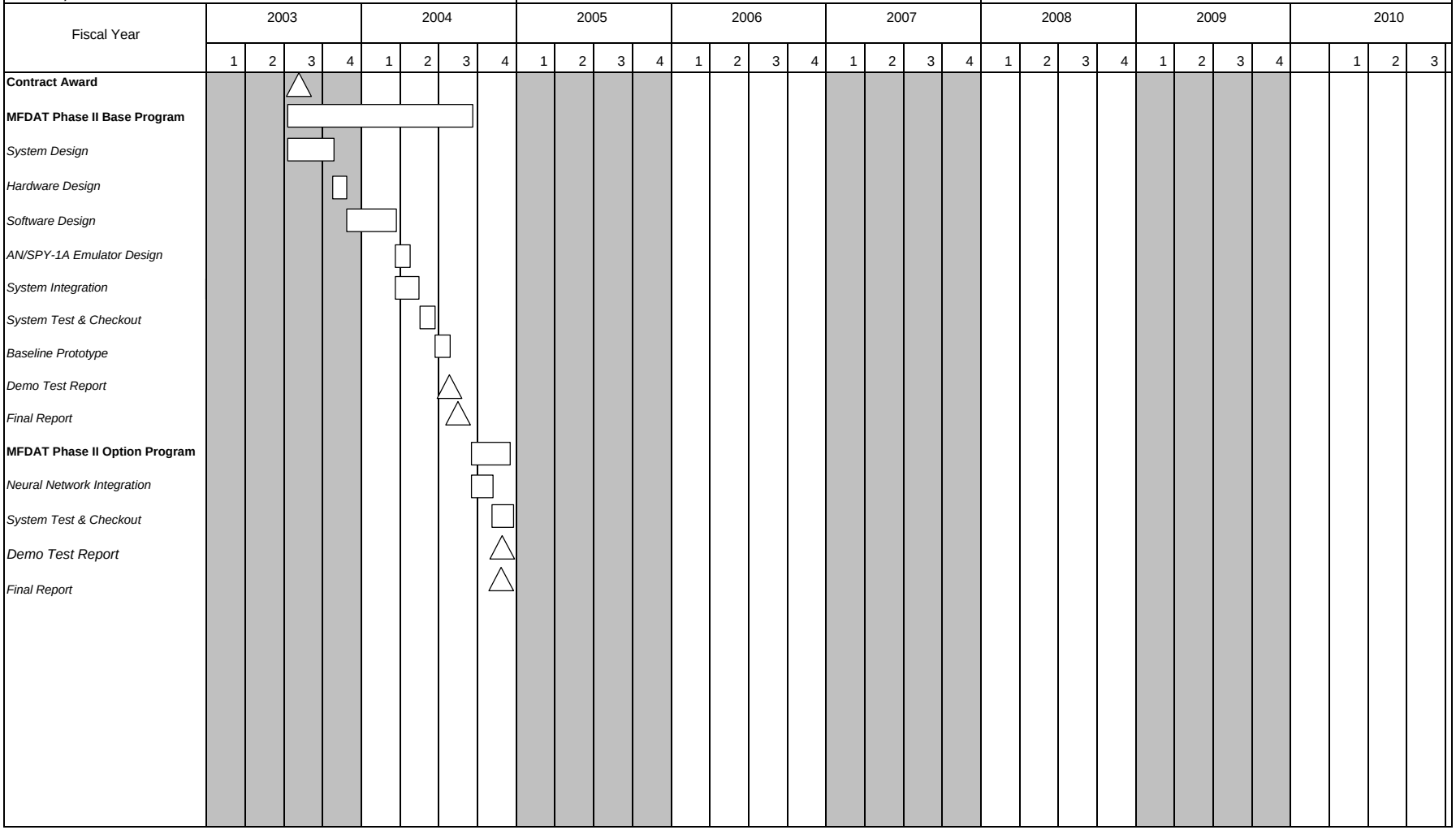
CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **February 2004**

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

PROGRAM ELEMENT NUMBER AND NAME: 0604307N/AEGIS COMBAT SYSTEM ENGINEERING

PROJECT NUMBER AND NAME: 3044 - IMPROVED READINESS FOR AN/SPY-1 RADAR



- Not required for Budget Activities 1, 2, 3, and 6

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT 0604307N / AEGIS COMBAT SYSTEM ENGINEERING				PROJECT NUMBER AND NAME 3044 - IMPROVED READINESS FOR AN/SPY-1 RADAR			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Contract Award		3Q						
MDFAT Phase II Base Program		3Q-4Q	1Q-3Q					
System Design		3Q-4Q						
Hardware Design		4Q						
Software Design		4Q	1Q					
AN/SPY-1A Emulator Design			1Q-2Q					
System Integration			1Q-2Q					
System Test & Checkout			2Q					
Baseline Prototype			2Q-3Q					
Demo Test Report			3Q					
Final Report			3Q					
MFDAT Phase II Option Program			3Q-4Q					
Neural Network Integration			3Q-4Q					
System Test & Checkout				4Q				
Demo Test Report				4Q				
Final Report				4Q				

R-1 SHOPPING LIST - Item No. 102

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 LPD 17 CLASS SYSTEM INTEGRATION AND DEVELOPMENT - 0604311N					
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Total Cost
Total PE Cost		**9.621**	**8.888**	**8.988**	**9.050**	**5.888**	**4.246**	**2.276**	**con.t**	**con.t**
LPD 17 Class Systems Integration/2283		**9.621**	**8.888**	**8.988**	**9.050**	**5.888**	**4.246**	**2.276**	**con.t**	**con.t**
Quantity of RDT&E Articles										

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The 12 LPD 17 Class ships are functional replacements for 41 ships of four classes of amphibious ships. These new ships embark, transport, and land elements of Marine landing forces in an amphibious assault by helicopters, landing craft, and amphibious vehicles. Tactics, techniques, and tools for naval expeditionary warfare continue to evolve. The LPD 17 Class configuration must continue to adapt to this evolutionary process, because these ships are expected to be in service until almost 2050. The LPD 17 design includes systems configurations that reduce operating and support costs and facilitate operational performance improvements. System engineering and integration efforts that began in FY 1997 will develop further reductions in life cycle costs and will integrate performance upgrades in a rapid, affordable manner. Possible improvements include advanced sensors, advanced computers, advanced command and control software, advanced information systems technologies, and ship based logistics concepts. Cost reduction and improved performance will be accomplished through sustained modeling and simulation efforts, continued personnel reductions efforts, system performance tradeoff evaluation, and naval expeditionary warfare systems engineering. Feedback from the operational forces for integrating system configurations will be accomplished through the Naval Expeditionary Warfare Centers in Quantico, Dahlgren, and Little Creek, Virginia. These efforts will result in well-defined specifications and drawings in system integration design packages that provide technical baselines for follow-on ship procurements. In addition, these efforts include the Live Fire Test & Evaluation (LFT&E) and Operational Evaluation (OPEVAL) tests required for the lead ship. This program is funded under Engineering and Manufacturing Development because it encompasses engineering and manufacturing development of new end items prior to production approval decision.

B. (U) ACCOMPLISHMENTS/PLANNED PROGRAM:

FY 2003 Accomplishments:

-(U) (9.621) Continued Naval Expeditionary Warfare Systems Engineering efforts. Continued Live Fire Test and Operational Evaluation efforts. Completed initial Warfighting Performance Improvement Configuration Definition Package. Conducted vulnerability assessments. Procured expendable test rounds for required at-sea tests.

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 LPD 17 CLASS SYSTEM INTEGRATION AND DEVELOPMENT - 0604311N

FY 2004 Plan:
- (U) (8.888) Continue Naval Expeditionary Warfare Systems Engineering efforts. Continue Live Fire Test and Operational Evaluation and vulnerability assessment efforts. Development of system upgrades and improvements, including wireless gateway efforts. Plan for at-sea tests. Procure expendable test rounds for required at-sea tests.

FY 2005 Plan:
- (U) (8.988) Continue Naval Expeditionary Warfare Systems Engineering efforts. Continue Live Fire Test and Operational Evaluation and vulnerability assessment efforts. Continue development of system upgrades and improvements. Plan for at-sea tests.

C. (U) PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget (FY04 Pres Controls)	9.909	7.989	8.659
Current President's Budget (FY05 Pres Controls)	9.621	8.888	8.988
Total Adjustments	-0.288	0.899	0.329

Funding:
- FY03 decrease of $.288 is due to SBIR reduction of $.263 and miscellaneous adjustments of $.025
- FY04 net increase of $.899 includes Congressional add of $1.000 for Wireless Gateway Upgrade, partially offset by a $.101 decrease for Section 8094 & 8126 Congressional reductions
- FY05 increase of $.329 is for higher DT/OT costs

	Prior Years	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
SCN Line 3036	4,088.7	604.6	1,316.6	966.6	1,095.1	1,199.7	1,225.5	1,254.0	1,612.3	13,363.1

Exhibit R-3 Cost Analysis (page 1)

DATE: **FEBRUARY 2004**

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

PROGRAM ELEMENT: **PE#0604311N - 2283**

PROJECT NAME AND NUMBER: LPD 17 CLASS SYSTEM INTEGRATION AND DEVELOPMENT - 0604311N

Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	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
Systems Engineering and Integration	Various	Various	3.986		5.429		2.797		0.000	12.212	
Subtotal Product Development			3.986		5.429		2.797		0.000	12.212	

Remarks:

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

Remarks:

Exhibit R-3 Cost Analysis (page 2)							DATE: **FEBRUARY 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT & E, NAVY/BA-5**			PROGRAM ELEMENT **PE#0604311N - 2283**		PROJECT NAME AND NUMBER LPD 17 CLASS SYSTEM INTEGRATION AND DEVELOPMENT - 0604311N						
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	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
DT&E/OT&E	Various	Various	5.635	11/02	3.459	11/03	6.191	11/04	21.460	36.745	
Subtotal T&E			5.635		3.459		6.191		21.460	36.745	
Remarks:											
Contractor Engineering Support											
Government Engineering Support											
Program Management Support											
Travel											
Labor (Research Personnel)											
Overhead											
Subtotal Management			0.000		0.000		0.000		0.000	0.000	
Remarks:											
Total Cost			9.621		8.888		8.988		21.460	48.957	
Remarks:											

CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **FEBRUARY 2004**

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

PROGRAM ELEMENT NUMBER AND NAME: **PE#0604311N - 2283**

PROJECT NUMBER AND NAME: LPD 17 CLASS SYSTEM INTEGRATION AND DEVELOPMENT

Fiscal Year	2002				2003				2004				2005				2006				2007				2008				2009			
	1	2	3	9.6 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																			IOC ☆												MS III ▲	
Test & Evaluation Milestones																																
Development Test	DT-IIA																															
			DT-IIB													DT- IIC																	
Operational Test		OT-IIB																OT-IIC OPEVAL														
Deliveries													▲			▲	▲		▲					▲				▲			▲	

R-1 SHOPPING LIST - Item No. 103

(Exhibit R-4, page 5 of 6)

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **FEBRUARY 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT **PE#0604311N - 2283**				PROJECT NUMBER AND NAME LPD 17 CLASS SYSTEM INTEGRATION AND DEVEL.			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Developmental Testing (DT-IIA) start Apr 1997		1Q - 2Q						
Developmental Testing (DT-IIB)		1Q - 4Q	1Q - 4Q	1Q				
Operational Testing (OT-IIB)		1Q - 2Q						
Developmental Testing (DT-IIC)				1Q - 4Q	1Q - 4Q	1Q		
Operational Evaluation (OT-IIC) (OPEVAL)					2Q - 4Q	1Q - 3Q		
Lead Ship IOC					4Q			
Lead Ship Delivery				1Q				
Milestone III								4Q

R-1 SHOPPING LIST - Item No. 103

(Exhibit R-4, page 6 of 6)

Exhibit R-4, Schedule Profile

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-05**					R-1 ITEM NOMENCLATURE 0604312N Tri-Service Standoff Attack Missile (TSSAM)			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost		**16.146**	**20.901**	**27.047**	**21.145**	**14.344**	**14.624**	**14.905**
A2242 Joint Air to Surface Standoff Missile (JASSM)		**16.146**	**20.901**	**27.047**	**21.145**	**14.344**	**14.624**	**14.905**

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

The Joint Air to Surface Standoff Missile (JASSM) program is a follow-on weapon system to the canceled Tri-Service Standoff Attack Missile (TSSAM). It is a joint Air Force/Navy program. JASSM is a long range, conventional air-to-surface, autonomous precision guided, standoff cruise missile compatible with fighter and bomber aircraft and able to attack a variety of fixed and relocatable targets. JASSM will carry a 1,000 pound class penetrator warhead. Initial integration efforts will be on the B-52 and F-16. The F/A 18 E/F, C/D, S-3, P-3 and JSF are currently designated as Navy objective platforms for JASSM. Carrier Operability is one of the Key Performance Parameters (KPP) for JASSM. The budget covers only the cost of Navy unique testing for the Carrier Operability KPP and integration aboard the Navy F/A-18E/F including mission planning (FY03 and outyears). FY04 specific tasks are centered on completing JASSM ground and wind tunnel tests with flight testing (loads and flying qualities tests) to begin in FY05. F/A-18E/F OFP (H5) implementation will begin in FY05 and run concurrently with flight test. F/A-18E/F JASSM IOC is scheduled for FY09.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-05**	PROGRAM ELEMENT NUMBER AND NAME 0604312N Tri-Service Standoff Attack Missile (TSSAM)				PROJECT NUMBER AND NAME A2242 JASSM			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**16.146**	**20.901**	**27.047**	**21.145**	**14.344**	**14.624**	**14.905**
RDT&E Articles Qty			**2**	**3**	**2**	**2**		

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Joint Air to Surface Standoff Missile (JASSM) program is a follow-on weapon system to the canceled Tri-Service Standoff Attack Missile (TSSAM). It is a joint Air Force/Navy program. JASSM is a long range, conventional air-to-surface, autonomous precision guided, standoff cruise missile compatible with fighter and bomber aircraft and able to attack a variety of fixed and relocatable targets. JASSM will carry a 1,000 pound class penetrator warhead. Initial integration efforts will be on the B-52 and F-16. The F/A 18 E/F, C/D, S-3, P-3 and JSF are currently designated as Navy objective platforms for JASSM. Carrier Operability is one of the Key Performance Parameters (KPP) for JASSM. The budget covers only the cost of Navy unique testing for the Carrier Operability KPP and integration aboard the Navy F/A-18E/F including mission planning (FY03 and outyears). FY04 specific tasks are centered on completing JASSM ground and wind tunnel tests with flight testing (loads and flying qualities tests) to begin in FY05. F/A-18E/F OFP (H5) implementation will begin in FY05 and run concurrently with flight test. F/A-18E/F JASSM IOC is scheduled for FY09.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-05	0604312N Tri-Service Standoff Attack Missile (TSSAM)	A2242 JASSM

(U) B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
F/A-18E/F / JASSM Integration		16.146	20.901	27.047
RDT&E Articles Quantity			2	3

F/A-18E/F integration to include Wind Tunnel tests, Carrier Suitability, Noise and Vibrations, Flying Qualities, Separation, E3, Performance Flight tests, Structural tests and purchase of test assets. Perform systems engineering, mission support, and Integrated Logistics Support (ILS) in order to achieve a successful Operational Test and Initial Operational Capability. Integration on the F/A-18E/F includes aircraft Operational Flight Program (OFP) development, software development, test, verification and validation to implement the JASSM missile in software build H5. Also includes Mission Planning development for the JASSM missile on the Joint Mission Planning System (JMPS). F/A-18E/F JASSM OT is scheduled for the second half of FY08 with IOC in FY09.

R-1 SHOPPING LIST - Item No. 104

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-05	0604312N Tri-Service Standoff Attack Missile (TSSAM)	A2242 JASSM

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget	14.613	25.137	27.162
Current President's Budget	16.146	20.901	27.047
Total Adjustments	1.533	-4.236	-0.115
Summary of Adjustments			
Congressional program reductions		-4.000	
Congressional rescissions			
SBIR/STTR Transfer	-0.310		
Economic Assumptions		-0.236	-0.088
Reprogrammings	1.843		
Other Adjustments			-0.027
Subtotal	1.533	-4.236	-0.115

(U) Schedule:

All schedule changes are Air Force specific and do not affect Navy integration program.

(U) Technical:

Not Applicable.

R-1 SHOPPING LIST - Item No. 104

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-05	0604312N Tri-Service Standoff Attack Missile (TSSAM)	A2242 JASSM

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
USAF, PAAF	50.095	99.436	145.324	148.271	197.434	303.409	310.034	2,230.004	3,524.887
USN, WPN	0	0	0	0	0	19.783	70.909	229.608	320.300
USAF, RDT&E U.S. Air Force P.E. 0207325F Joint Air to Surface Standoff Missile (JASSM)	48.633	25.498	45.777	61.473	13.609	0.000	0.000	0.000	

(U) E. ACQUISITION STRATEGY:

All major contracts within the program were awarded through full and open competition. The EMD phase option for JASSM is Cost Plus Award Fee (CPAF). This contract type provides the Government the flexibility to periodically evaluate contractor performance while motivating the contractor to execute a successful program with emphasis on EMD schedule, system performance, and management effectiveness.

JASSM is an OSD flagship program under Cost as An Independent Variable (CAIV). This allows the contractor to have maximum trade space to develop an affordable missile that meets the four Key Performance Parameters. Under CAIV, the program maintains a threshold AUPP of $700,000 (BY95$) and an objective AUPP of $400,000 (BY95$). The Government is buying the JASSM system based on a contractor developed, government-approved System Performance Specification (SPS) which became contractually binding at downselect. The contractor assumes Total System Performance Reliability (TSPR) as defined in the SPS and warrants system performance for 15 years. Accordingly, the contractor is responsible not only for the design of the missile system, but also for planning and executing the Development Test and Evaluation (DT&E) program to verify the missile system performance. In its role as facilitator and advisor to the contractor, the Government formally arranges and funds the use of Government flight test support for DT&E. Although funded by the Government, flight test support funds are part of the negotiated commitment between the contractor and the Government ensuring the contractor is able to execute the DT&E program according to the scope of the EMD contract. The Air Force has been funded in FY04 to begin development for an extended range version of JASSM.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-05**			PROGRAM ELEMENT 0604312N Tri-Service Standoff Attack Missile (TSSAM)			PROJECT NUMBER AND NAME A2242 JASSM						
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
JASSM Development	CPAF	Lockheed	2.606								2.606	2.606
AoA Support	Misc	Various	9.343								9.343	9.343
Aircraft Integration	Misc	Various	3.998	5.006	04/03	11.579	12/03	6.393	12/04	22.033	49.009	
Aircraft Integration	CPAF	Boeing		1.167	12/04			4.779	12/04	9.762	15.708	15.708
Test Assets	CPIF	Lockheed				1.200	12/03	1.800	12/04	2.400	5.400	5.400
Award Fees	CPAF	Lockheed	0.402								0.402	0.402
Subtotal Product Development			16.349	6.173		12.779		12.972		34.195	82.468	
Remarks:												
Weapon Systems Engineering	Misc	Various	0.632								0.632	
JMPS Software Development	Misc	Various		6.159	04/03	4.780	12/03	6.502	12/04	11.363	28.804	
Government Engineering Support	Misc	Various	1.033	2.670	12/02	2.140	12/03	2.026	12/04	8.685	16.554	
Subtotal Support			1.665	8.829		6.920		8.528		20.048	45.990	
Remarks:												

R-1 SHOPPING LIST - Item No. 104

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-05**		PROGRAM ELEMENT 0604312N Tri-Service Standoff Attack Missile (TSSAM)				PROJECT NUMBER AND NAME A2242 JASSM						
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 & WD						4.295	12/04	1.939	6.234	
Operational Test & Evaluation	Misc	Various	0.050							3.000	3.050	
Award Fees												
Subtotal T&E			0.050					4.295		4.939	9.284	
Remarks:												
Contractor Engineering Support	RX	Various	0.161	0.418	12/02	0.440	12/03	0.462	12/04	2.692	4.173	
Program Management Support	Misc	Various	0.053	0.701	12/02	0.737	12/03	0.765	12/04	3.024	5.280	
Travel	WX	Various		0.025	12/02	0.025	12/03	0.025	12/04	0.120	0.195	
SBIR Assessment												
Subtotal Management			0.214	1.144		1.202		1.252		5.836	9.648	
Remarks:												
Total Cost			18.278	16.146		20.901		27.047		65.018	147.390	
Remarks:												

R-1 SHOPPING LIST - Item No. 104

CLASSIFICATION:

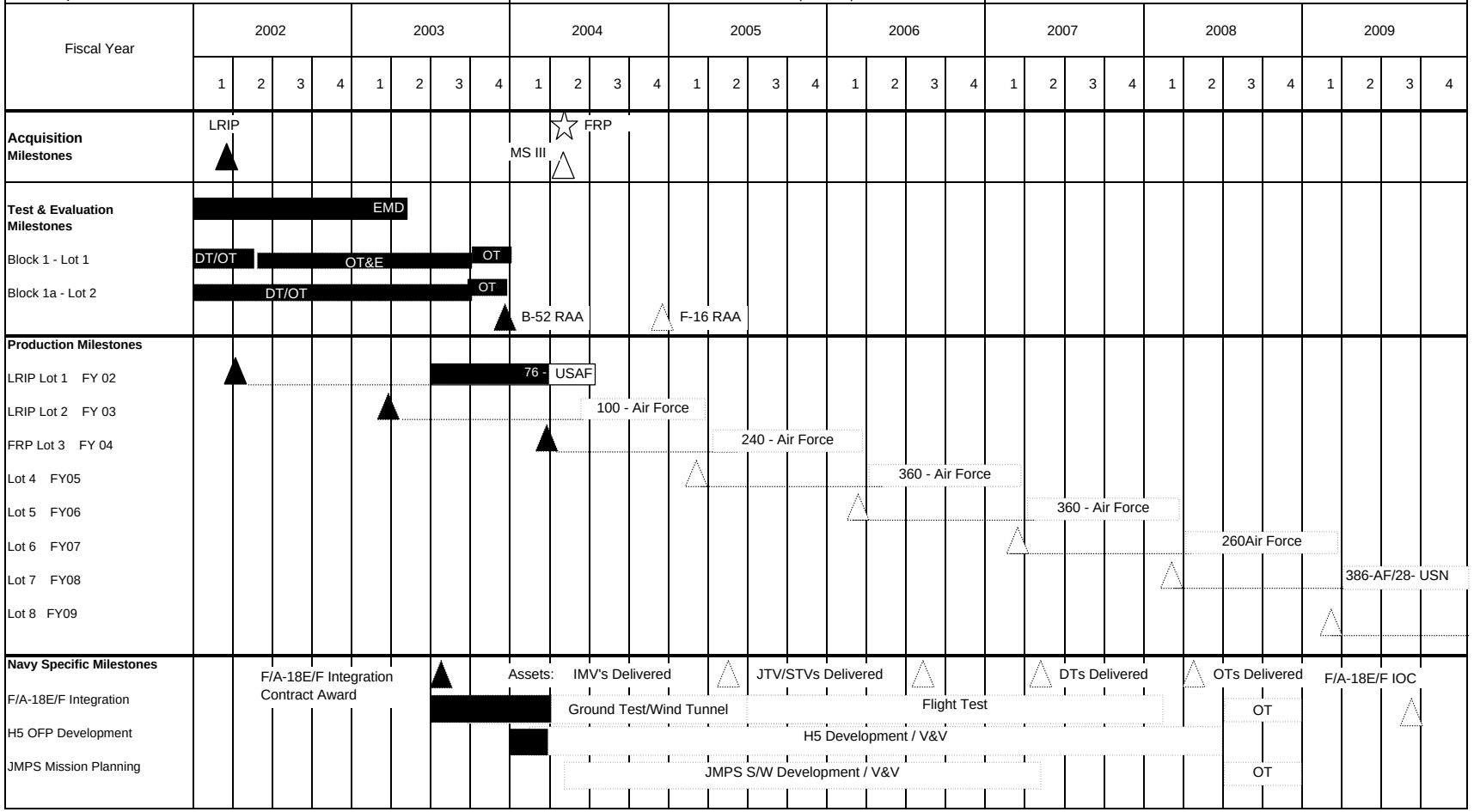
EXHIBIT R4, Schedule Profile

DATE: **February 2004**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA-05**

PROGRAM ELEMENT NUMBER AND NAME: 0604312N Tri-Service Standoff Attack Missile (TSSAM)

PROJECT NUMBER AND NAME: A2242 JASSM



R-1 SHOPPING LIST - Item No. 104

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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-05**	PROGRAM ELEMENT 0604312N Tri-Service Standoff Attack Missile (TSSAM)				PROJECT NUMBER AND NAME A2242 JASSM			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Start Low-Rate Initial Production I (LRIP Lot 1)	2Q							
Block 1 Combined DT/OT	1Q-2Q							
Block 1 OT	2Q-4Q	1Q-3Q						
Block 1a Combined DT/OT	1Q-4Q	1Q-3Q						
Block 1a OT		3Q-4Q						
Start Low-Rate Initial Production II (LRIP Lot 2)		1Q						
Low-Rate Initial Production I Delivery		3Q-4Q	1Q-2Q					
Low-Rate Initail Production II Delivery			2Q-4Q	1Q				
Milestone III (MS III)			2Q					
IOC								
Required Assets Available (RAA) B-52		4Q						
Required Assets Available (RAA) F-16			4Q					
Full Rate Production (FRP) Decision			2Q					
Lot 3 Award			1Q					
Lot 3 Delivery				2Q-4Q	1Q			
Lot 4 Award				1Q				
Lot 4 Delivery					2Q-4Q	1Q		
Lot 5 Award					1Q			
Lot 5 Delivery						2Q-4Q	1Q	
Lot 6 Award						1Q		
Lot 6 Delivery							2Q-4Q	1Q
Lot 7 Award							1Q	
Lot 7 Delivery								2Q-4Q
Lot 8 Award								1Q
Navy Specific Schedule Profile								
F/A-18E/F Integration		3Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q	
Ground Test/Wind Tunnel		3Q-4Q	1Q-4Q	1Q-2Q				
Flight Test				3Q-4Q	1Q-4Q	1Q-4Q	1Q	
F/A-18 Operational Flight Program (H5)			1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-2Q	
Joint Mission Planning Program (JMPS)			2Q-4Q	1Q-4Q	1Q-4Q	1Q-2Q		
JASSM / F/A-18E/F OT							3Q-4Q	
JASSM / F/A-18E/F IOC								3Q
Assets:								
IMVs (2)				2Q				
JTV (1) STVs (2)					3Q			
DT Assets (2)						2Q		
OT Assets (2)							2Q	

R-1 SHOPPING LIST - Item No. 104

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-05**					R-1 ITEM NOMENCLATURE 0604329N Small Diameter Bomb (SDB)			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost		**0.100**	**0.000**	**9.961**	**9.972**	**9.978**	**0.000**	**0.000**
A3072 Small Diameter Bomb (SDB)		**0.100**	**0.000**	**9.961**	**9.972**	**9.978**	**0.000**	**0.000**

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

Small Diameter Bomb (SDB) is an precision guided munition development program to provide an affordable solution to attack designated targets. SDB's ultimate objective to increase kills per sortie on current and future aircraft platforms addresses the following warfighter requirements: multiple kills per pass; multiple ordnance carriage; adverse weather, precision munitions capability; capability against hardened targets; reduced munitions footprint; increased weapons effectiveness against area targets; real-time target location and/or kill capability versus small/mobile targets; reduced susceptability to Camouflage, Concealment and Deception (CCD); minimize potential for collateral damage; and reduced susceptability of munitions to countermeasures. Threshold aircraft for Increment I is the F-15E, with the F-16 and B-1 as Increment II threshold platforms. Objective aircraft include the B-2, A-10, Joint Strike Fighter (JSF), F-22, B-52 and the Unmanned Combat Aerial Vehicle (UCAV). SDB is a Pre-MDAP (Major Defense Acquisition Program), ACAT1C program with the Air Force as the lead service. Navy funding encompasses pre-integration risk reduction testing for eventual integration on the F-18 aircraft.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-05**	PROGRAM ELEMENT NUMBER AND NAME 0604329N Small Diameter Bomb (SDB)				PROJECT NUMBER AND NAME A3072 Small Diameter Bomb (SDB)			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**0.100**	**0.000**	**9.961**	**9.972**	**9.978**		
RDT&E Articles Qty		**0**	**0**	**0**	**3**	**2**	**0**	**0**

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Small Diameter Bomb (SDB) is an precision guided munition development program to provide an affordable solution to attack designated targets. SDB's ultimate objective to increase kills per sortie on current and future aircraft platforms addresses the following warfighter requirements: multiple kills per pass; multiple ordnance carriage; adverse weather, precision munitions capability; capability against hardened targets; reduced munitions footprint; increased weapons effectiveness against area targets; real-time target location and/or kill capability versus small/mobile targets; reduced susceptability to Camouflage, Concealment and Deception (CCD); minimize potential for collateral damage; and reduced susceptability of munitions to countermeasures. Threshold aircraft for Increment I is the F-15E, with the F-16 and B-1 as Increment II threshold platforms. Objective aircraft include the B-2, A-10, Joint Strike Fighter (JSF), F-22, B-52 and the Unmanned Combat Aerial Vehicle (UCAV). SDB is a Pre-MDAP, ACAT1C program with the Air Force as the lead service. Navy funding encompasses pre-integration risk reduction testing for eventual integration on the F-18 aircraft.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-05	0604329N Small Diameter Bomb (SDB)	A3072 Small Diameter Bomb (SDB)

(U) B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
EMD/ Carrier Operability/ Pre Integration		0.100	0.000	9.961
RDT&E Articles Quantity				

FY03 funding is to monitor design definition of SDB and carriage system for applications to future platforms (e.g., JSF) during Increment I. FY05 funding is to perform risk reduction pre-integration testing during Increment II to include JSF Fit checks, Shipboard Suitability, Electromagnetic Environmental Effects, System Safety, Climatic/Dynamic Environments, Structures/Loads/Materials, Separations Wind Tunnel, and Catapult/Arrested Landings testing.

		FY 03	FY 04	FY 05

		FY 03	FY 04	FY 05

R-1 SHOPPING LIST - Item No. 105

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-05	0604329N Small Diameter Bomb (SDB)	A3072 Small Diameter Bomb (SDB)

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget	1.945	0.000	0.000
Current BES/President's Budget	0.100	0.000	9.961
Total Adjustments	-1.845	0.000	9.961
Summary of Adjustments			
Economic Assumtions			
Reprogrammings			
Other Adjustments	-1.845		9.961
Congressional increases			
Subtotal	-1.845	0.000	9.961

(U) Schedule:

Schedule provided is Air Force specific.

(U) Technical:

Not Applicable.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-05	0604329N Small Diameter Bomb (SDB)	A3072 Small Diameter Bomb (SDB)

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
RDT&E									
U.S. Air Force P.E. 0604329F (SDB)	53.118	126.447	76.685	85.742	87.621	77.800	56.500	0.000	634.259
Missile Procurement									
U.S. Air Force P.E. 0207327F			26.693	45.479	77.000	71.158	78.637	917.282	1216.248
SDB Qty			158	512	1,200	1,340	1,508	19,282	24000

(U) E. ACQUISITION STRATEGY:

Monitor design definition of SDB and carriage system for applications to future platforms (e.g., JSF). No Navy RDT&E requirements for Increment I on existing platforms. Perform risk reduction pre-integration testing during Increment II to include JSF Fit checks, Shipboard Suitability, Electromagnetic Environmental Effects, System Safety, Climatic/Dynamic Environments, Structures/Loads/Materials, Separations Wind Tunnel, and Catapult/Arrested Landings testing.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-05**		PROGRAM ELEMENT 0604329N Small Diameter Bomb (SDB)			PROJECT NUMBER AND NAME A3072 Small Diameter Bomb (SDB)							
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
Aircraft Pre-Integration	Misc	Various						1.500	12/04	2.150	3.650	
SDB Development	CPAF	Boeing						1.100	12/04	2.150	3.250	3.250
Test Assets	CPIF	Boeing								5.800	5.800	5.800
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			0.000	0.000		0.000		2.600		10.100	12.700	
Remarks:												
Weapon Systems Engineering	Misc	Various		0.100	07/03			1.220	11/04	1.030	2.350	
Government Engineering Support	Misc	Various						1.100	11/04	3.500	4.600	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Support			0.000	0.100		0.000		2.320		4.530	6.950	
Remarks:												

R-1 SHOPPING LIST - Item No. 105

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-05**		PROGRAM ELEMENT 0604329N Small Diameter Bomb (SDB)				PROJECT NUMBER AND NAME A3072 Small Diameter Bomb (SDB)						
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 & WD						2.500	11/04	2.842	5.342	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal T&E			0.000	0.000		0.000		2.500		2.842	5.342	
Remarks:												
Contractor Engineering Support	RX	Various						1.500	11/04	1.500	3.000	
Program Management Support	Misc	Various						1.000	11/04	0.900	1.900	
Travel	WX	Various						0.041	11/04	0.078	0.119	
											0.000	
											0.000	
											0.000	
Subtotal Management			0.000	0.000		0.000		2.541		2.478	5.019	
Remarks:												
Total Cost			0.000	0.100		0.000		9.961		19.950	30.011	
Remarks:												

R-1 SHOPPING LIST - Item No. 105

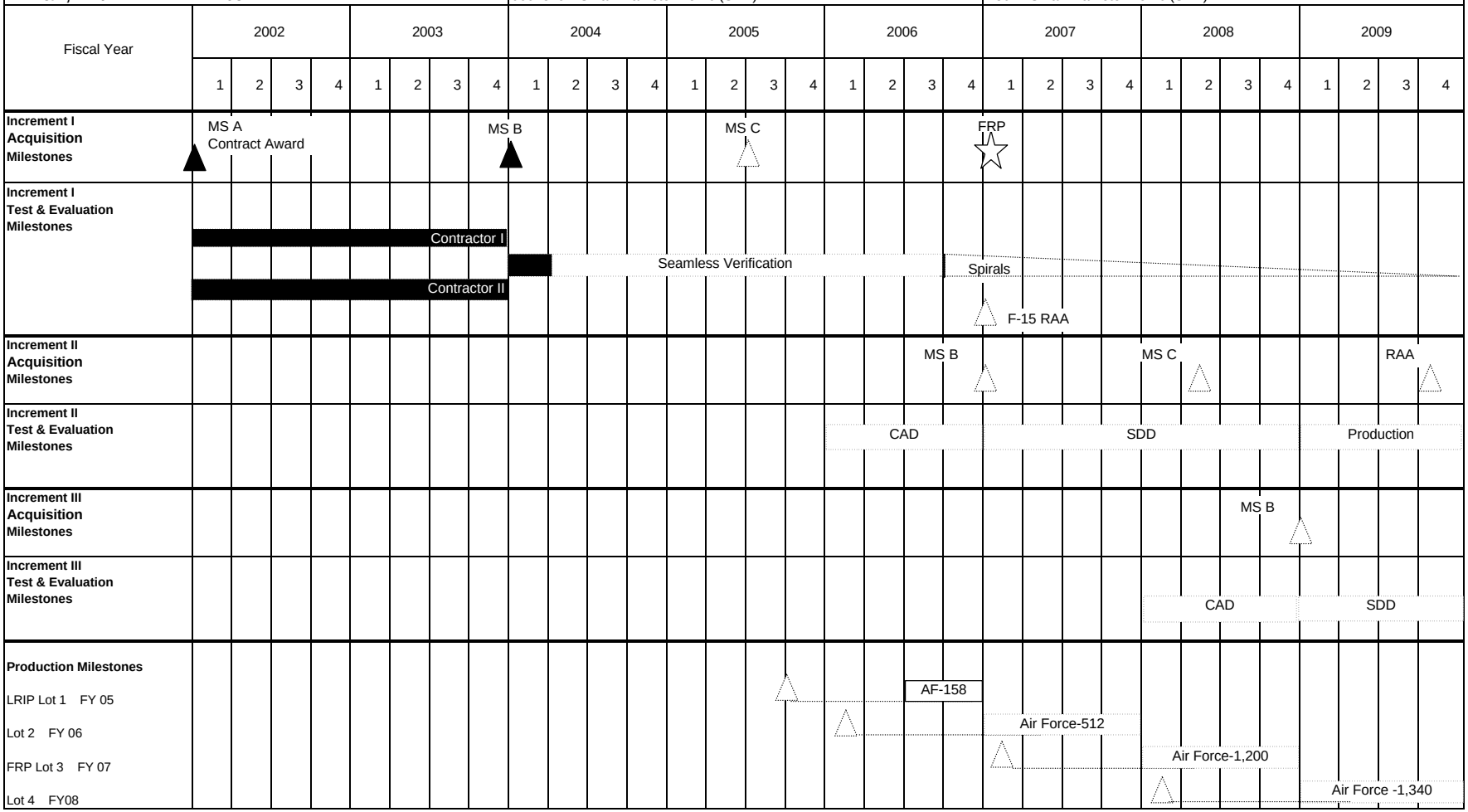
CLASSIFICATION:

EXHIBIT R4, Schedule Profile — DATE: **February 2004**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA-05**

PROGRAM ELEMENT NUMBER AND NAME: 0604329N Small Diameter Bomb (SDB)

PROJECT NUMBER AND NAME: A3072 Small Diameter Bomb (SDB)



R-1 SHOPPING LIST - Item No. 105

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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-05**	PROGRAM ELEMENT 0604329N Small Diameter Bomb (SDB)				PROJECT NUMBER AND NAME A3072 Small Diameter Bomb (SDB)			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Increment I								
Contract Award	1Q							
CAD Phase Contractor 1 & 2	1Q-4Q	1Q-4Q						
Verification			1Q-4Q	1Q-4Q	1Q-3Q			
Milestone B			1Q					
Milestone C				3Q				
Start Low-Rate Initial Production (Lot 1)				3Q				
Begin Lot 2 Production					1Q			
Required Assets Available (RAA) F-15						1Q		
Full Rate Production (FRP) Decision						1Q		
Begin Lot 3 Production (FRP)						1Q		
First Deployment (Air Force)						1Q		
Begin Lot 4 Peoduction							1Q	
First Deployment (Navy) TBD								
Increment II								
CAD Phase					1Q-4Q			
Milestone B						1Q		
SDD Phase						1Q-4Q	1Q-4Q	
Milestone C							2Q	
Production								1Q-4Q
Required Assets Available (RAA)								4Q
Increment III								
CAD Phase							1Q-4Q	
Milestone B								1Q
SDD Pahse								1Q-4Q

R-1 SHOPPING LIST - Item No. 105

CLASSIFICATION: Unclassified

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATI BA-5**				R-1 ITEM NOMENCLATURE 0604366N/STANDARD MISSILE IMPROVEMENTS			
COST ($ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost	**24.244**	**81.014**	**99.022**	**187.295**	**190.002**	**211.855**	**205.762**
0439/Standard Missile Improvements	**15.484**	**42.241**	**49.792**	**22.247**	**0.245**	**0.195**	**0.184**
3092/Standard Missile 6 Program	**8.760**	**38.773**	**49.230**	**165.048**	**189.757**	**211.660**	**205.578**

Defense Emergency Response Funds (DERF) Funds: No DERF funds are associated with this program/project.

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

"…The following capabilities are required:

"...(Effective weapon systems that will deliver timely lethal firepower to the threat systems and supporting structures in hostile territory, provide in-flight destruction capabilities over the total flight path, and provide continuous protection to forward deployed maneuver forces as well as theater rear assets."

-Mission Need Statement for Joint Theater Air and Missile Defense, May 1999

"Projecting and sustaining U.S. forces in distant anti-access or area-denial environments and defeating anti-access and area-denial threats;

"Defenses against known and emerging threats must be developed.

R-1 SHOPPING LIST - Item No. 106

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 0604366N/STANDARD MISSILE IMPROVEMENTS

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

"The United States must retain the capability to send well-armed and logistically supported forces to critical points around the globe, even in the face of enemy opposition

"The QDR emphasizes the need for new investments that would enable U.S. forces to defeat anti-access and area-denial threats and to operate effectively in critical areas."

- Quadrennial Defense Review Report, September 30, 2001

Standard Missile-2 (SM-2) Block IIIB is the Navy's premier Anti-Air Warfare (AAW) missile, providing both area air defense for the fleet and self defense for individual Aegis CGs and DDGs, as required by the Joint TAMD MNS, DPG, QDR, and Ship Class AAW Self Defense Capstone Requirements Document. Minor agility, fuzing, and computer modifications to SM-2 Block IIIB are under development to restore performance in the near term against a specific existing proliferated ASCM threat. Continuous analysis of missile capabilities vs. ever-evolving and proliferating aircraft and anti-ship cruise missiles and long-range planning are required to keep pace with the threat. A separate, classified, advanced technology effort began to transition in FY03, and in FY04 a new program will start to develop a family of advanced surface missile systems. These new missile systems will leverage the Navy investment in the Aegis Weapon System, CEC, and airborne early warning systems, which will be upgraded in concert with missile development to support a fully integrated extended range detect-to-engage capability. Funding for those upgrades are also included in this line. Together, this family of systems will provide the air superiority and the umbrella of protection against the full spectrum of projected future cruise missile (anti-ship and land attack) and manned aircraft threats discussed in the Joint TAMD MNS, DPG, QDR, and TAMD Capstone Requirements Document.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604366N/STANDARD MISSILE IMPROVEMENTS				PROJECT NUMBER AND NAME 0439 Standard Missile Improvements			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**15.484**	**42.241**	**49.792**	**22.247**	**0.245**	**0.195**	**0.184**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Minor modifications to SM-2 Block IIIB will restore performance in the near term against a specific existing proliferated ASCM threat. These include modifications to the MK45 Target Detection Device (TDD) to improve the lethal radius at low altitudes, guidance software to improve missile agility, and a new digital signal processor. Funding for the MK 45 Mod 14 TDD advanced technology development has been provided under Conventional Munitions, P.E. 0603609N, Project 1821, and the complementary engineering and transition to production efforts is funded in this line. Continuous analysis of missile capabilities vs. evolving and proliferating aircraft and anti-ship cruise missiles and long-range planning are required to keep pace with the threat. A separate, classified, advanced technology effort began to transition in FY03, and in FY04 a new program will start to develop a family of advanced surface missile systems. The Aegis Weapon System, CEC, and airborne early warning systems also will be upgraded in concert with missile development to support a fully integrated extended range detect-to-engage capability.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROJECT NUMBER AND NAME 0439 Standard Missile Improvements

B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.751	4.811	1.868
RDT&E Articles Quantity			

SM-2 Block IIIB MK 45 Mod 14 TDD.

FY 03: Round level integration engineering and transition to production
FY 04: Transition to production and flight testing
FY 05: Completion of flight testing and analysis

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	0.145	0.396
RDT&E Articles Quantity			

Failure analyses, technology assessments, analyses of missile capablity vs. threat, and long-range planning to keep pace with the evolving and proliferating threat.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	14.733	31.489	39.082
RDT&E Articles Quantity			

Advanced Surface Missile Demonstration. FY03: Transition advanced technology to Advanced Surface Missile System
FY04 and FY05: Continue transition of advanced technology, program definition, risk reduction, and preparation for feasibility demo

CLASSIFICATION: Unclassified

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROJECT NUMBER AND NAME 0439 Standard Missile Improvements

B. Accomplishments/Planned Program (Cont.)

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		5.796	8.446
RDT&E Articles Quantity			

Replacement of obsolete digital signal processor for SM-2 Block IIIB. FY 04: Requirements definition and preliminary design.
FY 05: Round level integration, Critical Design Review.

	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			

CLASSIFICATION: Unclassified

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604366N/STANDARD MISSILE IMPROVEMENTS	0439 Standard Missile Improvements

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 04 Pres Controls)	15.929	42.717	50.683
Current BES/President's Budget: (FY05 Pres Controls)	15.484	42.241	49.792
Total Adjustments	-0.445	-0.476	-0.891
Summary of Adjustments			
Reprogrammiongs	-0.155		
SBIR/STTR Transfer	-0.249		
MANPOWER			-0.691
Economic Assumptions		-0.476	-0.030
Inflation			-0.162
BSO adjustments	-0.041		
WCF Rates			-0.008
Subtotal	-0.445	-0.476	-0.891

Schedule:

Not Applicable

Technical:

Not Applicable

R-1 SHOPPING LIST - Item No. 106

CLASSIFICATION: Unclassified

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604366N/STANDARD MISSILE IMPROVEMENTS	0439 Standard Missile Improvements

D. OTHER PROGRAM FUNDING SUMMARY: Not Applicable

E. ACQUISITION STRATEGY: *

Not Applicable

F. MAJOR PERFORMERS: **

Raytheon Missile Systems, Tucson, AZ starting in FY04 will be the Prime contractor in the development of a live fire demonstration for Advanced Surface Missile System. 10/03

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

CLASSIFICATION: Unclassified

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604366N/STANDARD MISSILE IMPROVEMENTS				PROJECT NUMBER AND NAME 0439 Standard Missile Improvements						
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
Design and Analysis	SS/CPAF	Raytheon	3.911	12.214	12/03	30.841	11/03	41.085	11/04	Continuing	Continuing	
	PR	JHU/APL	0.000	1.140	05/03	5.250	11/03	3.450	11/04	Continuing	Continuing	
	MP	MIT	0.000			0.100	11/03	0.100	11/04	Continuing	Continuing	
	WX	NSWC Dahlgren	785.484	0.150	12/03	0.050	11/03	0.050	11/04	Continuing	Continuing	
	WX	NSWC/IH	0.049			0.100	11/03	0.100	11/04	Continuing	Continuing	
	WX	NAWC China Lake	0.000	0.435	01/03	1.375	11/03	1.200	11/04	Continuing	Continuing	
	WX	NSWC /PHD	0.030	0.090	12/03	0.175	11/03	0.200	11/04	Continuing	Continuing	
	WX	CNO	0.010							Continuing	Continuing	
	PD	CMDP	4.795							Continuing	Continuing	
	PR	C N A	0.000							Continuing	Continuing	
	WX	NSWC Crane	0.000	0.050	02/03	0.050	11/03	0.050	11/04	Continuing	Continuing	
	WX	ONR	0.000		10/02	0.250	11/03	0.250	11/04	Continuing	Continuing	
	WX	NWS Earle	0.000			0.050	11/03	0.050	11/04	Continuing	Continuing	
	WX	COMTEVFOR	0.000	0.100	07/03							
	WX	CARDEROCK	0.000	0.050	06/03							
Subtotal Product Development			794.279	14.229		38.241		46.535		0.000	Continuing	

Remarks:

R-1 SHOPPING LIST - Item No. 106

CLASSIFICATION: Unclassified

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604366N/STANDARD MISSILE IMPROVEMENTS			PROJECT NUMBER AND NAME 0439 Standard Missile Improvements							
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
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	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
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											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	

Remarks:

R-1 SHOPPING LIST - Item No. 106

CLASSIFICATION: Unclassified

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604366N/STANDARD MISSILE IMPROVEMENTS			PROJECT NUMBER AND NAME 0439 Standard Missile Improvements						
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	NSWC Port Hueneme	0.000	0.145	10/02	0.550	11/03	0.800	11/04		Continuing	Continuing
	WX	WSMR	0.000			2.700	11/03	1.600	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			0.000	0.145		3.250		2.400		0.000	Continuing	
Remarks:												
Contractor Engineering Support	C/CPAF	various	0.000	0.082	10/02	0.350	11/03	0.357	11/04		Continuing	Continuing
Government Engineering Support											0.000	
Program Management Support	C/CPAF	various	0.000	1.000	10/02	0.350	11/03	0.350	11/04		Continuing	Continuing
Travel				0.028		0.050		0.150			Continuing	Continuing
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	1.110		0.750		0.857		0.000	Continuing	
Remarks:												
Total Cost			794.279	15.484		42.241		49.792		0.000	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 106

CLASSIFICATION: Unclassified

EXHIBIT R4, Schedule Profile																																DATE:
NOT APPLICABLE																																**February 2004**
APPROPRIATION/BUDGET ACTIVITY									PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME										
RDT&E, N / BA-5									0604366N/STANDARD MISSILE IMPROVEMENTS												0439 Standard Missile Improvements										
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																																
Radar System Development																																
EDM Radar Delivery																																
Software 1XXSW Delivery 2XXSW Delivery																																
Test & Evaluation Milestones Development Test Operational Test																																
Production Milestones LRIP I FY 05 LRIPII FY 06 FRP FY 07																																
Deliveries																																

R-1 SHOPPING LIST - Item No. 106

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

CLASSIFICATION: Unclassified

Exhibit R-4a, Schedule Detail **NOT APPLICABLE**						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT 0604366N/STANDARD MISSILE IMPROVEMENTS				PROJECT NUMBER AND NAME 0439 Standard Missile Improvements			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Prototype Phase								
System Design Review (SDR)								
Milestone II (MSII)								
Contract Preparation								
Software Specification Review (SSR)								
Preliminary Design Review (PDR)								
System Development								
Critical Design Review (CDR)								
Quality Design and Build								
Test Readiness Review (TRR)								
Developmental Testing (DT-IIA)								
Eng Dev Model (EDM) Radar Delivery - Lab								
Software Delivery 1XXSW								
Preproduction Readiness Review (PRR)								
EDM Radar Delivery - Flt Related								
Milestone C (MS C)								
Operational Testing (OT-IIA)								
Start Low-Rate Initial Production I (LRIP I)								
Software Delivery 2XXSW								
Developmental Testing (DT-IIB1)								
Developmental Testing (DT-IIB2)								
Start Low-Rate Initial Production II								
Operational Testing (OT-IIB)								
Developmental Testing (DT-IIC)								
Functional Configuration Audit (FCA)								
Low-Rate Initial Production I Delivery								
Technical Evaluation (TECHEVAL)								
Physical Configuration Audit								
Operational Evaluation (OT-IIC) (OPEVAL)								
Low-Rate Initail Production II Delivery								
IOC								
Full Rate Production (FRP) Decision								
Full Rate Production Start								
First Deployment								

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604366N/STANDARD MISSILE IMPROVEMENTS				PROJECT NUMBER AND NAME 3092/SM-6			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**8.760**	**38.773**	**49.230**	**165.048**	**189.757**	**211.660**	**205.578**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This project addresses the Navy's need for extended range shipboard air defense missiles. It leverages existing missile technology as well as classified, advanced technology, and it takes advantage of the Navy's investment in the Aegis Weapon System, CEC, and airborne early warning systems. This missile will provide an extended range engagement capability to provide the air superiority and the umbrella of protection for joint U.S. forces and allies against the full spectrum of projected future cruise missile (anti-ship and land attack) and manned aircraft threats discussed in the Joint TAMD MNS, DPG, QDR, and TAMD Capstone Requirements Document.

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROJECT NUMBER AND NAME 3092/SM-6

B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		6.400	10.100
RDT&E Articles Quantity			

Aegis Weapon System and MK 41 Vertical Launch System integration.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	8.760	32.373	39.130
RDT&E Articles Quantity			

Missile development. FY 03: Planning, requirements definition, trade studies.
FY 04: Continue program definition, risk reduction, preliminary design.
FY 05: Preliminary Design Review.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost			
RDT&E Articles Quantity			

CLASSIFICATION: Unclassified

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604366N/STANDARD MISSILE IMPROVEMENTS	3092/SM-6

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 04 Pres Controls)	4.890	34.210	50.000
Current BES/President's Budget: (FY05 Pres Controls)	8.760	38.773	49.230
Total Adjustments	3.870	4.563	-0.770
Summary of Adjustments			
Extended Range Anti-Air Warfare		5.000	
Minor Programmatic Adjustments		-0.437	-0.770
FY03 SBIR	-0.129		
Reprogrammings	3.999		
Subtotal	3.870	4.563	-0.770

Schedule:

TBD.

Technical:

TBD.

R-1 SHOPPING LIST - Item No. 106

CLASSIFICATION: Unclassified

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604366N/STANDARD MISSILE IMPROVEMENTS	3092/SM-6

D. OTHER PROGRAM FUNDING SUMMARY: Not Applicable

E. ACQUISITION STRATEGY: *

TBD

F. MAJOR PERFORMERS: **

TBD.

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

Exhibit R-3 Cost Analysis (page 1)

DATE: **February 2004**

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

PROGRAM ELEMENT: 0604366N/STANDARD MISSILE IMPROVEMENTS

PROJECT NUMBER AND NAME: 3092/SM-6

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											0.000	
Ancillary Hardware Development											0.000	
Component Development											0.000	
Design and Analysis	PR	RAYTHEON	0.000	3.500	06/03							
	PR	JHU/APL, Laurel MD	0.000	0.100	10/02	1.750	11/03	2.000	11/04	Continuing	Continuing	
	PR	MIT Lincoln Lab, Lexington, M	0.000			0.100	11/03	0.100	11/04	Continuing	Continuing	
	WX	NAWC WD China Lake, CA	0.000			0.700	11/03	0.700	11/04	Continuing	Continuing	
	WX	NSWC Dahlgren, VA	0.000	0.050	10/02	0.100	11/03	0.100	11/04	Continuing	Continuing	
	WX	NSWC Indian Head, MD	0.000	0.038	10/02	0.070	11/03	0.052	11/04	Continuing	Continuing	
	TBD	Contractor TBD	0.000			24.263	11/03	28.530	11/04	Continuing	Continuing	
	WX	NSWC Port Hueneme, CA	0.000			0.150	11/03	0.150	11/04	Continuing	Continuing	
	WX	NWS Earle, NJ	0.000			0.050	11/03	0.052	11/04	Continuing	Continuing	
	WX	NSWC Crane, IN	0.000			0.050	11/03	0.051	11/04	Continuing	Continuing	
	MP	JSPO/EGLIN	0.000	1.148	07/03							
	PR	LOCKHEED MARTIN	0.000	3.854	06/03							
											0.000	
Ship Integration	WX	PMS400	0.000	0.070		4.900	11/03	7.100	11/04	Continuing	Continuing	
	WX	NSWC Dahlgren	0.000			1.500	11/03	3.000	11/04	Continuing	Continuing	
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	8.760		33.633		41.835		Continuing	Continuing	

Remarks:

Development Support	WR	various	0.000		10/02	4.180	11/03	6.050	11/04	Continuing	Continuing	
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		4.180		6.050		Continuing	Continuing	

CLASSIFICATION: Unclassified

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604366N/STANDARD MISSILE IMPROVEMENTS			PROJECT NUMBER AND NAME 3092/SM-6						
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	NSWC Port Hueneme, CA	0.000			0.200	11/03	0.225	11/04	Continuing	Continuing	
	WX	White Sands Missile Range,	0.000			0.150	11/03	0.500	11/04	Continuing	Continuing	
											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		0.350		0.725		Continuing	Continuing	
Remarks:												
Contractor Engineering Support	CPAF	various	0.000			0.600	11/03	0.600	11/04	Continuing	Continuing	
Government Engineering Support											0.000	
Program Management Support											0.000	
Travel						0.010		0.020		Continuing	Continuing	
Labor (Research Personnel)											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	0.000		0.610		0.620		Continuing	Continuing	
Remarks:												
Total Cost			0.000	8.760		38.773		49.230		Continuing	Continuing	
Remarks:												

CLASSIFICATION: Unclassified

EXHIBIT R4, Schedule Profile																																
TBD																															DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY									PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-5									0604366N/STANDARD MISSILE IMPROVEMENTS												3092/SM-6											
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																																
Radar System Development																																
EDM Radar Delivery																																
Software 1XXSW Delivery 2XXSW Delivery																																
Test & Evaluation Milestones Development Test Operational Test																																
Production Milestones LRIP I FY 05 LRIPII FY 06 FRP FY 07																																
Deliveries																																

R-1 SHOPPING LIST - Item No. 106

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

CLASSIFICATION: Unclassified

Exhibit R-4a, Schedule Detail **TBD**						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT 0604366N/STANDARD MISSILE IMPROVEMENTS				PROJECT NUMBER AND NAME 3092/SM-6			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Prototype Phase								
System Design Review (SDR)								
Milestone II (MSII)								
Contract Preparation								
Software Specification Review (SSR)								
Preliminary Design Review (PDR)								
System Development								
Critical Design Review (CDR)								
Quality Design and Build								
Test Readiness Review (TRR)								
Developmental Testing (DT-IIA)								
Eng Dev Model (EDM) Radar Delivery - Lab								
Software Delivery 1XXSW								
Preproduction Readiness Review (PRR)								
EDM Radar Delivery - Flt Related								
Milestone C (MS C)								
Operational Testing (OT-IIA)								
Start Low-Rate Initial Production I (LRIP I)								
Software Delivery 2XXSW								
Developmental Testing (DT-IIB1)								
Developmental Testing (DT-IIB2)								
Start Low-Rate Initial Production II								
Operational Testing (OT-IIB)								
Developmental Testing (DT-IIC)								
Functional Configuration Audit (FCA)								
Low-Rate Initial Production I Delivery								
Technical Evaluation (TECHEVAL)								
Physical Configuration Audit								
Operational Evaluation (OT-IIC) (OPEVAL)								
Low-Rate Initail Production II Delivery								
IOC								
Full Rate Production (FRP) Decision								
Full Rate Production Start								
First Deployment								

CLASSIFICATION:

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 **0604373N Airborne Mine Countermeasures**					
COST ($ in Millions)	Prior Years Cost		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Total Program
Total PE Cost	**298.742**		**73.600**	**90.981**	**50.514**	**25.807**	**18.138**	**11.351**	**3.908**		**573.041**
Airbone Mine Hunt System / 0529	**172.164**		**16.508**	**18.461**	**4.798**	**3.420**	**4.807**	**3.406**	**0.805**		**224.369**
ALMDS / 2047	**53.263**		**17.787**	**10.670**	**3.541**	**7.503**	**11.775**	**6.579**	**1.795**		**112.913**
OASIS / 2427/2883*	**25.435**		**13.762**	**14.625**	**11.215**	**0.773**					**65.810**
AMNS / 2473	**47.880**		**21.851**	**47.225**	**29.671**	**12.288**					**158.915**
C4I, Tactics and Mission Planning / 4026					**1.289**	**1.823**	**1.556**	**1.366**	**1.308**		**7.342**
SNIUTT / 9179			**3.692**								**3.692**
Quantity of RDT&E Articles	**3**		**2**	**1**	**5**						**11**

* FY03 Congressional Add: Remote Technical Assistant Support System (RTASS); FY04 Congressional Adds: RAMICS and AQS-20

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Airborne Mine Countermeasures (AMCM) programs will deploy to the fleet as sensors integrated into the MH-53E and MH-60S platforms in order to provide Mine-Like Object Detection/classification/localization, Mine Identification, mine reacquisition and neutralization, and influence clearance capabilities. The "Next Generation" AMCM systems will provide this set of capabilities to the Carrier Strike Group/Expeditionary Strike Group (CSG/ESG) beginning in Calendar Year 2005. This capability will be of critical importance in littoral zones, confined straits, choke points, and the Amphibious Objective Area (AOA). Some interest in the following areas has been expressed: search and rescue; Surface fire support; ASW operations; Protection/offense against small craft/vehicles; Air to air operations; Very shallow water MCM; Swimmer defense and Torpedo defense.

R-1 SHOPPING LIST - Item No. 107

CLASSIFICATION:

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 **0604373N Airborne Mine Countermeasures**

(U) B. PROGRAM CHANGE SUMMARY:

(U) B. PROGRAM CHANGE SUMMARY:	FY 2003	FY 2004	FY 2005
Previous President's Budget PB-04	73.728	88.514	49.954
Current President's Budget PB-05	73.600	90.981	50.514
Total Adjustments	(0.128)	2.467	0.560
Summary of Adjustment			
Congressional Add		3.500	
SBIR/STTR Tansfer			
Misc Adjustments	(.128)	(1.033)	.560
	(.128)	2.467	.560

Schedule: Acquisition Strategy for the Organic Airborne Mine Countermeasure (OAMCM) programs has changed in order to reflect restructuring to integrate the MH-60S assets availability to support testing. **AN/AQS-20A** In response to a delay in a test ready MH-60S (deployment platform) and expansion of test/integration requirements, from PB04, the program schedule has been modified to incorporate platform of oportunity (MH-53) CT & DT testing during FY03 through early FY04 to mitigate impacts of MH-60S availability. MH-60S DT and MH-60S OT testing will be conducted during FY04 and completed in FY05 in support of acheiving a scheduled FY05 FRPD and IOC. **ALMDS** Following Congressional reduction of FY04 procurement units, MH-60S Developmental Testing (DT) is scheduled for FY04 and Operational Testing (OT) is on schedule for FY05. MS C and LRIP decision is scheduled for early FY05 to support IOC. A revised Acquisition Program Baseline is currently in route with updated schedule parameters. **OASIS** The program is currently in the SD&D phase where three engineering development models (EDMs) will be developed for test and evaluation. Production is planned for FY06 thru FY10 to meet the inventory requirement of 44 units over a five-year period. **AMNS** will provide the MH-60S with the capability to neutralize bottom and moored mines using an airborne delivered expendable mine neutralization device. The AMNS is being tested on the MH-53E to prove out the neutralization effectiveness. The system will also be deployed from the MH-60S helicopter and will provide organic airborne mine defense for Carrier Strike Groups (CSG) and Expetionary Strike Groups (ESG). This capability will be of critical importance in littoral zones, confined straits, choke points, and the Amphibious Objective Area (AOA). **RAMICS** The system will be deployed from the MH-60S helicopter and will provide organic airborne mine defense for Carrier Strike Groups (CSG) and Expetionary Strike Groups (ESG). This capability will be of critical importance in littoral zones, confined straits, choke points, and the Amphibious Objective Area (AOA). Some interest in the following areas has been expressed: search and rescue; Surface fire support; Protection/offense against small craft/vehicles; Air to air operations; Very shallow water MCM; Swimmer defense and Torpedo defense; and ASW capabilities

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME **0604373N/Airborne Mine Countermeasures**					PROJECT NUMBER AND NAME **0529 Airborne Mine Hunt Systems**					
COST ($ in Millions)	Prior Years Cost		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Total Program
Project Cost	**172.164**		**16.508**	**18.461**	**4.798**	**3.420**	**4.807**	**3.406**	**0.805**	**0.000**	**224.369**
RDT&E Articles Qty	**3**										**3**

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

This project includes a sonar for mine detection, classification and identification. The Navy does not possess a capability to conduct minefield reconnaissance (mine densitiy and location) at high area search rates. The AN/AQS-20A is being developed to address the emergent requirements for mine identification and to integrate AMCM systems with a MH-60S platform. The AN/AQS-20A will also be the minehunting sonar component for the Remote Minehunting System (RMS). The AN/AQS-20A will be developed to meet the requirements of the Organic MCM platforms. Note: The AN/AQS-20/X nomenclature designation to AN/AQS-20A was approved May 02.

R-1 SHOPPING LIST - Item No. 107

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N , BA-5	**0604373N Airborne Mine Countermeasures**	**0529 Airborne Mine Hunt Systems**

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		6.097	4.469	0.581
RDT&E Articles Quantity				

Complete EDM fabrication, including incorporation of Electro-Optic Identification (EOID) sensor capabilities.
Conduct EDM testing with maintainability requirements also refurb EDMs. Acquire EOID test units.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		9.851	13.232	3.657
RDT&E Articles Quantity				

Continued integration of towed body with MH-60S console and parallel towed body/MH-60S Console hardware-software integration and testing.
Conduct MH-60S DT and begin OT. Continue interface/integration with MH-60S, C4I Interface and MEDAL. Continue development of ILS & supportability products, training materials.
Conduct single-site (alternative site) CAD/CAC testing and initiate CAIDC.
Conduct parallel MH-60S Console test and common console/Aircraft Integration. Conduct platform of opportunity (MH-53) testing, i.e, CT, DT, AUTEC Tests in addition to WSIT CT and AFCS.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.560	0.760	0.560
RDT&E Articles Quantity				
Total		16.508	18.461	4.798

Support completion of MH-60S OT events. Develop documentation in support of FRPDR. Continue development of ILS & supportability products and engineering suppport.
Finalize documentation in support of MS-C requirements.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N , BA-5	**0604373N Airborne Mine Countermeasures**	**0529 Airborne Mine Hunt Systems**

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
424800 OPN										
AQS-20	22.864	13.061								
AQS-20A				47.950	25.493	64.251	61.200	50.810	CONT.	CONT.

(U) E. ACQUISITION STRATEGY: *

Procure two (2) AN/AQS-20 towed bodies in FY02 to be modified to AN/AQS-20A units. Upon successful completion of DT and MS C, Sole Source MH-60S systems procurement will begin in FY05 with a Full Rate Procurement contract following a Full Rate Production Decision Review (FRPDR).

(U) F. MAJOR PERFORMERS: **

Raytheon Corp, Portsmouth, RI - Prime development contractor. Software and hardware developer for AN/AQS-20A towed body and integration with MH-60S platform.
Arete Corp, Tucson, Arizona - Major Subcontractor to Raytheon Corp. Responsible for design and development of Electro-Optic Identification (EOID) capability within AN/AQS-20A towed body.
CSS Panama City, Fl. - Technical Design Agent. Provide AN/AQS-20A system design, development, integration and contractor oversight; ensure operational requirements are satisfied during all SD&D test events.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT **0604373N Airborne Mine Countermeasures**				PROJECT NUMBER AND NAME **0529 Airborne Mine Hunt Systems**						
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
Hardware/Software Development	SS/CPIF	Raytheon, Portsmouth, RI	15.834	6.097	10/02	4.469	10/03	0.581	10/04	4.235	31.216	
Hardware/Software Development	C/CPFF	Raytheon, Portsmouth, RI	60.150								60.150	
Hardware/Software Development	WR	CSS Panama City, FL	4.966							0.630	5.596	
Hardware/Software Development	C/FP	Northrop, Grumman	4.572								4.572	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			85.522	6.097		4.469		0.581		4.865	101.534	
Remarks:												
Engineering Services	WR	CSS Panama City, FL	22.003	2.276	10/02	4.100	10/03	1.567	10/04	0.520	30.466	
Engineering Services	C/CPFF	Raytheon, Portsmouth, RI	1.500	0.500	10/02	1.286	01/04				3.286	
Engineering Services	VAR	Various	49.889	1.908	10/02	1.757	10/03	0.250	10/04		53.804	
Engineering Services	SS/CPIF	Raytheon, Portsmouth, RI	1.941			1.323	10/03	0.300	10/04	1.600	5.164	
											0.000	
ILS Functions	WR	CSS Panama City, FL	4.269	0.600	10/02	0.900	10/03		10/04	0.607	6.376	
ILS Functions	SS/CPIF	Raytheon, Portsmouth, RI	0.326	0.500	10/02					1.480	2.306	
ILS Functions	VAR	Various	0.736					0.700	10/04		1.436	
Subtotal Support			80.664	5.784		9.366		2.817		4.207	102.838	
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT **0604373N Airborne Mine Countermeasures**			PROJECT NUMBER AND NAME **0529 Airborne Mine Hunt Systems**						
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
T&E Functions	WR	CSS Panama City	3.397	3.367	10/02	3.104	10/03	0.400	10/04	0.500	10.768	
T&E Functions	SS/CPIF	Raytheon, Portsmouth, RI	0.422			0.562	10/03	0.300	10/04	1.250	2.534	
T&E Functions	VAR	Various	0.543	0.700	10/02	0.200	10/03	0.140	10/04		1.583	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal T&E			4.362	4.067		3.866		0.840		1.750	14.885	
Remarks:												
Management Support			1.287	0.500	10/02	0.700	10/03	0.500	10/04	1.390	4.377	
Travel			0.329	0.060	10/02	0.060	10/03	0.060	10/04	0.226	0.735	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Management			1.616	0.560		0.760		0.560		1.616	5.112	
Remarks:												
Total Cost			172.164	16.508		18.461		4.798		12.438	224.369	
Remarks:												

R-1 SHOPPING LIST - Item No. 107

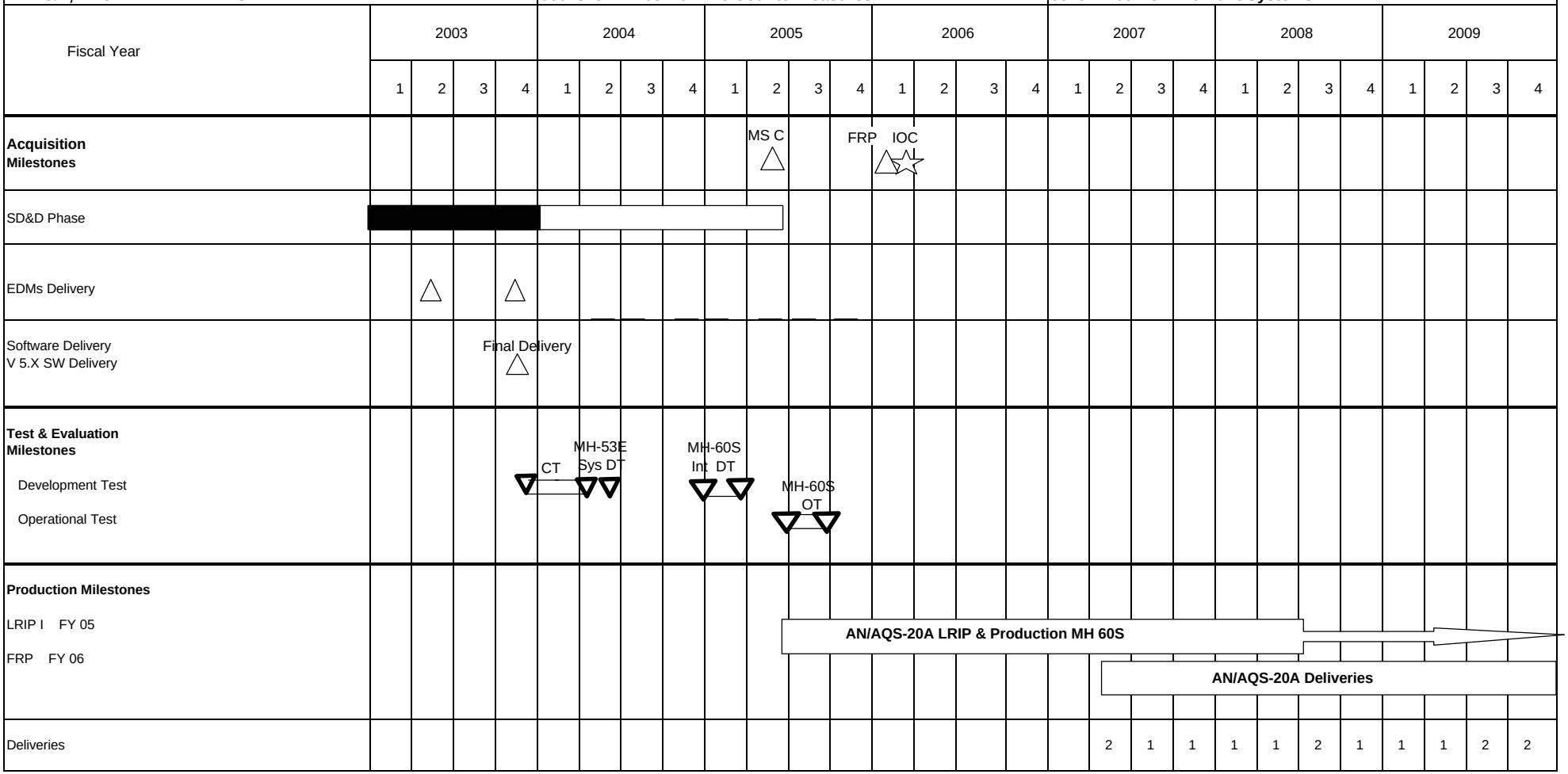
CLASSIFICATION:

EXHIBIT R4, Schedule Profile — DATE: **February 2004**

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

PROGRAM ELEMENT NUMBER AND NAME: **0604373N Airborne Mine Countermeasures**

PROJECT NUMBER AND NAME: **0529 Airborne Mine Hunt Systems**



R-1 SHOPPING LIST - Item No. 107

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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, BA-5**	PROGRAM ELEMENT **0604373N Airborne Mine Countermeasures**				PROJECT NUMBER AND NAME **0529 Airborne Mine Hunt Systems**			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Software Delivery V5.X								
SDCT Dry Run								
SDCT Conduct		3Q						
EDM Delivery		2Q-4Q						
Contractor Test			1Q					
MH-53E System DT			2Q					
MH-60S Int. DT			4Q					
Milestone C (MS C)				2Q				
MH-60S OT				2Q-3Q				
AN/AQS-20A Low Rate Initial Production (LRIP) Decision				2Q				
AN/AQS-20A Full Rate Production (FRP) Decision					1Q			
IOC					1Q			
AN/AQS-20A Full Rate Production (FRP) Start					1Q			

R-1 SHOPPING LIST - Item No. 107

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2004			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME **0604373N Airborne Mine Counterneasures**					PROJECT NUMBER AND NAME **2047 Airborne Laser Mine Detection System**					
COST ($ in Millions)	Prior Years Cost		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Total Program
Project Cost	**53.263**		**17.787**	**10.670**	**3.541**	**7.503**	**11.775**	**6.579**	**1.795**	**0.000**	**112.913**
RDT&E Articles Qty	**3**										**3**

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

The Airborne Laser Mine Detection System (ALMDS), designation AN/AES-1, is a non-acoustic Airborne Mine Countermeasures (AMCM) high area coverage system that detects, classifies, and localizes floating, drifting, and near-surface moored sea mines. The system is deployed from the MH-60S helicopter and will provide organic airborne mine defense for the Carrier Strike Groups (CSG) and Expetionary Strike Groups (ESG). The system represents a capability that does not exist in the current Mine Countermeasures (MCM) inventory.

R-1 SHOPPING LIST - Item No. 107

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	**0604373N Airborne Mine Countermeasures**	**2047 Airborne Laser Mine Detection System**

(U) B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		7.724	4.763	1.329
RDT&E Articles Quantity				

EDM development, fabrication, software coding.
Continue to conduct technical studies, MH-60 S Interface, C4I Interface, and MEDAL.
Prepare for FRPDR refurbish EDM units.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		1.427	1.030	0.198
RDT&E Articles Quantity				

Integrated Logistics Support and delivery of Technical Data Package
Continue to monitor contractor performance and technical review of CDRLs.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		8.636	4.877	2.014
RDT&E Articles Quantity				
Total		17.787	10.670	3.541

Contractor Testing, Developmental Testing-IIB/Operational Assessment on platform of opportunity (FY03)
Developmental Testing-IIC
Operational Testing (OPEVAL) (FY05)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	**0604373N Airborne Mine Countermeasures**	**2047 Airborne Laser Mine Detection System**

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
424800 OPN	0.000	0.000	0.000	21.307	23.304	52.267	53.524	66.569	0.000	216.971

(U) E. ACQUISITION STRATEGY: *

In April 2000, the ALMDS program received MS II approval to enter the Engineering and Manufacturing Development (E&MD) phase. Northrop Grumman won the competitively awarded E&MD contract.
The ALMDS E&MD contract with Northrop Grumman has 3 types of incentives: schedule incentive for early delivery of EDM units; technical incentive for performance reliability and maintainability; and a cost incentive - a cost sharing percentage both for an overrun and an underrun. Successful completion of DT-IIB, on an alternate platform (SH-60F), will support a Low-Rate Initial Production (LRIP) decision, which will be an option to the current E&MD contract. After a successful OPEVAL on the intended deployment platform (MH-60S), Full-Rate Production will begin. The first full-rate production lot will be an option to the current E&MD contract to prove out the producibility of the system. The remaining 38 production units will be awarded after a full and open competition.

(U) F. MAJOR PERFORMERS: **

Northrop Grumman, Melbourne, FL - Prime Contractor for Engineering, Manufacture Development, awarded 4/00.
Costal Systems Station, Panama City, FL - Technical Direction Agent

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)

DATE: **February 2004**

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

PROGRAM ELEMENT: **0604373N Airborne Mine Countermeasures**

PROJECT NUMBER AND NAME: **2047 Airborne Laser Mine Detection System**

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
Hardware/Software Development	WR	CSS, Panama City	0.465	0.050	10/02	0.190	10/03				0.705	
Hardware/Software Development	RCP	CSS, (Prime Contractor)	19.086	1.500	10/02	1.500	10/03			4.804	26.890	
Hardware/Software Development	RCP	Metron	0.625								0.625	
Hardware/Software Development	RCP	SAIC		0.200	10/02						0.200	
Hardware/Software Development											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			20.176	1.750		1.690		0.000		4.804	28.420	

Remarks:

Engineering Services	WR	CSS, Panama City	7.441	1.008	10/02	0.702	10/03	0.252	10/04	3.760	13.163	
Engineering Services	RCP	CSS, (Prime Contractor)	9.632	0.898	10/02					3.195	13.725	
Engineering Services	VAR	Various	4.080	2.204	10/02	1.491	10/03	0.629	10/04	5.017	13.421	
Engineering Services	RCP	Various	2.871	0.251	10/02	0.200	10/03	0.050	10/04	1.100	4.472	
ILS Functions	WR	CSS, Panama City	1.097	0.249	10/02	0.225	10/03	0.045	10/04		1.616	
ILS Functions	RCP	CSS, (Prime Contractor)	4.405	1.078	10/02	0.730	10/03	0.103	10/04	0.500	6.816	
ILS Functions	VAR	Various/NRL Stennin	1.062								1.062	
ILS Functions	RCP	CSS, Panama City		0.100	10/02	0.075		0.050	10/04		0.225	
Subtotal Support			30.588	5.788		3.423		1.129		13.572	54.500	

Remarks:

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2) | DATE: **February 2004**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA-5** | PROGRAM ELEMENT: **0604373N Airborne Mine Countermeasures** | PROJECT NUMBER AND NAME: **2047 Airborne Laser Mine Detection System**

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
Testing and Evaluation	RCP	CSS, (Prime Contractor)	1.008	5.249	10/02	1.671	10/03	0.215	10/04	3.456	11.599	
Testing and Evaluation	WR	CSS, Panama City	0.199	2.787	10/02	2.806	10/03	1.617	10/04	3.300	10.709	
Testing and Evaluation	VAR	Various	0.392								0.392	
Testing and Evaluation	RCP	CSS, Panama City		0.600	10/02	0.400	10/03	0.150	10/04	0.200	1.350	
											0.000	
											0.000	
											0.000	
Subtotal T&E			1.599	8.636		4.877		1.982		6.956	24.050	
Remarks:												
Management Support		Travel	0.200	0.030	10/02	0.050	10/03	0.030	10/04	0.180	0.490	
Management Support	VAR	Various	0.700	0.700	10/02	0.310	10/03	0.180	10/04	1.100	2.990	
Management Support	RCP	CSS, (Prime Contractor)		0.579	10/02	0.000	10/03			0.800	1.379	
Management Support	WR	CSS, Panama City		0.304	10/02	0.320	10/03	0.220	10/04	0.240	1.084	
											0.000	
											0.000	
Subtotal Management			0.900	1.613		0.680		0.430		2.320	5.943	
Remarks:												
Total Cost			53.263	17.787		10.670		3.541		27.652	112.913	
Remarks:												

R-1 SHOPPING LIST - Item No. 107

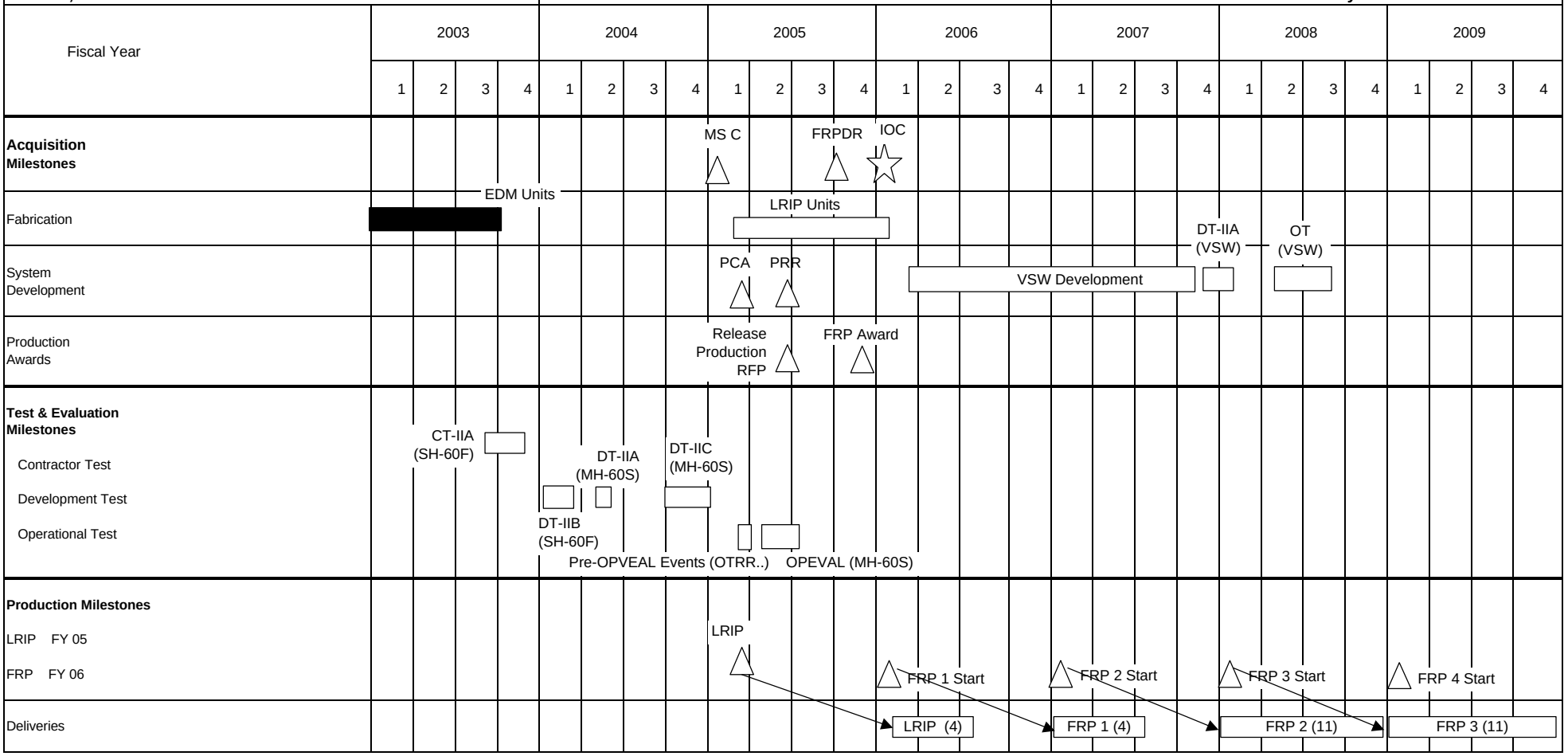
CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **February 2004**

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

PROGRAM ELEMENT NUMBER AND NAME: **0604373N Airborne Mine Countermeasures**

PROJECT NUMBER AND NAME: **2047 Airborne Laser Mine Detection System**



R-1 SHOPPING LIST - Item No. 107

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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT **0604373N Airborne Mine Countermeasures**				PROJECT NUMBER AND NAME **2047 Airborne Laser Mine Detection System**			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
EDM Fabrication		1Q						
Milestone C (MS C)				1Q				
Contractor Testing (CT-IIA - SH-60F)		3Q-4Q						
Developmental Testing (DT-IIA - MH-60S)			2Q					
Developmental Testing (DT-IIB/OA - SH-60F)			1Q					
Developmental Testing (DT-IIC - MH-60S)			4Q					
Start Low-Rate Initial Production I (LRIP I)				1Q				
Physical Configuration Audit				1Q				
Operational Testing (OPEVAL - MH-60S)				Q1 - Q2				
Preproduction Readiness Review (PRR)				2Q				
Full Rate Production (FRP) Decision				4Q				
Low-Rate Initial Production I Delivery					1Q - 2Q			
IOC					1Q			
Full Rate Production Start (FRP 1)					1Q			
Full Rate Production Start (FRP 2)						1Q		
Full Rate Production Delivery (FRP 1)						1Q - 3Q		
Full Rate Production Start (FRP 3)							1Q	
Full Rate Production Delivery (FRP 2)							1Q - 4Q	
Full Rate Production Start (FRP 4)								1Q
Full Rate Production Delivery (FRP 3)								1Q - 4Q

R-1 SHOPPING LIST - Item No. 107

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2004			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME **0604373N Airborne Mine Countermeasures**					PROJECT NUMBER AND NAME **2427/2883 Organic Airborne and Surface Influence Sweep**					
COST ($ in Millions)	Prior Years Cost		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Total Program
Project Cost	**25.435**		**13.762**	**14.625**	**11.215**	**0.773**	**0.000**	**0.000**	**0.000**	**0.000**	**65.810**
RDT&E Articles Qty					**3**						**3**

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

The OASIS system is a towed Minesweeping System that is deployed from specially configured MH-60S helicopters or surface craft in support of the Carrier Strike Groups (CSG) and Expetionary Strike Groups (ESG). The system provides a rapid response sweeping capability against bottom and moored, acoustic and magnetic, or combination acoustic/magnetic influence mines in support of mine clearance operations where mine hunting is ineffective. The system consists of a towed body, a magnetic/acoustic influence capability, a control/monitoring system under software control and interfaces to the helicopter Carriage, Stream, Tow, and Recovery System and the Common Console. The program is currently in the SD&D phase where three engineering development models (EDMs) will be developed for test and evaluation. Production is planned for FY06 thru FY10 to meet the inventory requirement of 44 units over a five-year period.

R-1 SHOPPING LIST - Item No. 107

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	**0604373N Airborne Mine Countermeasures**	**2427/2883 Organic Airborne and Surface Influence Sweep**

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		4.796	1.827	0.969
RDT&E Articles Quantity				

Continue SD&D contract to complete Design, Conduct CDR, Fabricate 3 EDM, and begin to integrate EDMs into platform.
Conduct technical reviews such as PDR, SRDR, and CDR.
Congressional Add. - Investigate development of the RTASS system.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		7.724	11.433	9.252
RDT&E Articles Quantity				

Conduct technical studies on MHC60S interface and other technical studies.(Cong. add) Conducted remote technical assistance to MCM ship.
Conduct TECHEVAL and prepare for OPEVAL
Conducted shock test and other technical studies.
Conduct studies on C4I Interface and MEDAL.
Conduct engineering and desing work.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		1.242	1.365	0.994
RDT&E Articles Quantity				
Total		13.762	14.625	11.215

Monitored Contractor performance and techincal review of CDRLs. Conduct HCDR and PDR.
Continue to monitor Contractor performance and technical review of CDRLs.
Support platform integration.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	**0604373N Airborne Mine Countermeasures**	**2427/2883 Organic Airborne and Surface Influence Sweep**

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
424800 OPN	0.000	0.000	0.000	0.000	11.003	28.388	29.038	29.632	CONT.	CONT.

(U) E. ACQUISITION STRATEGY:

After Milestone B review in FY02, a SD&D contract was awarded. In FY06, following a successful DT and MS C, procurement options will be exercised.

(U) F. MAJOR PERFORMERS:

EDO Corporation, Amityville, NY. - Production of EDM units, participate in engineering, system integration, and meeting ILS requirements.
Coastal Systems Station, Panama City, Fl. - Contributing to ILS, program management, engineering, and system integration.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT **Airborne Mine Countermeasures/0604373N**				PROJECT NUMBER AND NAME **2427/2883 Organic Airborne and Surface Influence Sweep**						
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
Hardware/Software Development	C/CPFF	EDO Corp.	1.722								1.722	
Hardware/Software Development	C/CPIF	EDO Corp.	2.200	3.845	10/02	1.827	10/03	0.969	10/04	0.000	8.841	
Hardware/Software Development	SS/CPFF	Aeptec Microsystems Inc	5.123	0.775	08/03						5.898	
		Rockville, MD									0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			9.045	4.620		1.827		0.969		0.000	16.461	
Remarks:												
Engineering Services	WR	NUWC Keyport	0.483	0.176	06/03						0.659	
Engineering Services	C/CPIF	EDO Corp	3.663	1.993	10/02	4.558	10/03	0.125	10/04		10.339	
Engineering Services	WR	CSS Panama City	5.208	2.003	10/02	0.813	10/03	0.826	10/04	0.367	9.217	
Engineering Services	WR	NSWC Carderock MD	0.725								0.725	
Engineering Services/ILS	VAR	Various	0.548	0.000	10/02		10/03		10/04		0.548	
Engineering Services	PD	ONR	1.367	0.000		2.135	10/03	1.683	10/04	0.100	5.285	
ILS Functions	C/CPIF	EDO Corp	0.732	0.664	10/02	1.023	10/03	1.299	10/04	0.157	3.875	
ILS Functions	WR	CSS Panama City	0.876	0.305	10/02	0.053	10/03	0.125	10/04		1.359	
Subtotal Support			13.602	5.141		8.582		4.058		0.624	32.007	
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT **0604373N Airborne Mine Countermeasures**			PROJECT NUMBER AND NAME **2427/2883 Organic Airborne and Surface Influence Sweep**						
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
Test and Evaluation Functions											0.000	
T&E Functions	C/CPIF	EDO Corp		2.659	10/02	1.299	10/03	1.897	10/04		5.855	
T&E Functions	WR	CSS Panama City, FL	1.186	0.100	10/02	1.552	10/03	3.297	10/04		6.135	
T&E Functions	VAR	Various	0.554								0.554	
											0.000	
											0.000	
											0.000	
Subtotal T&E			1.740	2.759		2.851		5.194		0.000	12.544	
Remarks:												
Management Support											0.000	
Management Support	VAR	Various	0.913	1.212	10/02	1.365	10/03	0.994	10/04	0.149	4.633	
Management Support		Travel	0.135	0.030	10/02		10/03		10/04		0.165	
											0.000	
											0.000	
											0.000	
Subtotal Management			1.048	1.242		1.365		0.994		0.149	4.798	
Remarks:												
Total Cost			25.435	13.762		14.625		11.215		0.773	65.810	
Remarks:												

R-1 SHOPPING LIST - Item No. 107

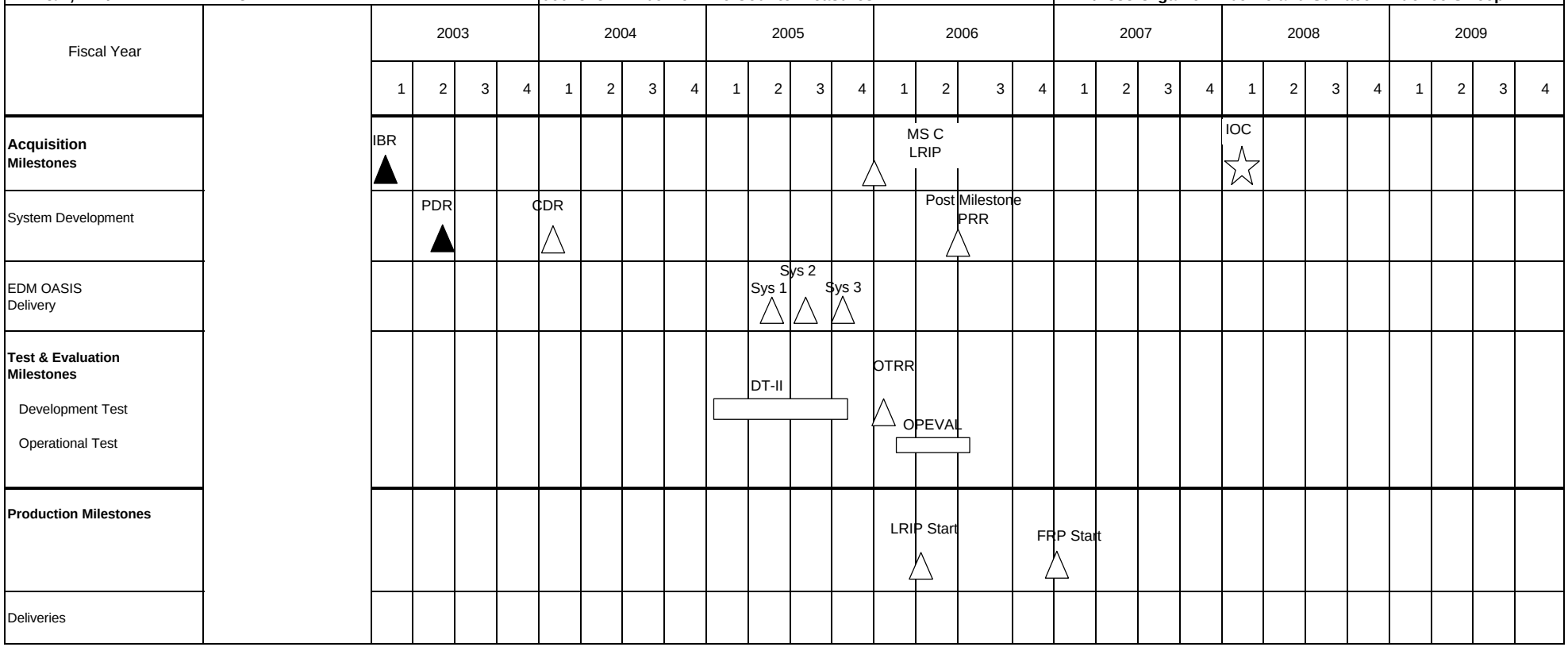
CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **February 2004**

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

PROGRAM ELEMENT NUMBER AND NAME: **0604373N Airborne Mine Countermeasures**

PROJECT NUMBER AND NAME: **2427/2883 Organic Airborne and Surface Influence Sweep**



R-1 SHOPPING LIST - Item No. 107

Note: This Program Schedule reflects the revised APB change 1. A Program Deviation Notification letter has been submitted for approval.

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT **0604373N Airborne Mine Countermeasures**				PROJECT NUMBER AND NAME **2427/2883 OASIS**			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Milestone B								
SD&D Contract Award								
System Requirements Design Review								
IBR		1Q						
Preliminary Design Review (PDR)		2Q						
Hardware Critical Design Review			1Q					
Software Critical Design Review			1Q					
EDM System 1 Delivery				2Q				
EDM System 2 Delivery				3Q				
EDM System 3 Delivery				4Q				
DTII Testing				1Q-3Q				
OPEVAL					1Q-2Q			
Milestone C (LRIP)					1Q			
LRIP Contract Award					2Q			
FRP Contract Award						1Q		
Initial Operational Capability							1Q	
Note: This Program Schedule reflects the revised APB change 1. A Program Deviation Notification letter has been submitted for approval.								

R-1 SHOPPING LIST - Item No. 107

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2004			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME **0604373N Airborne Mine Countermeasures**					PROJECT NUMBER AND NAME **2473 Airborne Mine Neutralization Systems**					
COST ($ in Millions)	Prior Years Cost		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Total Program
Project Cost	**47.880**		**21.851**	**47.225**	**29.671**	**12.288**	**0.000**	**0.000**	**0.000**	**0.000**	**158.915**
RDT&E Articles Qty			**AMNS 2**	**AMNS 1**	**RAMICS 2**						**5**

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

The **Airborne Mine Neutralization Systems (AMNS)** research and development effort was restarted in FY97 in Project Q0529 P.E. 0604373N. AMNS will provide the MH-60S with the capability to neutralize bottom and moored mines using an airborne delivered expendable mine neutralization device. The AMNS is being tested on the MH-53E to prove out the neutralization effectiveness. The system will also be deployed from the MH-60S helicopter and will provide organic airborne mine defense for Carrier Strike Groups (CSG) and Expetionary Strike Groups (ESG). This capability will be of critical importance in littoral zones, confined straits, choke points, and the Amphibious Objective Area (AOA).

The **Rapid Airborne Mine Clearance System (RAMICS)** MIW program began Concept & Technoogy Development phase in FY00. RAMICS will satisfy the U.S. Navy's need for a rapid mine clearance capability required to neutralize near-surface and surface (floating) moored sea mines. RAMICS will use geo-location data provided by other minehunting and mine reconnaissance systems, use a laser system to reacquire targets and to direct the fire of supercavitating projectiles that will render the mines inoperable. RAMICS includes the following major subsystems and components:
(a) Gun Subsystem (including gun and turret)
(b) Munition Subsystem - MK258 Mod 1 Armor Piercing, Fin Stabilized, Discarding Sabot-Tracer (APFSDS-T)
(c) Targeting Sensor Subsystem.
(d) Fire Control Subsystem.
(e) Software
The system will be deployed from the MH-60S helicopter and will provide organic airborne mine defense for Carrier Strike Groups (CSG) and Expetionary Strike Groups (ESG). This capability will be of critical importance in littoral zones, confined straits, choke points, and the Amphibious Objective Area (AOA). Some interest in the following areas has been expressed: search and rescue; Surface fire support; Protection/offense against small craft/vehicles; Air to air operations; Very shallow water MCM; Swimmer defense and Torpedo defense; and ASW capabilities, RAMICS received Below Threshold Reprogramming (BTR) in FY03 ($.6M) and Congressional Add in FY04 ($2M) for RAMICS ASW capabilities. RAMICS ASW capabilities will provide a reliable rapid response weapon system to effectively defeat large surface, near surface, and underwater targets in the littorals.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	**0604373N Airborne Mine Countermeasures**	**2473 Airborne Mine Neutralization Systems**

(U) B. Accomplishments/Planned Program

AMNS		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		11.434	14.368	15.576
RDT&E Articles Quantity		2	1	

FY03 ACCOMPLISHMENTS:
Awarded SD&D contract, initiated design and developed software. Completed MH-53E TECHEVAL.

FY04 PLAN: Continue design, develop software, and integrate aboard MH-60S, conduct 2105 testing and environmental testing. Continue to monitor Contractor performance and technical review of CDRLs.

FY05 PLAN: Prepare documentation for MH-60S contract award (production), conduct contractor test, MH-60S TECHEVAL, initiate MH-60S OPEVAL. Continue to monitor Contractor performance and technical review of CDRLs. Develop program documentation to achieve MS-C.

RAMICS		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		10.417	32.857	14.095
RDT&E Articles Quantity				2
Total		21.851	47.225	29.671

FY03 ACCOMPLISHMENTS:
Conducted Rig and MunitionTests. Continue RAMICS MIW design and development under SD&D contract. Conducted Preliminary Design Review (PDR) in August 2003 and Independent Cost Assessment (ICA) update review in September 2003. Conduct RAMICS ASW capability study, preliminary CONOPs, and drafted Classified Guide.

FY04 PLAN: Continue RAMICS MIW design, development under SD&D contract. Conduct DT-IIA and Critical Design Review (CDR). Start RAMICS ASW capabilities design. Support DODIG audit.

FY05 PLAN: Complete RAMICS design, develop, and fabrication of Engineering Development Models (EDMs). Complete Contractor's Testing (CT) and initiate Technical Evaluation (TECHEVAL).

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	**0604373N Airborne Mine Countermeasures**	**2473 Airborne Mine Neutralization System**

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
AMNS 424800 OPN	2.594	0.000	0.000	4.350	11.204	14.911	17.103	CONT.	CONT.
AMNS 422500 WPN	0.720	0.000	0.000	2.845	7.145	3.843	3.918	CONT.	CONT.

(U) E. ACQUISITION STRATEGY: *

Procurement for seven (7) MH-53E system in FY03 as a Rapid Deployment Capability (RDC). In FY06, following a successful DT and MS-C, an LRIP award is planned for two (2) MH-60S systems. FRPDR is planned for FY06. Full and open competition is planned for the AMNS (MH-60S) FRP contract.

(U) F. MAJOR PERFORMERS: **

Lockheed Martin Corporation (Ocean, Radar, & Sensor Systems) Syracuse, NY Modification and fabrication of a non-developmental item (NDI) AMNS prototype system and the design, construction, and integration of AMNS equipment into the MH-53E helicopter Actual OTA Award: 12/98 Actual Production RDC Contract Award: 5/03

Raytheon Company (Integrated Defense Systems) Portsmouth, RI Fabrication of a non-developmental item (NDI) AMNS prototype system, and the design, construction, and integration of AMNS equipment into the MH-60S helicopter. Actual SD&D contract award: 1/03.

Naval Surface Warfare (Center Coastal Systems Station) Panama City, FL Serves as the Technical Direction Agent (TDA) for the AMNS program.

AMNS ONLY

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	**0604373N Airborne Mine Countermeasures**	**2473 Airborne Mine Neutralization System**

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
RAMICS 422500 WPN	0.000	0.000	0.000	0.000	10.482	24.427	19.632	30.478	CONT	CONT
RAMICS 0019600 PANMC	0.000	0.000	0.000	0.000	0.222	0.673	0.687	0.700	CONT	CONT

(U) E. ACQUISITION STRATEGY:

RAMICS: Achieved MS B in July 2002 and awarded SD&D contract in August 2002 based on a full and open competition. Following a successful DT and MS C in FY06 , a FY06 LRIP award is planned for two (2) systems for fleet use. Full Rate Production (FRP) is scheduled to start in FY07.

(U) F. MAJOR PERFORMERS:

SD&D Contractor, Northrop Grumman Melbourne, FL - Awarded RAMICS SD&D contract in August 2002 for two RAMICS Engineering Development Models (EDMs) scheduled for delivery in FY05.
Alliant TechSystems (ATK) - Awarded RAMICS Gun Subsystem contract in July 2001 via NSWC Crane. Performed PDR, CDR, and Acceptance Testing in FY02. The contract has option for production units.
NSWC CSS, Panama City, FL - As Technical Design Agent (TDA) for RAMICS; supported successful completion of CTD Phase, prepared draft Request For Proposal (RFP) for the SD&D contract, supported the proposal evaluation, and conducted a series of risk reduction tests in FY00 - FY02 and plans to conduct additional tests .
NSWC Crane, Crane IN - As a Weapon System Development, Crane is responsible for definition and selection of the RAMICS Gun Subsystem. Accordingly, awarded contract to ATK.
NAWC Pax, Pautaxant River, MD - As Aircraft(A/C) Integration Agent, coordinates all tests with A/C Integration.

RAMICS ONLY

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT **0604373N Airborne Mine Countermeasures**				PROJECT NUMBER AND NAME **2473 Airborne Mine Neutralization System**						
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
Hardware/Software Development	C/845	Lockheed Syracuse, NY	3.331								3.331	
Hardware/Software Development	VAR	Various	3.359								3.359	
Hardware/Software Development	WR	CSS Panama City, FL	0.290	0.471	12/02	0.478	10/03	0.243	10/04		1.482	
Hardware/Software Development	C/CPIF	Raytheon, Portsmouth RI		6.009	01/03	5.093	10/03	1.564	10/04		12.666	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			6.980	6.480		5.571		1.807		0.000	20.838	
Remarks: AMNS Only												
Engineering Services	VAR	Various	2.718	0.582	12/02	1.072	10/03	1.153	10/04	0.153	5.678	
Engineering Services	WR	CSS Panama City, FL	7.096	1.278	12/02	3.045	10/03	2.039	10/04	0.262	13.720	
Engineering Services	C/CPIF	Raytheon, Portsmouth RI		1.951	01/03	2.077	10/03	1.219	10/04	0.067	5.314	
											0.000	
ILS Functions	WR	CSS Panama City, FL	2.908	0.153	12/02	0.165	10/03	0.121	10/04	0.094	3.441	
ILS Functions	SS/BOA	Lockheed Syracuse, NY	0.227								0.227	
ILS Functions	C/CPIF	Raytheon, Portsmouth RI		0.561	01/03	0.734	10/03	0.498	10/04	0.336	2.129	
											0.000	
Subtotal Support			12.949	4.525		7.093		5.030		0.912	30.509	
Remarks: AMNS ONLY												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT **0604373N Airborne Mine Countermeasures**				PROJECT NUMBER AND NAME **2473 Airborne Mine Neutralization System**						
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	VAR	Various	0.300								0.300	
Developmental Test & Evaluation	WR	CSS Panama City, FL	8.647					2.878	10/04		11.525	
Developmental Test & Evaluation	SS/BOA	Lockheed Syracuse, NY	1.254								1.254	
Developmental Test & Evaluation	C/CPIF	Raytheon, Portsmouth RI				1.168	10/03	2.878	10/04		4.046	
Operational Test & Evaluation	WR	COTF Norfolk, VA	1.388					2.396	10/04	1.044	4.828	
Operational Test & Evaluation	SS/BOA	Lockheed Syracuse, NY	0.767								0.767	
											0.000	
Subtotal T&E			12.356	0.000		1.168		8.152		1.044	22.720	
Remarks:												
Program Management Support	VAR	Various	0.649	0.389	10/02	0.496	10/03	0.547	10/04	0.075	2.156	
Travel			0.094	0.040	10/02	0.040	10/03	0.040	10/04	0.010	0.224	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Management			0.743	0.429		0.536		0.587		0.085	2.380	
Remarks:												
Total Cost			33.028	11.434		14.368		15.576		2.041	76.447	
Remarks: AMNS ONLY												

R-1 SHOPPING LIST - Item No. 107

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT **0604373N Airborne Mine Countermeasures**				PROJECT NUMBER AND NAME **2473 Airborne Mine Neutralization System**			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
E&MD Phase (MH-53E)		1Q						
TECHEVAL (MH-53E)		1Q						
QRA (MH-53E)			2Q					
SD&D Contract Award (MH-60S)		2Q						
SD&D Phase (MH-60S)		2Q-4Q	1Q-4Q	1Q-4Q	1Q			
Preliminary Design Review (PDR) (MH-60S)		4Q						
RDC (MH-53E) Start		3Q						
Critical Design Review (CDR) (MH-60S)			2Q					
EDM Deliveries (MH-60S)			3Q-4Q	1Q				
Contractor Testing (MH-60S)				1Q-2Q				
TECHEVAL (MH-60S)				2Q-3Q				
Milestone C (MS C)				4Q				
OPEVAL (MH-60S)				4Q	1Q			
LRIP (MH-60S) Start					1Q			
FRPDR (MH-60S)					3Q			
Low-Rate Initail Production (LRIP) Delivery (MH-60S)						1Q		
FRP (MH-60S) Start						1Q		
Initial Operational Capability (IOC) (MH-60S)						3Q		
First Deployment (MH-60S)						3Q		
AMNS ONLY								

R-1 SHOPPING LIST - Item No. 107

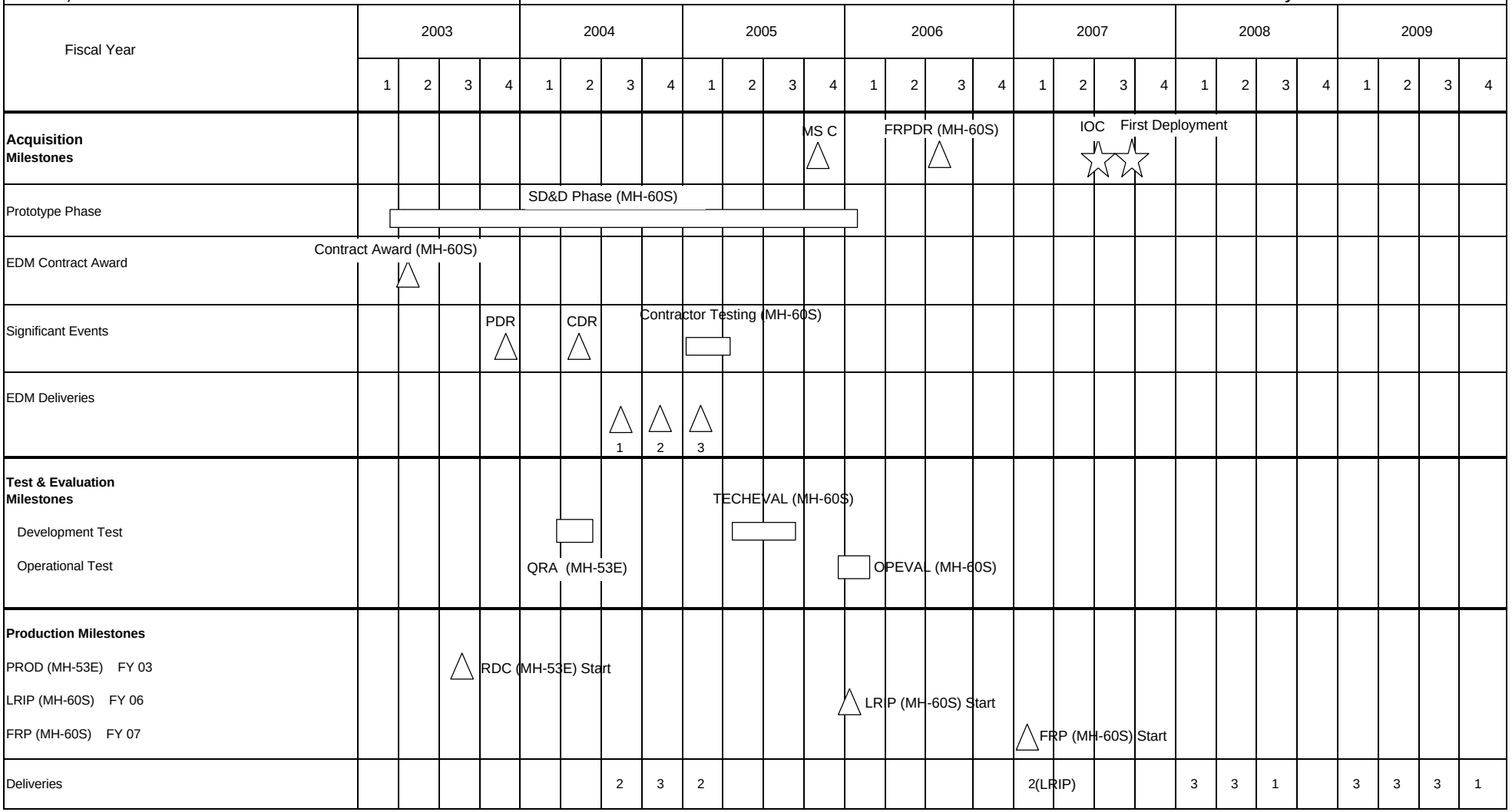
CLASSIFICATION:

EXHIBIT R4, Schedule Profile — DATE: **February 2004**

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

PROGRAM ELEMENT NUMBER AND NAME: **0604373N Airborne Mine Countermeasures**

PROJECT NUMBER AND NAME: **2473 Airborne Mine Neutralization System**



AMNS ONLY

R-1 SHOPPING LIST - Item No. 107

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

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)

DATE: **February 2004**

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

PROGRAM ELEMENT: **0604373N Airborne Mine Countermeasures**

PROJECT NUMBER AND NAME: **2473 Airborne Mine Neutralization System**

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
Hardware/Software Development	C/CPIF	Northrop Grumman, FL	1.032	4.207	10/02	13.691	10/03	5.626	10/04	4.364	28.920	
Hardware/Software Development	Various	CSS - Panama City, FL	1.634								1.634	
Hardware/Software Development	RCP	Crane - Crane, IN	1.381								1.381	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			4.047	4.207		13.691		5.626		4.364	31.935	

Remarks: This is RAMICS only .

Engineering Services	C/CPIF	Northrop Grumman, FL	0.553	1.624	10/02	5.205	10/03	1.290	10/04	1.293	9.965	
Engineering Services	Varioius	CSS - Panama City, FL	3.923	1.037	10/02	1.545	10/03	0.466	10/04	0.322	7.293	
Engineering Services	Varioius	Crane - Crane, IN	2.200								2.200	
Engineering Services	WR	Various	0.725			0.781	10/03			0.880	2.386	
											0.000	
ILS Functions	C/CPIF	Northrop Grumman, FL		1.309	10/02	2.957	10/03	1.783	10/04	0.943	6.992	
ILS Functions	Various	CSS Panama City, FL	0.350	0.134	10/02	0.401	10/03	0.260	10/04	0.255	1.400	
ILS Functions	Various	Various				1.500	10/03	1.000	10/04	0.280	2.780	
Subtotal Support			7.751	4.104		12.389		4.799		3.973	33.016	

Remarks: This is RAMICS only .

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT **0604373N Airborne Mine Countermeasures**				PROJECT NUMBER AND NAME **2473 Airborne Mine Neutralization System**						
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
Test & Evaluation	C/CPIF	Northrop Grumman, FL		0.082	10/02	2.248	10/03	0.489	10/04	0.087	2.906	
Test & Evaluation	WR	CSS - Panama City, FL	0.930	0.200	10/02	0.100	10/03	0.661	10/04	0.600	2.491	
Test & Evaluation	WR	Crane - Crane, IN		0.500	10/02						0.500	
Test & Evaluation	Various	Various	0.893	0.753	10/02	3.975	10/03	2.199	10/04	0.893	8.713	
											0.000	
											0.000	
											0.000	
Subtotal T&E			1.823	1.535		6.323		3.349		1.580	14.610	
Remarks: This is RAMICS only .												
Management Support	Various	Various	1.143	0.541	10/02	0.420	10/03	0.300	10/04	0.300	2.704	
Management Support		Travel	0.088	0.030	10/02	0.034	10/03	0.021	10/04	0.030	0.203	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Management			1.231	0.571		0.454		0.321		0.330	2.907	
Remarks: This is RAMICS only .												
Total Cost			14.852	10.417		32.857		14.095		10.247	82.468	
Remarks: This is RAMICS only .												

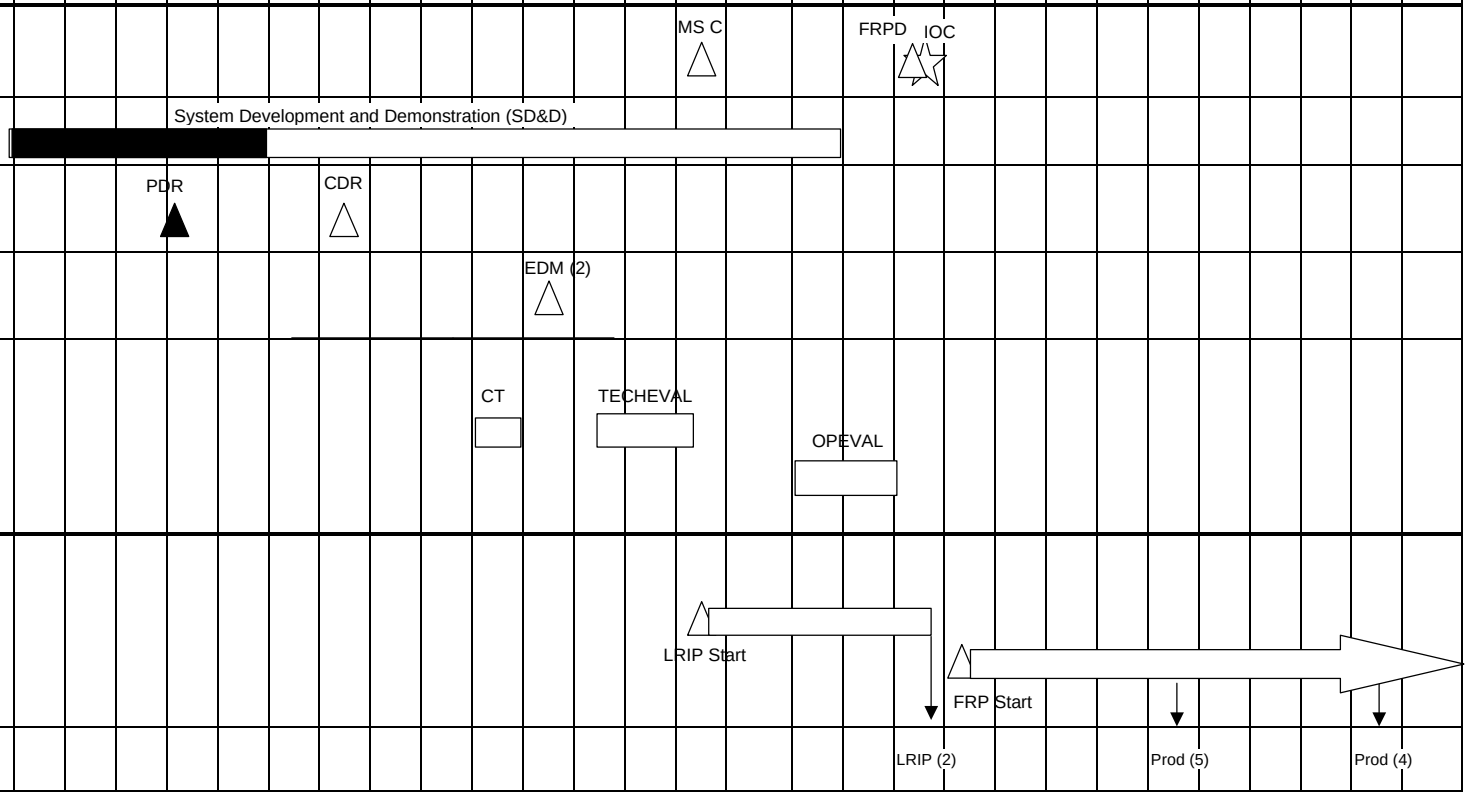
CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **February 2004**

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

PROGRAM ELEMENT NUMBER AND NAME: **0604373N Airborne Mine Countermeasures**

PROJECT NUMBER AND NAME: **2473 Airborne Mine Neutralization System**



RAMICS ONLY

R-1 SHOPPING LIST - Item No. 107

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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT **0604373N Airborne Mine Countermeasures**				PROJECT NUMBER AND NAME **2473 Airborne Mine Neutralization System**			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Concept & Technology Development (CTD) Phase								
Operational Requirements Document (ORD)								
Milestone (MS) B								
System Development and Demonstration (SD&D) Phase		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q			
SD&D Contract Award								
Preliminary Design Review (PDR)		4Q						
Critical Design Review (CDR)			3Q					
Contractor Testing (CT)				2Q				
Engineering Development Model (EDM) Delivery (2 units)				3Q				
Technical Evaluation (TECHEVAL)				4Q	1Q-2Q			
Milestone (MS) C					2Q			
Start Low Rate Initial Production (LRIP)					2Q			
Operational Evaluation (OPEVAL)					4Q	1Q		
Full Rate Production Decision (FRPD)						2Q		
LRIP Production Delivery (2 Units)						2Q		
Initial Operational Capability (IOC)						2Q		
Full Rate Production Start						3Q		
First Production Delivery (5 units)							3Q	
Second Production Delivery (4 units)								3Q
RAMICS ONLY								

R-1 SHOPPING LIST - Item No. 107

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification									DATE: February 2004		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME **0604373N Airborne Mine Countermeasures**					PROJECT NUMBER AND NAME **4026 - C4I, Tactics, and Mission Planning**					
COST ($ in Millions)	Prior Years Cost	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Total Program
Project Cost	**0.000**	**0.000**	**0.000**	**0.000**	**1.289**	**1.823**	**1.556**	**1.366**	**1.308**	**Continuing**	**Continuing**
RDT&E Articles Qty											**0**

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

The PMS210 C4I, Tactics, Mission Planning, and Post-Mission Analysis (CTMP) program began in FY97 as an initiative to provide near-real-time data linking of mine sensor data between the MH-53E aircraft and ship- and/or shore-based command centers. Additionally, the program began to develop MEDAL modules for each "Next Generation" system; and plans to develop "Next Generation" tactics; provide threat data and system requirements and capabilities to the MEDAL software development effort; and develop a common post-mission analysis tool for "Next Generation" systems. This program was previously funded under PE-0603502N/PU-Q1233.

R-1 SHOPPING LIST - Item No. 107

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	**0604373N Airborne Mine Countermeasures**	**4026 - C4I, Tactics, and Mission Planning**

(U) B. Accomplishments/Planned Program

	FY 02	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost				0.657
RDT&E Articles Quantity				

Mission Planning and Post Mission Analysis (MEDAL)

	FY 02	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost				0.310
RDT&E Articles Quantity				

Common PMA

	FY 02	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost				0.322
RDT&E Articles Quantity				
Total				1.289

Tactics Evaluation, Data Bases, and Algorithms
Tactics Documentation and Training

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	**0604373N Airborne Mine Countermeasures**	**4026 - C4I, Tactics, and Mission Planning**

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost

(U) E. ACQUISITION STRATEGY: *

(U) F. MAJOR PERFORMERS: **

SAIC - MEDAL Development.
Coastal Systems Station, Panama City, FL - Technical Direction Agent
Northrop Grumman, Annapolis, MD - Q-14/Q-24 Data Link

R-1 SHOPPING LIST - Item No. 107

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT **0604373N Airborne Mine Countermeasures**			PROJECT NUMBER AND NAME **4026 - C4I, Tactics, and Mission Planning**							
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
Hardware/Software Development	RCP	SAIC						0.300	10/04	Continuing	Continuing	
Hardware/Software Development	RCP	Northrop Grumman						0.295	10/04	Continuing	Continuing	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			0.000	0.000		0.000		0.595		0.000	0.595	
Remarks:												
Engineering Services	WR	CSS, Panama City						0.322	10/04	Continuing	Continuing	
Engineering Services	RCP	SAIC						0.230	10/04	Continuing	Continuing	
Engineering Services	WR	NAVO						0.015	10/04	Continuing	Continuing	
Engineering Services											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Support			0.000	0.000		0.000		0.567		0.000	0.567	
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT **0604373N Airborne Mine Countermeasures**			PROJECT NUMBER AND NAME **4026 - C4I, Tactics, and Mission Planning**						
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
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Management Support	RCP	SAIC						0.127	10/04	Continuing	Continuing	
Management Support											0.000	
Management Support											0.000	
Management Support											0.000	
											0.000	
											0.000	
Subtotal Management			0.000	0.000		0.000		0.127		Continuing	Continuing	
Remarks:												
Total Cost			0.000	0.000		0.000		1.289			1.289	
Remarks:												

R-1 SHOPPING LIST - Item No. 107

CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **February 2004**

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

PROGRAM ELEMENT NUMBER AND NAME: **0604373N Airborne Mine Countermeasures**

PROJECT NUMBER AND NAME: **4026 - C4I, Tactics, and Mission Planning**

Fiscal Year	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
MEDAL											△ Final Interim Build (AMNS, OASIS, RAMICS)		△ Post OT Transition to final (ALMDS, Q-20)				△ Post OT Transition to final (AMNS, OASIS, RAMICS)											
Common PMA													△ CPMA Complete															
NATOPS Supplements																												
Tactics																												
MIW Commanders Handbook																			△ Draft									△ Final
Reachback support OAMCM											▭																	
OAMCM Integrated TACMEMO																												
Issue TACMEMO													△ ALMDS, AN/AQS-20A						△ AMNS, OASIS, RAMICS									
Transition to doctrine																	△ ALMDS, AN/AQS-20A												△ AMNS, OASIS, RAMICS

R-1 SHOPPING LIST - Item No. 107

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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT **0604373N Airborne Mine Countermeasures**				PROJECT NUMBER AND NAME **4026 - C4I, Tactics, and Mission Planning**			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
AMNS, OASIS, and RAMICS final interim MEDAL Build				3Q				
Common PMA SW, HW. TDP Complete				1Q				
Reachback support for OAMCM Systems				3Q				
OAMCM TACMEMO (ALMDS, AN/AQS-20A)					1Q			
Common PMA Complete					1Q			
MEDAL Post-OT Transition to final (ALMDS, Q-20)					2Q			
MEDAL Post-OT Transition to final (AMNS, OASIS, RAMICS)						2Q		
MIW Commanders Handbook (Draft)						4Q		
OAMCM TACMEMO (AMNS, OASIS, RAMICS)						4Q		
OAMCM TACMEMO Transition to doctorine (ALMDS, AN/AQS-20A)							1Q	
OAMCM TACMEMO Transition to doctorine (AMNS, OASIS, RAMICS)								4Q
MIW Commanders Handbook (Final)								4Q

R-1 SHOPPING LIST - Item No. 107

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2004			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME **0604373N Airborne Mine Countermeasures**					PROJECT NUMBER AND NAME **Q9179 Surface Navy Integrated Undersea Tactical Technology**					
COST ($ in Millions)	Prior Years Cost	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Total Program
Project Cost	**0.000**	**0.000**	**3.692**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**3.692**
RDT&E Articles Qty											**0**

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

This congressional add for Surface Navy Inegrated Undersea Tactical Technology (SNIUTT) will be used to develop an AN/AQS-20A sensor training module for the Carrier Vessel - Tactical Support Center (CV-TSC) LAN-based Surface Network Embedded Analysis and Tactical Trainer (SNEATT).

R-1 SHOPPING LIST - Item No. 107

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA -5	**0604373N Airborne Mine Countermeasures**	**Q9179 Surface Navy Integrated Undersea Tactical Technology**

B. Accomplishments/Planned Program

	FY 02	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		3.692	0.000	0.000
RDT&E Articles Quantity				

Congressional Add. - Investigate development of an AN/AQS-20A sensor training module for the Carrier Vessel - Tactical Support Center (CV-TSC) LAN-based Surface Network Embedded Analysis and Tactical Trainer (SNEATT).

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT **0604373N Airborne Mine Countermeasures**			PROJECT NUMBER AND NAME **9179 Surface Navy Integrated Undersea Tactical Technology (SNIUTT)**						
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
Hardware/Software Development	C/CPFF	AAC, Ronkonkoma, NY		3.359	08/03						3.359	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			0.000	3.359		0.000		0.000		0.000	3.359	
Remarks:												
Development Support	WR	CSS Panama City, FL		0.333	06/03						0.333	
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	0.333		0.000		0.000		0.000	0.333	
Remarks:												

R-1 SHOPPING LIST - Item No. 107

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT **0604373N Airborne Mine Countermeasures**				PROJECT NUMBER AND NAME **9179 Surface Navy Integrated Undersea Tactical Technology (SNIUTT)**						
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											0.000	
Program Management Support											0.000	
Travel											0.000	
Labor (Research Personnel)											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			0.000	3.692		0.000		0.000		0.000	3.692	
Remarks:												

R-1 SHOPPING LIST - Item No. 107

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																											DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**					PROGRAM ELEMENT NUMBER AND NAME **0604373N Airborne Mine Countermeasures**												PROJECT NUMBER AND NAME **9179 SNIUTT**															
Fiscal Year	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																												
Prototype Phase																												
EDM Contract Award																												
Significant Events																												
EDM Deliveries																												
Test & Evaluation Milestones																												
Development Test																												
Operational Test																												
Production Milestones																												
LRIP (MH-60S) FY 06																												
FRP (MH-60S) FY 07																												
Deliveries																												

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-5**	PROGRAM ELEMENT **0604373N Airborne Mine Countermeasures**				PROJECT NUMBER AND NAME **9179 SNIUTT**			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009

R-1 SHOPPING LIST - Item No. 107

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 0604503N/Submarine Systems Equipment Development			
COST ($ in Millions)	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost		**120.050**	**76.997**	**75.359**	**70.144**	**76.174**	**75.130**	**75.849**
0775/Submarine Support Equipment		**1.259**	**1.432**	**1.387**	**1.410**	**1.691**	**1.357**	**1.384**
0219/Submarine Sonar Improvements		**80.671**	**61.762**	**40.705**	**31.807**	**46.310**	**51.097**	**51.729**
0742/Submarine Integrated Antenna Systems		**6.111**	**7.313**	**25.557**	**32.335**	**25.649**	**20.120**	**20.134**
1411/Submarine Tactical Communications Systems		**24.393**	**5.106**	**7.710**	**4.592**	**2.524**	**2.556**	**2.602**
9228/SSN/SSBN Modernization		**5.998**						
9229/Sub Common Electronic Equip Replacement		**1.618**						
9384 Littoral Tactical Array System (LTAS)			**1.384**					

Defense Emergency Responses Funds (DERF) Funds: NOT APPLICABLE

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Submarine Support Equipment Program develops and improves submarine Electronic Warfare Support (EWS) techniques, components, equipment, and systems that will increase submarine operational effectiveness, safety of ship, and survivability in the increasingly dense and sophisticated electromagnetic environment caused by the proliferation of complex radar, communications, and navigation equipment of potential adversaries. Improvements are necessary for submarine EWS to be operationally effective in the following mission areas: Joint Littoral Warfare, Joint Surveillance, Space and Electronic Warfare and Intelligence Collection, Maritime Protection, and Joint Strike.

The Submarine Sonar Improvement Program delivers block updates to Sonar Systems installed on SSN 688, 688I, 21, TRIDENT and SSGN Class Submarines to maintain clear acoustic, tactical and operational superiority over submarine and surface combatants in all scenarios through detection, classification, localization and contact following. Current developments are focused on supporting Littoral Warfare, Regional Sea Denial, Battle Group Support, Diesel Submarine Detection, Surveillance, and Peacetime Engagement.

The Submarine Integrated Antenna Systems project develops the antennas needed to communicate in networks such as Ultra High Frequency Satellite Communications, Extremely Low Frequency (ELF), Extremely High Frequency (EHF), Super High Frequency and Global Positioning System. Hardware developments include: (a) mast-mounted systems; (b) buoyant cable systems; (c) expendable buoy systems and (d) submarine antenna distribution systems.

CLASSIFICATION:

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 0604503N/ Submarine Systems Equipment Development

B. (U) Program Change Summary:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 04/05 Pres Controls)	123.765	80.815	66.797
Current BES/Current FMB:	120.050	76.997	75.359
Total Adjustments	-3.715	-3.818	8.562

Summary of Adjustments

OPEVAL Delay		-4.000	
ATAC		1.400	
X-Band Development		-3.200	
Submarine Antenna Technology Improvements		1.500	
LTAS		1.400	
Miscellaneous adjustments	-3.450	-0.425	7.886
NWCF Rate Adjustments	-0.265	-0.493	0.676
	-3.715	-3.818	8.562

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604503N/Submarine System Equipment Development				PROJECT NUMBER AND NAME 0775/Submarine Support Equipment			
COST ($ in Millions)	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**1.259**	**1.432**	**1.387**	**1.410**	**1.691**	**1.357**	**1.384**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This program develops and improves techniques, components, equipment, and systems that will increase submarine operational effectiveness, safety of ship, and survivability in the increasingly dense and sophisticated electromagnetic environment caused by the proliferation of complex radar, communications, and navigation equipment of potential adversaries. Improvements are necessary for Submarine Electronic Warfare Support Measures (ES) systems to be operationally effective in the following mission areas: Joint Littoral Warfare; Joint Surveillance, Space and Electronic Warfare and Intelligence Collection; Maritime Protection; and Joint Strike. Specific efforts include: (1) Integration of the technology developed and transitioned from the Advanced Submarine Support Equipment Program (ASSEP), project F0770 into the tactical ES system (2) Resolultion of software trouble reports during technology integration tests, ie. PSR, EVS, LPI, etc. and (3) Integration, test, and installation of COTS technology for system enhancements.

The program is divided into the three project categories; Threat Warning/Self Protection; Situational Awareness; and Intelligence, Surveillance and Reconnaissance. Threat Warning/Self Protection projects evaluate the vulnerability of submarine masts, periscopes and sensors to visual, radar, and infrared detection. It also and evaluates the state of the art technology to implement periscope/mast and engineering improvements into the tactical ES system, ie AN/BLQ-10 to reduce counter detection threats. Both Situational Awareness and Intelligence, Surveillance, and Reconnaissance projects develop submarine unique improvements based on emerging technologies that are available from DOD Exploratory Development Programs, industry Independent Research and Development, and other sources.

Threat Warning/Self Protection sub-projects include: Low Probability of Intercept (LPI) Receiver, modify AN/BLQ-10 software resulting from APB changes, follow on testing of Specific Emitter Identification, and Block II TEMPALT development.

Situational Awareness sub-projects include: Insertion of covert Data Link, Integration of Automatic Identification System (AIS), Enhanced AN/BLQ-10(V) displays, Communications Acquisition Direction Finding (CADF)/IW antenna, and Situational Awareness Bouy.

Intelligence, Surveillance and Reconnaissance sub-projects include: Passive Surveillance Radar (PSR), Submarine Offboard Sensors (UAV/UUV Pay Load) insertion, Advanced EW Tuners, and Modular Sensor System (Imaging/SIGINT modules).

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-5	0604503N/Submarine System Equipment Development	0775/Submarine Support Equipment

B. Accomplishments/Planned Program Threat Warning/ Self Protection

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.259		
RDT&E Articles Quantity			

Completed assessment of conceptual LPI designs for insertion into AN/BLQ-10.
Completed integration and testing of Non-Propulsion Electronic System (NPES) software baseline changes into AN/BLQ-10.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.986	
RDT&E Articles Quantity			

Initiate integration of LPI receiver into AN/BLQ-10.
Compete development of Block 2 TEMPALT, includes LPI.
Complete At Sea Test of Specific Emitter Identification and Automatic Contact Correlation.
Complete update of AN/BLQ-10 Submarine network interface baseline changes to accomodate APB04 requirements.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost			0.586
RDT&E Articles Quantity			

Intiate integration of LPI Spiral 2 (Ultra Wide Chirp).
Update NPES software baseline changes resulting from advanced processing builds over the network.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-5	0604503N/Submarine System Equipment Development	0775/Submarine Support Equipment

B. Accomplishments/Planned Program Situational Awareness Enhancements

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.108		
RDT&E Articles Quantity			

Completed system specification for the enhanced communications acquisition direction finding (CADF), subsytem into AN/BLQ-10.
Completed assessment of software specification requirements for implementation of Information Assurance.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.279	
RDT&E Articles Quantity			

Integration of Galelite into AN/BLQ-10.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost			0.729
RDT&E Articles Quantity			

Initiate interface design and integrate AIS into AN/BLQ-10
Initiate interface design for PATRIOT Phase B covert data link with AN/BLQ-10.

R-1 SHOPPING LIST - Item No. 108

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604503N/Submarine System Equipment Development	0775/Submarine Support Equipment

B. Accomplishments/Planned Program (Cont.) ISR Enhancements

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.892		
RDT&E Articles Quantity			

Completed integration and at sea testing of Passive Surviellance Radar (PSR) with AN/BLQ-10 .
Completed development of host libraries to support at sea test with AN/BLQ-10.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.167	
RDT&E Articles Quantity			

Initiate modification of Passive Surveillance Radar (PSR) to make use of Mobile Host radars.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost			0.072
RDT&E Articles Quantity			

Complete modification of Passive Surveillance Radar (PSR) Mobile Host Modification.

R-1 SHOPPING LIST - Item No. 108

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604503N/Submarine System Equipment Development	0775/Submarine Support Equipment

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
OPN Line 256000/256005									
ML007 CADF LITE	12.840	13.251	9.079	8.678	8.323	8.982	9.138	Continuing	70.291
ML008 CADF LITE Antenna	10.575	9.289	10.529	9.408	9.587	9.549	9.731	Continuing	68.668
ML009 APB-EW	0.657	0.668	1.452	0.814	0.758	2.259	1.612	Continuing	8.220
ML010 Tech Refresh Upgrades	-	3.456	2.093	0.961	0.803	2.296	1.668	Continuing	11.277
ML011 AN/WLR-8 R&M FCKs	0.826	0.509	0.519	0.389	0.299	0.208	0.212	Continuing	2.962
ML013 ESM IMA Support	0.157	0.176	0.179	0.182	0.186	0.190	0.193	Continuing	1.263
ML015 AN/BLQ-10(V) SSN ES Backfit Systen	33.596	18.288	36.244	59.671	45.040	52.010	46.284	Continuing	291.133
ML016 AN/BLQ-10(V) SSBN ES Systems	-	-	-	-	-	-	6.126	Continuing	6.126
ML017 AN/BLQ-10 Field Change Kits	0.737	3.758	5.218	6.682	0.108	8.401	16.648	Continuing	41.552
SCN LI 201300									
PE 0204287N	13155.000	18896.000	19327.000	19752.000	20320.000	20824.000	51131.000	Continuing	163,405.000
Partial (AN/BLQ-10 ES Only)									

Related RDT&E:

(U) PE 0603562N/Submarine Tactical Warfare System/ F0770 Advanced Submarine Support Equipment Program (ASSEP)

(U) PE 064558N/New SSN Combat Systems Development/Project F1950

E. ACQUISITION STRATEGY:

(U) Acquisition Strategy: LRIP approved November 99 and Full Rate production approved October 2000. Current efforts in this project consist of Product Improvements (Tech Insertion) to the AN/BLQ-10(V) ES system.

F. MAJOR PERFORMERS:

Lockheed-Martin, Syracuse, NY - AN/BLQ-10 system developer

NUWC, Newport, RI - EW Library developer, AN/BLQ-10 systems engineering, TEMPALT development, integration test support., and TDA support.

NAWC, China Lake - PSR controller software development, Patriot Systems Engineering

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604503N/Submarine System Equipment Development	0775/Submarine Support Equipment

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 04/05 Pres Budget Controls)	1.488	1.448	1.552
Current BES/President's Budget: (FY05 Pres Budget Controls)	1.259	1.432	1.387
Total Adjustments	-0.229	-0.016	-0.165
Summary of Adjustments			
Unobligated funds on hold	0.225	0.000	0.000
BSO Adjustments	0.004	0.000	0.155
Sea Enterprise (LOE II)	0.000	0.000	0.004
NWCF Rates - NUWC Rates	0.000	0.004	0.000
Section 8094: Management Improvements	0.000	0.012	0.000
Section 8126: Efficiencies/ Revisions	0.000	0.000	0.004
Inflation	0.000	0.000	0.001
Non Purchase Inflation	0.000	0.000	0.001
Subtotal	0.229	0.016	0.165

Not Applicable.

Technical:

Not Applicable

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604503N/Submarine System Equipment Development	0775/Submarine Support Equipment

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
OPN Line 256000/256005									
ML007 CADF LITE	12.840	13.251	9.079	8.678	8.323	8.982	9.138	Continuing	70.291
ML008 CADF LITE Antenna	10.575	9.289	10.529	9.408	9.587	9.549	9.731	Continuing	68.668
ML009 APB-EW	0.657	0.668	1.452	0.814	0.758	2.259	1.612	Continuing	8.220
ML010 Tech Refresh Upgrades	-	3.456	2.093	0.961	0.803	2.296	1.668	Continuing	11.277
ML011 AN/WLR-8 R&M FCKs	0.826	0.509	0.519	0.389	0.299	0.208	0.212	Continuing	2.962
ML013 ESM IMA Support	0.157	0.176	0.179	0.182	0.186	0.190	0.193	Continuing	1.263
ML015 AN/BLQ-10(V) SSN ES Backfit Systen	33.596	18.288	36.244	59.671	45.040	52.010	46.284	Continuing	291.133
ML016 AN/BLQ-10(V) SSBN ES Systems	-	-	-	-	-	-	6.126	Continuing	6.126
ML017 AN/BLQ-10 Field Change Kits	0.737	3.758	5.218	6.682	0.108	8.401	16.648	Continuing	41.552
SCN LI 201300									
PE 0204287N	13155.000	18896.000	19327.000	19752.000	20320.000	20824.000	51131.000	Continuing	163,405.000
Partial (AN/BLQ-10 ES Only)									

Related RDT&E:

(U) PE 0603562N/submairne Tactial Warfare System/F0770 Advanced Submarine Support Equipment Program (ASSEP)

(U) PE 064558N/New SSN Combat Systems Development/Project F1950

E. A ACQUISITION STRATEGY:

AN/BLQ-10 (V) ES system

F. MAJOR PERFORMERS: **

Lockheed-Martin, Syracuse, NY - AN/BLQ-10 system developer

NUWC, Newport, RI - EW Library developer, AN/BLQ-10 systems engineering, TEMPALT development, integration test support., and TDA support.

NAWC, China Lake - PSR controller software development, Patriot Systems Engineering

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604503N/Submarine System Equipment Development			PROJECT NUMBER AND NAME 0775/Submarine Support Equipment						
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
AN/BLQ-10 ES Product Improvement	CPFF	Lockheed Syracuse, NY	1.666	0.000	NA	0.418	12/03	0.545	12/04	CONT	CONT	NA
Systems Engineering	WR	NUWC Newport, RI	5.419	0.483	10/02	0.613	12/03	0.465	11/04	CONT	CONT	N/A
	WR	NAWC China Lake	0.000	0.150	01/03	0.100	11/03	0.079	11/04	0.000	0.329	NA
	WR	JHU/APL	0.000	0.150	03/03	0.000	NA	0.000	NA	0.000	0.150	NA
Miscellaneous	VARIOUS	VARIOUS	12.845	0.000	NA	0.000	NA	0.000	NA	0.000	12.845	N/A
Subtotal Product Development			19.930	0.783		1.131		1.089		0.000	CONT	N/A
Remarks:												
Development Support											0.000	
Software Development	WR	CDSA Dam Neck	0.084	0.150	01/03	0.000	NA	0.000	NA	0.000	0.234	NA
Training Development											0.000	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
Engineering Technical Services	CPFF	AT&T GSI, Vienna VA	2.700	0.250	11/02	0.200	11/03	0.200	11/04	CONT	CONT	NA
Travel			0.049	0.075	11/02	0.015	11/03	0.015	11/04	CONT	CONT	NA
GFE											0.000	
Subtotal Support			2.833	0.475		0.215		0.215		0.000	3.738	
Remarks: Does not include SBIR assessments and taxes.												

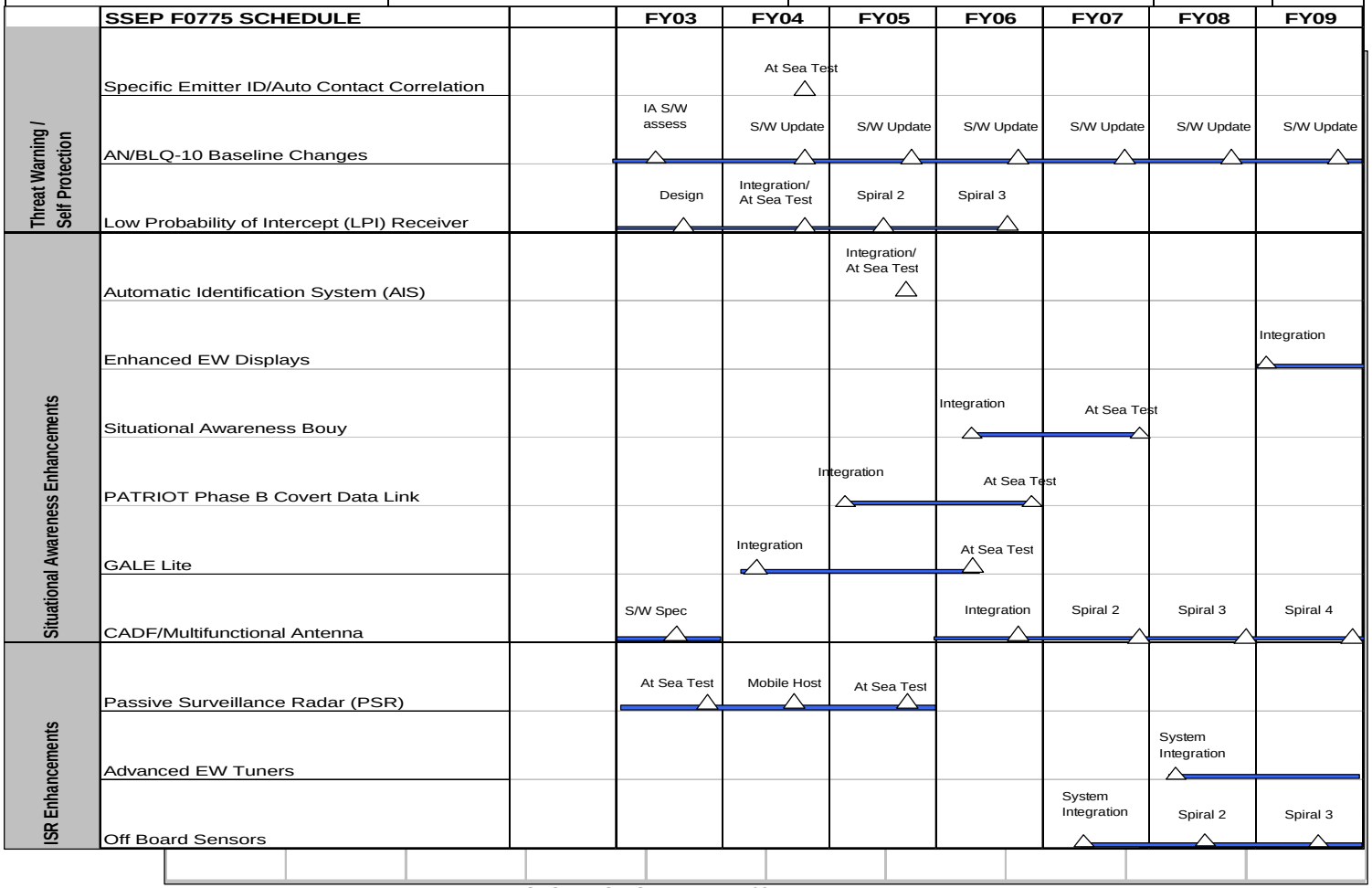
Exhibit R-4a, Schedule Detail					DATE: February 2004		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-5**	PROGRAM ELEMENT 0604503N/Submarine Sys Equip Development			PROJECT NUMBER AND NAME 0775/Submarine Support Equipment			
Schedule Profile	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
SEI/Auto Contact Correlation							
At -Sea Test		3Q					
AN/BLQ-10 Baseline Software Updates	2Q	3Q	3Q	3Q	3Q	3Q	3Q
Low Probability of Intecept (LPI) Receiver							
Concept Design		2Q					
Integration/At sea Test		4Q					
Spiral 2 (Ultra Wide Chirp)			3Q				
Spiral 3 (Phase Coded)				4Q			
Automatic Identification System							
Integration/At Sea Test			4Q				
Enhanced EW Displays							
Integration							1Q
Situational Awareness Bouy							
Integration				2Q			
Test					4Q		
PATRIOT Phase B Covert Data Link							
Integration			1Q				
At-Sea Test				4Q			
GALE Lite							
Integration		2Q					
At -Sea Test				2Q			
CADF/IW Multifunction Antenna							
S/W Specification	2Q						
Integration				3Q			
Spiral 2					4Q		
Spiral 3						4Q	
Spiral 4							4Q
Passive Surveillance Radar (PSR)							
At -Sea Test	4Q						
Spiral 2 (Mobile Host)		3Q					
At -Sea Test			4Q				
Advanced EW Tuners							
Integration						2Q	
Off Board Sensors							
Integration					2Q		
Spiral 2						3Q	
Spiral 3							3Q
							Start

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604503N/Submarine System Equipment Development			PROJECT NUMBER AND NAME 0775/Submarine Support Equipment							
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											0.000	
Management Support Services											0.000	
Travel											0.000	
Labor (Research Personnel)											0.000	
SBIR Assessment						0.086					0.169	
Subtotal Management				0.000		0.086		0.000		0.000	0.169	
Remarks:												
Total Cost			22.763	1.259		1.432		1.387		CONT	CONT	CONT
Remarks:												

R-1 SHOPPING LIST - Item No. 108

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NAME AND NUMBER	PROJECT NAME AND NUMBER	



CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-5**	PROGRAM ELEMENT 0604503N/Submarine Sys Equip Development				PROJECT NUMBER AND NAME 0775/Submarine Support Equipment			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
SEI/Auto Contact Correlation								
At -Sea Test			3Q					
AN/BLQ-10 Baseline Software Updates		2Q	3Q	3Q	3Q	3Q	3Q	3Q
Low Probability of Intecept (LPI) Receiver								
Concept Design			2Q					
Integration/At sea Test			4Q					
Spiral 2 (Ultra Wide Chirp)				3Q				
Spiral 3 (Phase Coded)					4Q			
Automatic Identification System								
Integration/At Sea Test				4Q				
Enhanced EW Displays								
Integration								1Q
Situational Awareness Bouy								
Integration					2Q			
Test						4Q		
PATRIOT Phase B Covert Data Link								
Integration				1Q				
At-Sea Test					4Q			
GALE Lite								
Integration			2Q					
At -Sea Test					2Q			
CADF/IW Multifunction Antenna								
S/W Specification		2Q						
Integration					3Q			
Spiral 2						4Q		
Spiral 3							4Q	
Spiral 4								4Q
Passive Surveillance Radar (PSR)								
At -Sea Test		4Q						
Spiral 2 (Mobile Host)			3Q					
At -Sea Test				4Q				
Advanced EW Tuners								
Integration							2Q	
Off Board Sensors								
Integration						2Q		
Spiral 2							3Q	
Spiral 3								3Q

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604503N/Submarine Systems Equipment Development				PROJECT NUMBER AND NAME 0219/Submarine Sonar Improvement			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**80.671**	**61.762**	**40.705**	**31.807**	**46.310**	**51.097**	**51.729**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This program delivers block updates to Sonar Systems installed on SSN 688, 688I, 21, SSGN and TRIDENT Class Submarines to maintain clear acoustical, tactical and operational superiority over submarine and surface combatants in all scenarios through detection, classification, localization and contact following. Current developments, detailed below, are focused on supporting Littoral Warfare, Regional Sea Denial, Battle Group Support, Diesel Submarine Detection, Surveillance, and Peacetime Engagement. Acoustics Rapid COTS Insertion (A-RCI) is a multi-phased, evolutionary development effort geared toward addressing Acoustic Superiority issues through the rapid introduction of interim development products applicable to SSN 688, 688I Flight, SSN21, SSGN and SSBN 726 Class Submarines. A-RCI Phases I and II introduce towed array processing improvements; A-RCI Phase III introduces spherical array processing improvements. The AN/BSY-1 High Frequency Upgrade is a stand-alone program which will be introduced as A-RCI Phase IV for SSN 688I and Seawolf Class only and carries on to FY03. As part of CNO N772's plan to maintain acoustic superiority for In-Service Submarines a joint cooperative effort with NAVSEA (SEA 93, ASTO) to deliver annual Advanced Processing Builds (APBs). The capabilities in the APBs will be integrated as part of A-RCI certified systems. This effort, known as the N772 Business Plan funds the APB integration efforts with the Multi-Purpose Processor as well as the AN/BQQ-10 Sonar system beginning in FY02. This budget submit also reflects development of the Total Ship Monitoring System, Active Intercept and Ranging as well as Acoustic Intelligence (ACINT 21) capabilities to be introduced into the Fleet. Precision Bottom Mapping transition, integration and testing began in FY01.

Towed system's development efforts provide increased operational capabilities and relability improvements to maintain a clear acoustical, tactical, and operational superiority over submarine and surface combatants. These efforts include development of a Fiber Optic Thinline Towed Array for increased reliability, and the Next Generation Fatline Towed Array and Hull Mounted array which provide improved Littoral Operaitonal capability.

AN/BSY-2 efforts are focused on ARCI-(V)5 development which implements ARCI Phases II-IV in the Seawolf Class submarines.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604503N/Submarine Systems Equipment Development	0219/Submarine Sonar Improvement

B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	19.378	20.435	34.042
RDT&E Articles Quantity			

Continue Advanced Processing Build (APB) Sea Testing, Integration and Certification. This includes upgrades to Towed, Sphere, Hull and High Frequency Arrays. This effort is primarily the transition of APB software from development to A-RCI for integration and test, and formal certification. This includes HF Tactical Control Sonar.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	2.500	0.500	0.500
RDT&E Articles Quantity			

Continue Precision Bottom Mapping transition, integration and testing. This effort includes the initial integration and test, and formal certification of Precision Mapping in the A-RCI system. In the outyears this effort is for integration, test and certification of Precision Bottom Mapping APB upgrades.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.900	0.800	0.800
RDT&E Articles Quantity			

Continue development, integration, test and certification of Sonar Tactical Decision Aids in the A-RCI system. In the outyears this effort is for integration, test and certification of Sonar Tactical Decision Aid APB upgrades.

R-1 SHOPPING LIST - Item No. 108

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604503N/Submarine Systems Equipment Development	0219/Submarine Sonar Improvement

B. Accomplishments/Planned Program (Cont.)

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	18.704	24.301	
RDT&E Articles Quantity			

Provides funds for integration of A-RCI software updates to increase submarine combat system capabilities under a Phase 3 SBIR program. Extends APB/MPP technology insertion to enable submarines to achieve Navy network-centric warfare objectives and to accelerate development and extend common processing efforts..

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	10.561		
RDT&E Articles Quantity			

Continued ARCI-(V)5 development, integration, test and certification. The A-RCI-(V)5 is the A-RCI variant for the SSN 21 platform. The development effort is primarily SSN-21 unique interfaces, including the legacy AN/BSY-2 combat control system. Formal certification will complete in the 4th quarter of FY03 in preparation for the 1st quarter of FY04 installation on the SSN21.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	8.000		
RDT&E Articles Quantity			

Development, integration, test and certification of an A-RCI variant for SSGN. This effort includes the development of SSGN unique interfaces, integration and test, and formal certification of the SSGN variant of A-RCI.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604503N/Submarine Systems Equipment Development	0219/Submarine Sonar Improvement

B. Accomplishments/Planned Program (Cont.)

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	9.200		
RDT&E Articles Quantity			

Active Intercept and Ranging (AI&R) development, integration, test and certification. This effort includes the completion of the development effort that was initiated under a Small Business Innovative Research (SBIR) contract. AI&R integration, test and certification will be completed, as well as system integration, test and certification with A-RCI system.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	5.500		
RDT&E Articles Quantity			

Total Ship Monitoring System (TSMS) development, integration, test , and certification. This effort includes the completion of the development effort that was initiated under a Small Business Innovative Research (SBIR) contract. TSMS integration, test and certification will be completed, as well as system integration, test and certification with the A-RCI system.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		3.100	
RDT&E Articles Quantity			

Acoustic Intelligence (ACINT) development, integration, test and certification. This effort includes the development of an onboard acoustic analysis system. ACINT integration, test and certification will be completed, as well as system integration, test and certification with the A-RCI system.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604503N/Submarine Systems Equipment Development	0219/Submarine Sonar Improvement

B. Accomplishments/Planned Program (Cont.)

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.352		
RDT&E Articles Quantity			

Completed development, TECHEVAL and OPEVAL of TB-29(A) Towed Array.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	5.576	7.761	5.217
RDT&E Articles Quantity			

Continue development of Affordable Towed Array Technology Initiatives.
Develop Fiber Optic ThinlineTowed Array.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		4.775	0.146
RDT&E Articles Quantity			

Develop Next Generation Fatline Towed Array.

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604503N/Submarine Systems Equipment Development	0219/Submarine Sonar Improvement

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 04/05 Pres Controls)	56.601	65.071	30.384
Current BES/President's Budget: (FY04/05 OSD/OMB Controls)	80.671	61.762	40.705
Total Adjustments	24.070	-3.309	10.321
Summary of Adjustments			
Miscellaneous adjustments	7.271	-0.709	10.321
FY03 SBIR	-1.961	0.000	0.000
Economic Assumptions	-0.368	0.000	0.000
Affordable Towed Array (ATAC)	1.000	0.000	0.000
Realign F9070 to F0219	18.704	0.000	0.000
Inflation Savings	-0.696	0.000	0.000
Business Process Reform	-0.262	0.000	0.000
Affordable Towed Array	0.000	1.400	0.000
Sec. 8126 Efficiencies/Revision	0.000	-4.000	0.000
Subtotal	23.688	-3.309	10.321

Schedule:

The A-RCI TECHEVAL/OPEVAL and TB-29 TECHEVAL/OPEVAL has been completed. The both programs obtained approval to proceed with the FY04 Production Buys in the MDA (Milestone Decision Authority) Review held in October 2003.

Technical:

Not applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604503N/Submarine Systems Equipment Development	0219/Submarine Sonar Improvements

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
OPN BLI 214700 SSN Acoustics	198.840	207.864	108.748	180.675	230.292	246.026	238.151	Continuing	Continuing
OPN BLI 214705 SSN Acoustics Installation	30.785	58.567	44.280	48.293	35.136	50.511	50.879	Continuing	Continuing

E. ACQUISITION STRATEGY:

Towed Systems is the development of a highly reliable and more affordable Fiber Optic Thinline variant towed array which uses fiber optic sensor technology for data collection and moves all outboard electronics from the array to inboard the submarine where they can be easily maintained. Cost savincs in array production will be gained by using automated production techniques and signigicantly reducing or eliminating the "hand touch" labor common to today 's towed array production methods becasue of the number of different electronics that must be wired together to achieve the acoustics capabilitites necessary to meet today's and tomorrow threats. This development is being accomplished under a Phase III SBIR. In FY04 Towed Systems will award a competitive contract for the development of a Fatline Towed Array which will provide better littoral operations and ranging.

A-RCI utilizes an open architecture and Commercial Off-the-Shelf products in support of new and upgraded sonar systems. A follow-on development and production sole source cost plus award fee contract was awarded to Lockheed Martin Federal Systems and Digital System Resources in December 2003. Program Review with Milestone Decision Authority was conducted in October 2003 granting approval for the FY04 production option.

F. MAJOR PERFORMERS:

Lockheed Martin Corporation, Naval Electronics and Surveillance Systems-Undersea Systems; Manassas, Virginia - Provides primary hardware development, software integration and systems engineering support for Advanced Processor Builds for SSN 688, 688 I, 21 and Virginia Class submarine sonar systems. Contract awards projected for October each fiscal year.

Digital System Resources, Inc; Fairfax, Virginia - Provides primary software development for SSN688, 688I, 21 and Virginia Class submarine sonar systems. Contract awards projected for October each fiscal year.

R-1 SHOPPING LIST - Item No. 108

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604503N/Submarine Systems Equipment Development	0219/Submarine Sonar Improvements

F. Major Performers (cont'd)

Naval Undersea Warfare Center, Newport, Rhode Island - Provides systems engineering support for SSN688, 688I, 21 and Virginia Class submarine sonar systems. Work Requests to be issued October each fiscal year.

Chesapeake Science Corporation, Millersville, Maryland: Provides primary hardware development, software integration and systems engineering support for the Affordable Towed Array Technology Initiatives. Contract awards projected for October each fiscal year.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604503N/Submarine Systems Equipment Development			PROJECT NUMBER AND NAME 0219/Submarine Sonar Improvement						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY03 Cost	FY03 Award Date	FY04 Cost	FY04 Award Date	FY05 Cost	FY05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	Various	Lockheed Martin (Omnibus)	14.187								14.187	
Primary Hardware Development	Various	Chesapeake Sciences	11.274	3.800	10/02	6.350	10/03	4.438	10/04		25.862	
Primary Hardware Development	SS/CPAF	LMC, Manassas, VA	105.311	23.366	11/02	15.836	11/03	15.400	11/04		159.913	
Ancillary Hardware Development	SS/CP	ARL University of Texas	1.127	1.611	12/02	0.545	12/03	4.337	12/04		7.620	
Systems Engineering	WX	NUWC, Newport R.I.	83.037	12.233	10/02	6.303	10/03	4.829	10/04		106.402	
Systems Engineering	SS/CPAF	LMC, Syracuse N.Y.	5.763								5.763	
Systems Engineering	Various	Various	12.035	0.185	11/02	0.088	10/03	0.087	10/04		12.395	
Software Development	SS/CP	Progeny Systems		4.981	12/02	2.500	11/03	3.100	11/04		10.581	
Systems Engineering	WX	NSWC, Carderock MD	1.534	1.612	10/02	1.630	10/03	0.641	10/04		5.417	
Systems Engineering	SS/CP	John Hopkins APL	1.201	1.850	12/02	1.304	12/03	2.174	12/04		6.529	
Hardware/Software Development	Various	SBIR's	0.328	0.975	11/02	0.150	10/03	0.300	12/04		1.753	
Award Fees	SS/CPAF	LMC, Syracuse N.Y.	0.495								0.495	
Miscellaneous	Various	Various	9.402								9.402	
Systems Engineering	WX	NSWC, Crane, IN		0.076	10/02						0.076	
Hardware/Software Development	C/CPIF	TBD				4.775	10/03	0.146	10/04		4.921	
Systems Engineering	WX	Naval Research Lab (NRL)		0.390	10/02	0.250	10/03	0.272	10/04		0.912	
											0.000	
											0.000	
Subtotal Product Development			245.694	51.079		39.731		35.724		0.000	372.228	

Remarks:

R-1 SHOPPING LIST - Item No. 108

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604503N/Submarine Systems Equipment Development			PROJECT NUMBER AND NAME 0219/Submarine Sonar Improvement							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY03 Cost	FY03 Award Date	FY04 Cost	FY04 Award Date	FY05 Cost	FY05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Ancillary Software Development	TBD	TBD									0.000	
Primary Software Development	SS/CPAF	Digital Systems Resources	78.765	27.483	12/02	20.301	11/03	3.203	11/04		129.752	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses											0.000	
GFE											0.000	
Award Fees											0.000	
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											0.000	
Subtotal Support			78.765	27.483		20.301		3.203		0.000	129.752	

Remarks:

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604503N/Submarine Systems Equipment Development			PROJECT NUMBER AND NAME 0219/Submarine Sonar Improvement						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY03 Cost	FY03 Award Date	FY04 Cost	FY04 Award Date	FY05 Cost	FY05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation	WX	OPTEVFOR	0.109	0.942	10/02	0.668	10/03	0.915	10/04		2.634	
Developmental/Operational T&E	Various	Various	6.118	0.100	12/02						6.218	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			6.227	1.042		0.668		0.915		0.000	8.852	
Remarks:												
Contractor Engineering Support											0.000	
Management Support Services	Various	Various	3.514	0.642	11/02	0.493	11/03	0.384	11/04		5.033	
Program Management Support	SS/CP	Mitre	0.273	0.250	11/02	0.272	11/03	0.272	11/04		1.067	
Travel	PD	NAVSEA	0.000	0.175	10/02	0.297	10/04	0.207	10/04		0.679	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			3.787	1.067		1.062		0.863		0.000	6.779	
Remarks:												
Total Cost			334.473	80.671		61.762		40.705		0.000	517.611	
Remarks:												

R-1 SHOPPING LIST - Item No. 108

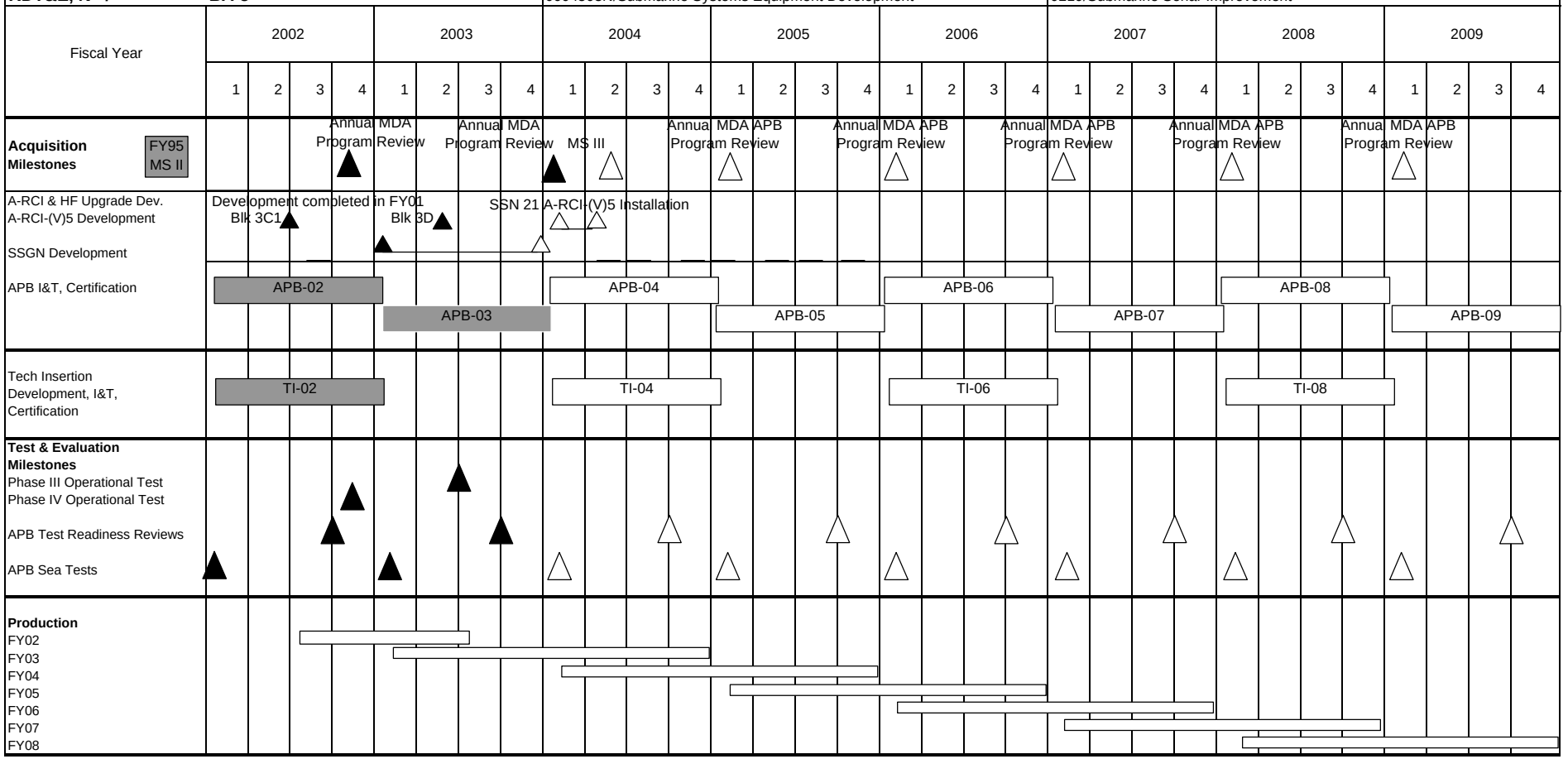
CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **February 2004**

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

PROGRAM ELEMENT NUMBER AND NAME: 0604503N/Submarine Systems Equipment Development

PROJECT NUMBER AND NAME: 0219/Submarine Sonar Improvement



R-1 SHOPPING LIST - Item No. 108

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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: Feburary 2004		
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT 0604503N/Submarine Systems Equipment Development				PROJECT NUMBER AND NAME 0219/Submarine Sonar Improvement			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
A-RCI & HF Upgrade Development FY95-FY01								
Milestone II (MSII) FY95								
Annual Program Review	4Q	4Q	1Q	1Q	1Q	1Q	1Q	1Q
Milestone C (MS C)		2Q						
Production Awards	2Q	1Q	1Q	2Q	2Q	2Q	2Q	2Q
APB Test Readiness Review (TRR)	2Q	2Q	2Q	2Q	2Q	2Q	2Q	2Q
APB Sea Tests	3Q	3Q	3Q	3Q	3Q	3Q	3Q	3Q
APB Deliveries	1Q	1Q	1Q	1Q	1Q	1Q	1Q	1Q
			3Q-4Q	1Q				
Tech Insertions	2Q-4Q		1Q-4Q		1Q-4Q		1Q-4Q	

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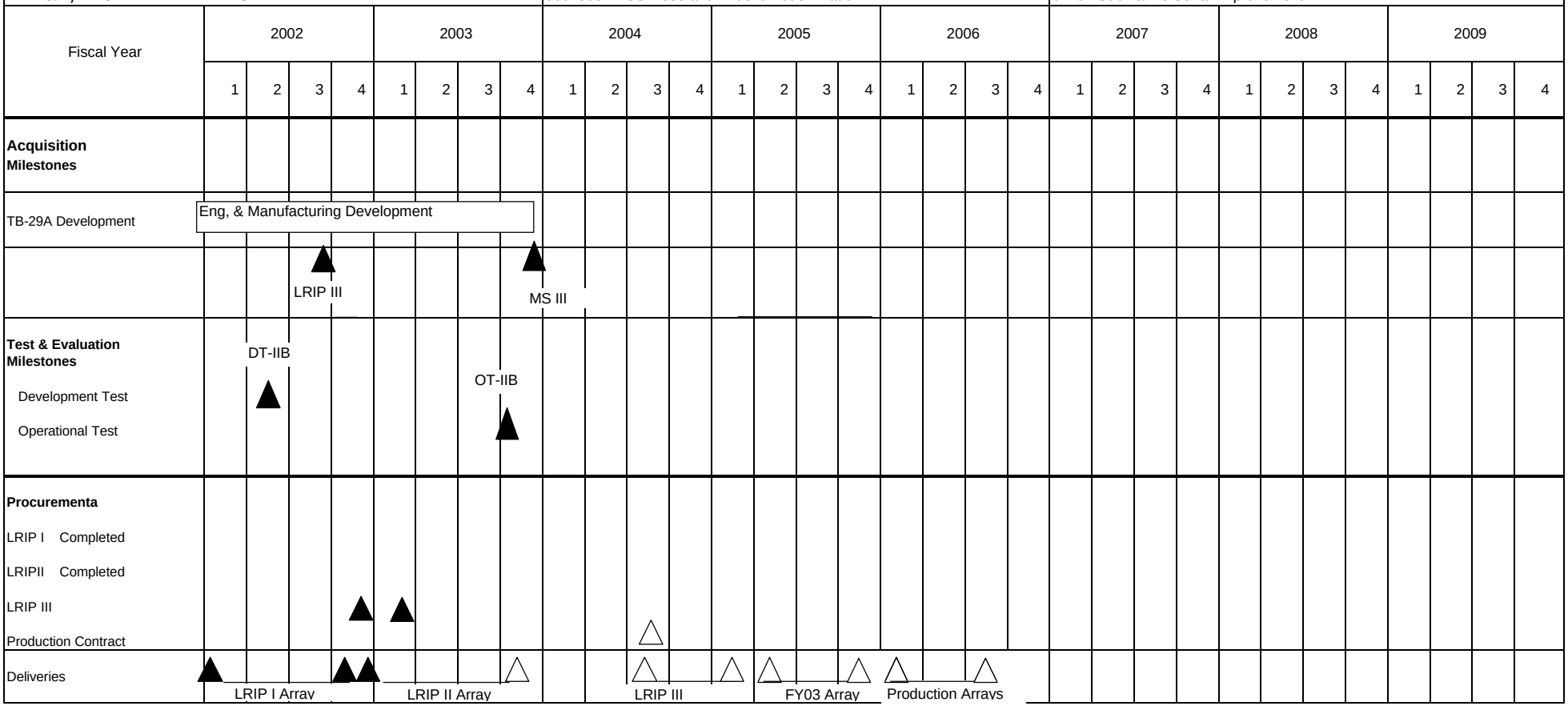
CLASSIFICATION:

EXHIBIT R4, Schedule Profile — DATE: **February 2004**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604503N: SSN-688 and Trident Modernization	0219: Submarine Sonar Improvement



R-1 SHOPPING LIST - Item No. 108

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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT 0604503N: SSN688 and Trident Modernization				PROJECT NUMBER AND NAME 0219: Submarine Sonar Improvement			
Schedule Profile	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005
TB-29A Array Development FY98-FY04								
Milestone II (MSII)	4Q							
Contract Award		1Q						
CDR			4Q					
DT/OT IIA			4Q					
LRIP I			2Q					
LRIP II				2Q				
DTII B					2Q			
LRIP III					4Q	1Q		
OT IIB						4Q		
Milestone III (MSIII)/Program Close Out							1Q	
Production Award							3Q	

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME PE: 0604503N TITLE: SSN 688 & TRIDENT MODERNIZATION					PROJECT NUMBER AND NAME 0742 Submarine Integrated Antenna System					
COST ($ in Millions)	Prior Years Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		Cost to Complete	Total Program
Project Cost	**14.905**	**6.111**	**7.313**	**25.557**	**32.335**	**25.649**	**20.120**	**20.134**		**Continuing**	**Continuing**
RDT&E Articles Qty											**0**

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

The Submarine Integrated Antenna System (SIAS) project (X0742) provides for the development and testing of submarine antennas designed to meet emerging submarine communications requirements of: (a) Improved frequency coverage and data rate capabilities of submarine antennas and their interface to the External Communications System (ECS), (b) Improved submarine antenna performance and data rate while the submarine is operating at speed and depth, (c) Antenna compatibility with new waveforms and receiver equipment, (d) Improved stealth capability of existing and future antennas and (e) Improved antenna design to reduce Total Ownership Cost. This project funds research and development for submarine antennas including (1) P3I efforts to existing antennas including OE-538/BRC Multi-Function Antenna improved UHF (iUHF) gain, RFDACS efforts and the OE-562 Submarine High Data Rate (SubHDR) system development of X-band and (SHF) K-band capabilities, (2) Development of new antenna systems including Advanced High Data Rate Antenna (AdvHDR) and (3) Communication at Speed and Depth design efforts. These efforts will provide SSN, SSBN and SSGN platforms with an improved communications capability while operating at speed and depth thus enhancing operational flexibility and maintaining stealth in Littoral mission applications.

U) JUSTIFICATION FOR BUDGET ACTIVITY:

This program is funded under ENGINEERING AND MANUFACTURING DEVELOPMENT because it encompasses engineering and manufacturing development of new end-items prior to production approval decision.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604503N SSN 688 & TRIDENT MODERNIZATION	0742 Submarine Integrated Antenna System

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05	
Advanced HDR/SubHDR P-3I	3.818	2.732	15.069	
RDT&E Articles Quantity				

FY03 ACCOMPLISHMENTS: Developed navigation interface modifications for SubHDR system to support SSGN, Seawolf, and Virginia ($1.828). Provided EMP testing, UNDEX testing, shock test for 688 class submarines, and closeout of the testing program. ($1.990) **FY04:** Complete the digital navigation interface development for the SubHDR system ($1.257). Provide FOT&E support EMP testing and mast upgrade support ($1.075). Provide SSBN MMG modifications ($0.400). **FY05:** Commence development of SHF FOT to accommodate SHF capability and meet the high priority fleet requirement to provide a secondary global IP connectivity. Develop prototype unit, initial logistics development and testing requirements. ($10.497) Begin FOT modification development for simultaneous GBS and EHF functionality (GBS Open Loop Point Mod and APU Power Supply Upgrade). ($3.022) Begin K band system definition. ($1.550)

	FY 03	FY 04	FY 05	
Comms at Speed and Depth	0.000	0.000	5.241	
RDT&E Articles Quantity				

FY05: Begin system definition including system specification development, system concept development, multi-class ship alteration assessment, risk reduction studies, and technology insertion studies ($2.735). Begin system definition including system specification development, concept development, risk reduction studies for RTOF demonstration. ($2.506)

	FY 03	FY 04	FY 05	
	0.000	0.000	0.000	
RDT&E Articles Quantity				

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-5	0604503N SSN 688 & TRIDENT MODERNIZATION	0742 Submarine Integrated Antenna System

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05	
Antenna Transition Engineering	2.293	4.581	5.247	
RDT&E Articles Quantity				

FY03 ACCOMPLSHMENTS: Provided continued program definition, system specifications, and risk reduction to the next generation antenna systems. Continued technology performance and maturity assessment for rapid insertion potential to upgrade current antenna systems for support of emerging SATCOM circuits to meet evolving fleet requirements ($2.293). **FY04:** Continue to provide emerging requirements and Satellite Communications Database/Link analysis for other development programs including (i.e. MUOS/ANS, PCS/MCSS Commercial, WGS/AWS, Advanced EHF, and Wideband Commercial) ($0.940). Continue P3I investigations and development efforts for legacy antenna systems ($.873). Continue concept engineering efforts, new technology evaluations and assessments in support of current and future submarine antenna applications ($1.268). Conduct research and development efforts leading to the demonstration of an expendable two-way satellite communications buoy that is compatible with existing launchers and legacy/future communications radios and networks. Efforts will include assessing the viability of a non-expendable two-way satellite communications buoy for deployment from TRIDENT platforms. ($1.500) **FY05:** Continue to provide emerging requirements and Satellite communications Database/Link analysis for other development programs (i.e. MUOS/ANS, PCS/MCSS Commercial, WGS/AWS, Advanced EHF, and Wideband Commercial ($1.071). Continue P3I investigations and development efforts for legacy antenna systems ($1.726). Continue concept engineering, new technology evaluations and assessments in support of current and future submarine antenna applications ($2.450).

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604503N SSN 688 & TRIDENT MODERNIZATION	0742 Submarine Integrated Antenna System

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
PB04 President's Budget:	17.757	9.096	27.096
PB05 President's Budget	6.111	7.313	25.557
Total Adjustments	-11.646	-1.783	-1.539
Summary of Adjustments			
SBIR/STTR Transfer	-0.245		
Economic Assumptions	-0.100		
Inflation Savings	-0.188		
Realign to X1411 for IETM development	-0.300		
Realign to X1411 for CSRR software development	-5.894		
Realign to X1411 for MCS development	-4.800		
Realign to X1411 for ITF NRE	-0.005		
Business Process Reform (Sec 8100)	-0.071		
IT Cost Growth (Sec 8109)	-0.033		
FFRDC Reduction (Sec 8029)	-0.010		
Miscellaneous adjustments			-1.418
NWCF Rates - NUWC			-0.035
Management Improvements		-0.020	
Efficiencies/Revised Econ. Assumptions		-0.063	
X-band development		-3.200	
Submarine Antenna Improvements		1.500	
WCF - R&D - NUWC - PBD 430			-0.007
Rates - NUWC			0.004
Inflation			-0.068
Non purchase inflation			-0.015
Subtotal	-11.646	-1.783	-1.539

(U) Schedule:

Not Applicable

(U) Technical:

Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA5	0604503N SSN 688 & TRIDENT MODERNIZATION	0742 Submarine Integrated Antenna System

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
3130000 Submarine Communications	89.305	87.288	94.533	91.359	104.333	143.315	154.029	Continue	Continue

Related RDT&E:
PE 0602232N Space and Electronic Warfare (SEW) Technology
PE 0303109N Satellite Communications - Provides for the EHF transmitter and receiver that utilized the antenna developed under this program.

(U) E. ACQUISITION STRATEGY: *

Program Milestones: FY 2005 2Q Comms at Speed and Depth MS-B
T&E Milestones:
Contract Milestones:

(U) F. MAJOR PERFORMERS: **

Not Applicable.

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

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604503N SSN 688 & TRIDENT MODERNIZATION			PROJECT NUMBER AND NAME 0742 Submarine Integrated Antenna System						
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											0.000	
Digital Interface Development (HDR)	CPAF	Raytheon Marlboro, MA		1.828	02/03	1.257	01/04					
Hardware Development (HDR)	WX	NUWC Newport, RI	7.674	0.000	Various	0.000	Various	0.000	Various	Complete	Complete	7.674
Hardware Dev. (HDR SHF/FOT)	CPFF	Raytheon Marlboro, MA		0.000	Various	1.075	Various	13.604	Various	Continuing	Continuing	Continuing
Hardware Development (K)	CPFF	Raytheon Marlboro, MA						1.550	Various	Continuing	Continuing	Continuing
Hardware Development (Trans Eng)	CPAF	Sippican Marion, MA				1.500	03/04					
Systems Dev Engineering (Commx)	TBD	TBD						0.000	Various	Continuing	Continuing	Continuing
Systems Engineering (HDR)	WX	NUWC Newport, RI	4.962	0.828	Various	0.000	Various	0.000	Various	Complete	Complete	5.790
Systems Engineering (Trans Eng)	WX	NUWC Newport, RI		2.293	Various	2.431	Various	3.714	Various	Continuing	Continuing	Continuing
Systems Dev Engineering (Commx)	CPFFWX	Industry				0.000	Various	5.241	Various	Continuing	Continuing	Continuing
Subtotal Product Development			12.636	4.949		6.263		24.109		Continuing	Continuing	Continuing
Remarks:												
Development Support											0.000	
Software Development	WX	NUWC Newport, RI		0.339	Various	0.400	Various	0.357	Various	Continuing	Continuing	Continuing
Integrated Logistics Support	Various	Various	0.255	0.075	Various	0.200	Various	0.200	Various	Continuing	Continuing	Continuing
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			0.255	0.414		0.600		0.557		0.000	Continuing	Continuing
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604503N SSN 688 & TRIDENT MODERNIZATION			PROJECT NUMBER AND NAME 0742 Submarine Integrated Antenna System						
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	
Developmental/Operational T&E	Various	Various	1.167								1.167	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			1.167	0.000		0.000		0.000		Continuing	Continuing	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support	Various	Various	0.847	0.748	Various	0.450	Various	0.891	Various	Continuing	Continuing	
Travel											0.000	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.847	0.748		0.450		0.891		Continuing	Continuing	
Remarks:												
Total Cost			14.905	6.111		7.313		25.557		Continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 108

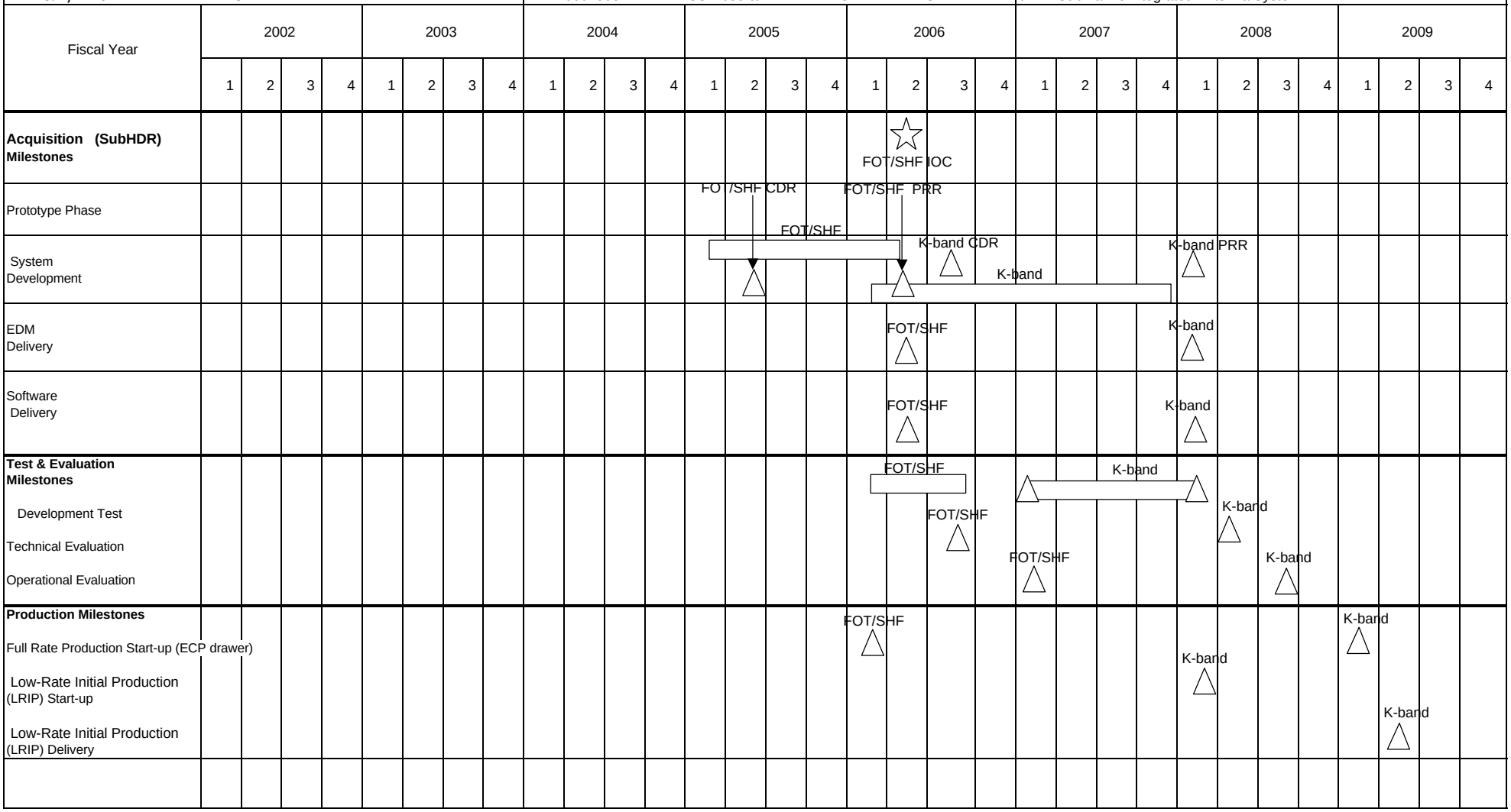
CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **February 2004**

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

PROGRAM ELEMENT NUMBER AND NAME: PE: 0604503N TITLE: SSN 688 & TRIDENT MODERNIZATION

PROJECT NUMBER AND NAME: 0742 Submarine Integrated Antenna System



R-1 SHOPPING LIST - Item No. 108

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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E BA-5**	PROGRAM ELEMENT PE: 0604503N TITLE: SSN 688 & TRIDENT MODERNIZATION				PROJECT NUMBER AND NAME 0742 Submarine Integrated Antenna System			
Schedule Profile (SubHDR)	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
K-band System Development					1Q --	4Q		
K-band Critical Design Review (CDR)					3Q			
K-band Eng Dev Model (EDM)							1Q	
K-band Software Delivery							1Q	
K-band Preproduction Readiness Review (PRR)							1Q	
K-band Developmental Testing (DT)						1Q --	1Q	
K-band Low-Rate Initial Production (LRIP) Start-up							1Q	
K-band Low-Rate Initial Production (LRIP) First Delivery								2Q
K-band Technical Evaluation (TECHEVAL)							2Q	
K-band Operational Evaluation (OPEVAL)							3Q	
K-band Full Rate Production (FRP) Start-up								1Q
FOT/SHF System Development				2Q				
FOT/SHF Critical Design Review (CDR)				2Q				
FOT/SHF Eng Dev Model (EDM)					2Q			
FOT/SHF Developmental Testing (DT)					1Q - 3Q			
FOT/SHF Technical Evaluation (TECHEVAL)					3Q			
FOT/SHF Operational Evaluation (OPEVAL)						1Q		
FOT/SHF Software Delivery					2Q			
FOT/SHF Preproduction Readiness Review (PRR)					2Q			
FOT/SHF Full Rate Production (FRP) Start-up					1Q			
FOT/SHF Full Rate Production (FRP) First Delivery						1Q		
FOT/SHF IOC						1Q		

R-1 SHOPPING LIST - Item No. 108

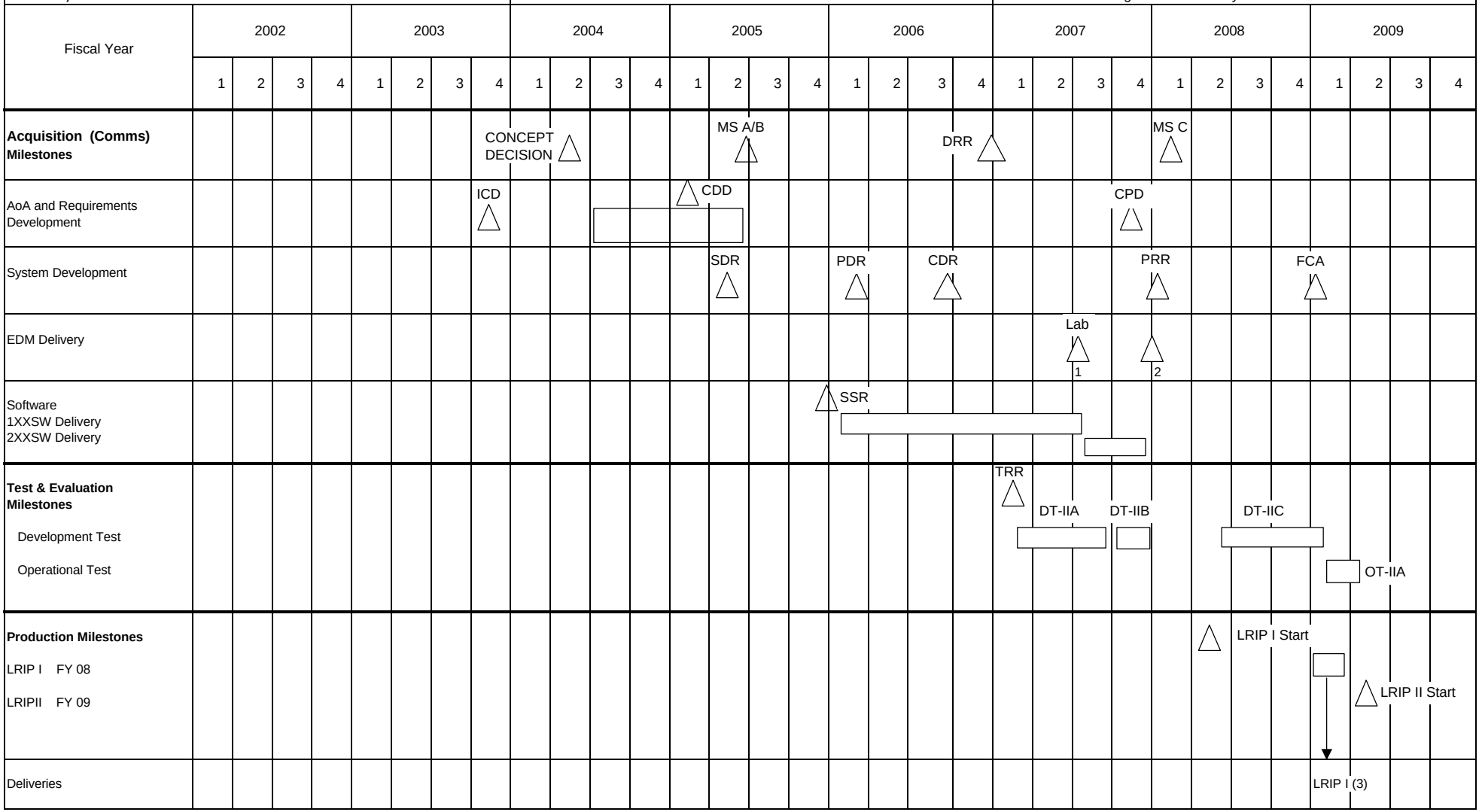
CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **February 2004**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA5**

PROGRAM ELEMENT NUMBER AND NAME: PE: 0604305N TITLE: SSN 688 & TRIDENT MODERNIZATION

PROJECT NUMBER AND NAME: 0742 Submarine Integrated Antenna System



R-1 SHOPPING LIST - Item No. 108

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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA5**	PROGRAM ELEMENT PE: 0604305N TITLE: SSN 688 & TRIDENT MODERNIZATION				PROJECT NUMBER AND NAME 0742 Submarine Integrated Antenna System			
Schedule Profile (Comms)	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Approval of Initial Capabilities Document (ICD)		4Q						
Concept Decision			2Q					
Approval of Capability Development Document (CDD)				1Q				
Analysis of Alternatives			3Q-4Q	1Q-2Q				
Milestone A & B Decision (MS A/B)				2Q				
Start System Development & Demonstration Phase				2Q				
System Design Review (SDR)				2Q				
Software Specification Review (SSR)				4Q				
Preliminary Design Review (PDR)					1Q			
Critical Design Review (DRR)					3Q			
Design Readiness Review (DRR)					4Q			
Test Readiness Review (TRR)						1Q		
Developmental Testing (DT-IIA)						1Q-3Q		
Eng Dev Model (EDM) - Lab 1 Delivery						3Q		
Software Delivery (1XXSW)					1Q-4Q	1Q-3Q		
Preproduction Readiness Review (PRR)							1Q	
EDM for LRIP - Delivery						4Q		
Approval of Capability Production Document (CPD)						4Q		
Milestone C (MS C) Decision							1Q	
Developmental Testing (DT-IIB)						4Q		
Start Low-Rate Initial Production I (LRIP I)							2Q	
Software Delivery (2XXSW)						3Q-4Q		
Start Low-Rate Initial Production II								2Q
Operational Testing (OT-IIA)								1Q-2Q
Developmental Testing (DT-IIC)							2Q-4Q	1Q
Functional Configuration Audit (FCA)								1Q
Low-Rate Initial Production I Delivery								1Q
Start Low-Rate Initial Production II (LRIP II)								2Q

R-1 SHOPPING LIST - Item No. 108

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2004			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME PE: 0604503N TITLE: SSN 688 & TRIDENT MODERNIZATION					PROJECT NUMBER AND NAME 1411 Submarine Tactical Communications System					
COST ($ in Millions)	Prior Years Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		Cost to Complete	Total Program
Project Cost	**24.350**	**24.393**	**5.106**	**7.710**	**4.592**	**2.524**	**2.556**	**2.602**		**Continuing**	**Continuing**
RDT&E Articles Qty											**0**

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

The Submarine Tactical Communications System project (X1411) provides submarines with communications systems designed to: (a) enhance data throughput through automation and integrated network management; (b) copy tactical data networks, (c) provide submarines IP connectivity; (d) be interoperable with other U.S. and allied military networks; and (e) improve reliability, maintainability, and availability. This is accomplished by providing the submarine with a properly integrated mix of Navy standard and commercial off-the-shelf communication equipment covering a wide range of frequencies and modes. The Common Submarine Radio Room (CSRR) integrates COTS and GOTS components into a single radio room configuration for all classes of submarines. CSRR will leverage the development of VIRGINIA Class Exterior Communications System (ECS) which includes Open Systems Architecture (OSA) and install the VIRGINIA based ECS architecture on all classes of submarines. In support of the CSRR, funding is provided to expedite the Navy standard Multi-functional Crypto System (MCS) to meet CSRR need dates. The project provides for the development of a single Land-Based Integration and Test Facility that will consolidate existing Land -Based Testing Facilities into one facility that will support all classes of submarines. This project funds the development of a replacement of the Multi-Link Transmit Simulator (MLTS) to support future testing and training requirements. The project includes system engineering efforts associated with demonstration of new technology which will allow the submarine to participate in battle group and joint operations. The new technology will increase the submarine's communications, command, and control capability and interoperability with the rest of the Navy and exploit its stealth capabilities for battlefield dominance.

U) JUSTIFICATION FOR BUDGET ACTIVITY:

This program is funded under SYSTEMS DEVELOPMENT AND DEMONSTRATION because it encompasses development and demonstration of new end-items prior to production approval decision.

R-1 SHOPPING LIST - Item No. 108

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604503N SSN 688 & TRIDENT MODERNIZATION	1411 Submarine Tactical Communications System

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05	
Common Submarine Radio Room (CSRR)	18.237	4.250	6.891	
RDT&E Articles Quantity				

FY03 Accomplishments: Continued design and integration efforts of CSRR for OHIO Class submarines ($2.890). Commenced Integration and Certification of Integration Test Facility ($2.361). Commenced development of unique OHIO software ($8.325). Commenced the CSRR conversion of the TRIDENT Land-Based Evaluation Facility into a CSRR configuration which will support all classes of submarines ($4.361). Commenced IETM development for SSBN. ($.300). **FY04:** Complete development of unique OHIO software ($.350). Continue INFOSEC certification of OHIO Class CSRR ($.428). Complete integration and installation design in support of OHIO Class CSRR ($3.472). **FY05:** Commence design and integration efforts for 688 Class submarines ($1.546). CSSR - Begin prime contractor software design efforts for 688 Class submarines ($3.829). Commence CSRR curriculum development for Subschool ($.537). Provide system engineering including operational, cost effectiveness studies and analysis in support of 688 Class submarines ($.979).

	FY 03	FY 04	FY 05	
BCA OPCON architecture	0.856	0.856	0.819	
RDT&E Articles Quantity				

FY03 Accomplishments: Commenced system engineering supporting BCA/OPCON architecture ($.856). **FY04:** Continue system engineering supporting BCA/OPCON architecture ($.856). **FY05:** Continue system engineering supporting BCA/OPCON architecture ($.819).

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-5	0604503N SSN 688 & TRIDENT MODERNIZATION	1411 Submarine Tactical Communications System

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05	
Multi-functional Crypto System (MCS)	5.300	0.000	0.000	
RDT&E Articles Quantity				

FY03 Accomplishments: Completed environmental and qualification testing consisting of airborne/structureborne noise, TEMPEST, humidity, overpressure, temperature, shock, inclination, EMI/EMC, and drip. Developed partial KWR-46 functionality. Developed partial KG 84-A and received initial certication from NSA ($5.300).

	FY 03	FY 04	FY 05	
		0.000	0.000	
RDT&E Articles Quantity				

	FY 03	FY 04	FY 05	
		0.000	0.000	
RDT&E Articles Quantity				

R-1 SHOPPING LIST - Item No. 108

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604503N SSN 688 & TRIDENT MODERNIZATION	1411 Submarine Tactical Communications System

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
FY04 President's Budget:	14.635	5.200	7.765
FY05 President's Budget	24.393	5.106	7.710
Total Adjustments	9.758	-0.094	-0.055
Summary of Adjustments			
SBIR/STTR Transfer	-0.105		
Economic Assumptions (SEC 8135)	-0.082		
IT Cost Growth (SEC 8109)	-0.027		
Business Process Reform (SEC 8100)	-0.058		
FFRDC reduction (SEC 8029)	-0.056		
Inflation Savings	-0.155		
Realignment from X0742 for IETM development	0.300		
Realignment from X0742 for CSRR software development	5.136		
Realignment from X0742 for MCS development	4.800		
Realignment from X1411 for ITF NRE	0.005		
SPAWAR Service Cost Center Adj	0.000	-0.002	-0.001
NWCF Rates - SPAWAR SSC			-0.001
NWCF Rates - NUWC			-0.021
Management Improvements		-0.014	
FFRDC Reduction		-0.034	
Efficiencies/Revsied Econ. Assumptions		-0.044	
WCF - R&D - NUWC - PBD 430			-0.005
PBD 426 Rates - NUWC			0.002
Rates - SSC			0.001
Inflation			-0.021
Non purchase inflation			-0.004
Miscellaneous adjustments			-0.005
Subtotal	9.758	-0.094	-0.055

(U) Schedule:

Not Applicable.

(U) Technical:

Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA5	0604503N SSN 688 & TRIDENT MODERNIZATION	1411 Submarine Tactical Communications System

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
3130000 Submarine Communications	89.305	87.288	94.533	91.359	104.333	143.315	154.029	Continue	Continue

Related RDT&E:
PE 0602232N Space and Electronic Warfare (SEW) Technology
PE 0204163N Fleet Communications

(U) E. ACQUISITION STRATEGY: *

SCSS provides the system engineering and integration for the N77/N6 narrowband and wideband modernization plans on SSN 688 Class submarines. CSRR transforms SSN 688, SSBN 726 and SSN 21 Class radio room from suites of class-specific, closed system equipment to a common design that incorporates OSA communications equipment. CSRR will: leverage off VIRGINIA Class ECS design, use VIRGINIA Class ECS control and management software, apply a systems approach to design and implementation of JMCOMS, and maximize use of COTS products and emerging technologies.
Program Milestones: FY 2004 CSRR 4Q -MS-C
T&E Milestones: FY 2006 CSRR 3Q TECHEVAL, FY 2006 SSBN CSRR 4Q OPEVAL

(U) F. MAJOR PERFORMERS: **

Lockheed Martin Tactical Systems, Eagan, MN

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

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)

DATE: **February 2004**

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

PROGRAM ELEMENT: 0604503N SSN 688 & TRIDENT MODERNIZATION

PROJECT NUMBER AND NAME: 1411 Submarine Tactical Communications System

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											0.000	
Hardware Development*	CPFF	SSC-SD/NUWC Newport, RI	2.319	0.457		0.457	TBD	0.456	TBD		3.689	
Hardware Development**	CPFF	SSCs/NUWC Newport, RI	0.211							Continuing	Continuing	Continuing
MCS Development	Various	Motorola, misc labs	0.727	5.300	Various						#VALUE!	
H/W Development Facilities	Various	NUWC Newport, RI									0.000	
Software Development	CPFFWX	SSC-SD San Diego, CA	1.763	0.305		0.350	TBD	0.140	TBD	Continuing	Continuing	
Software Development	WX	NUWC Newport, RI	5.498					2.802	TBD	Continuing	Continuing	Continuing
MLTS Replacement	CFCC	SSC-SD		0.000			TBD				0.000	
Systems Engineering	Various	Misc Labs	5.612	4.094	Various						9.706	Continuing
Site Platform Integration/Certification	Various	NUWC Newport, RI		3.794		2.513		1.853			8.160	
BCA/OPCON architecture	WX	NUWC Newport, RI		0.856		0.858		0.819			2.533	
Subtotal Product Development			16.130	14.806		4.178		6.070		Continuing	Continuing	Continuing

Remarks:
* SCSS Development for SSN 688 Class submarines
**CSRR Development for OHIO Class submarines

Development Support								1.050	TBD		1.050	
Software Development (CSRR)	CPAF	Lockheed Martin Tech Sys	0.000	7.908				0.000			7.908	
Integrated Logistics Support (IETM)	WX	NUWC Newport, RI		0.300							0.300	
Software Engineering	WX	SSC-SD San Diego, CA				0.200						
Configuration Management								0.190			0.190	
INFOSEC Certification	CPFF	Merdan		0.479		0.428					0.907	
Studies & Analyses											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			0.000	8.687		0.628		1.240		0.000	10.555	

Remarks:
*Supports the development of the Multi-Link Training Simulator replacement

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604503N SSN 688 & TRIDENT MODERNIZATION			PROJECT NUMBER AND NAME 1411 Submarine Tactical Communications System						
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	
Developmental/Operational T&E	Various	Various	4.530								4.530	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			4.530	0.000		0.000		0.000		Continuing	Continuing	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support	Various	Various	3.690	0.900	Various	0.300	Various	0.400	Various	Continuing	Continuing	Continuing
Travel											0.000	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			3.690	0.900		0.300		0.400		Continuing	Continuing	
Remarks:												
Total Cost			24.350	24.393		5.106		7.710		Continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 108

CLASSIFICATION:

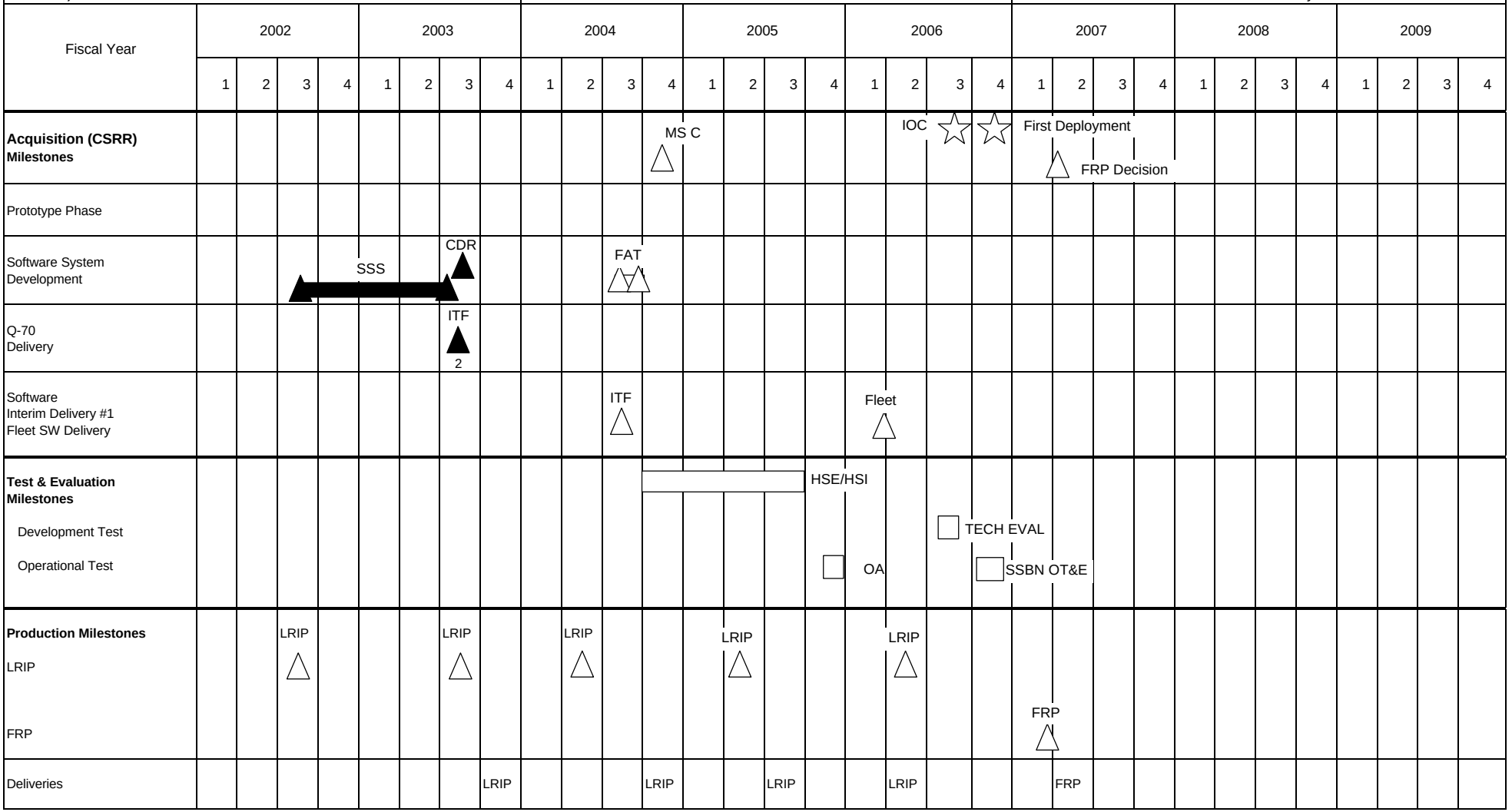
EXHIBIT R4, Schedule Profile

DATE: **February 2004**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA5**

PROGRAM ELEMENT NUMBER AND NAME: PE: 0604503N TITLE: SSN 688 & TRIDENT MODERNIZATION

PROJECT NUMBER AND NAME: 1411 Submarine Tactical Communications System



R-1 SHOPPING LIST - Item No. 108

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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT PE: 0604503N TITLE: SSN 688 & TRIDENT MODERNIZATION				PROJECT NUMBER AND NAME 1411 Submarine Tactical Communications System			
Schedule Profile (CSRR)	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
CSRR SW/HW Requirements Definition	3Q							
System/Subsystem Specification	3Q-4Q	1Q-3Q						
Milestone C			2Q					
Software Requirements Specification		3Q						
Lead Q-70 Hardware		2Q-4Q						
CDR		3Q						
Software Design Implementation		2Q-4Q	1Q					
Outfitting Q-70 Hardware			1Q					
Q-70 Hardware Checkout (ITF Set)			1Q - 2Q					
ITF Installation Checkout of Entire System			2Q - 3Q					
VA/CSRR Conformance/Reconciliation			4Q					
Interim Software Delivery #1			3Q					
ITF C&M Q-70 Subsystem Check			2Q - 3Q					
ITF Subsystem Checks with Interim Software			4Q					
Software FAT			3Q					
SSBN TRID Submittal (Draft)			3Q					
ITF System Level & Interface Checks (Collect Metrics)			4Q --	1Q				
SSBN TRID Submittal (Preliminary)			4Q					
ITF Stress and Degraded Modes Tests (Collect Metrics)				2Q - 3Q				
ITF Operational Environments Test - (EMI/EMC/thermal)				2Q				
Assessment of System Maturity / HSE Readiness				2Q - 3Q				
Operational Test Readiness Review (OTRR)				4Q				
ITF HSE (Hardware/Software Evaluation)				2Q - 3Q				
CSRR Operational Assessment				4Q				
CSRR JTIC (Joint Interoperability Test and Certification)					4Q			
SSBN TRID Submittal (Final)				2Q				
CSRR Strategic Certification Test				3Q				
SSBN TRID Approval				3Q				
Fleet Software Delivery				4Q				
STRATCOM/JCS Review & STRATCOM CERT Approval				4Q				
Final TRID Approval				4Q				
CSRR SSBN OT&E					4Q			
CSRR SSBN IOC (Initial Operating Capability)						2Q		
Full Rate Production						2Q		

R-1 SHOPPING LIST - Item No. 108

CLASSIFICATION:

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 0604504N AIR CONTROL ENGINEERING			
COST ($ in Millions)	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost		**5.904**	**10.355**	**13.102**	**8.257**	**4.416**	**5.346**	**7.000**
W0718 MARINE AIR TRAFFIC CONTROL AND LANDING SYSTEMS (MATCALS)		**2.857**	**5.288**	**4.686**	**4.783**	**0.860**	**0.876**	**0.893**
W0993 SHIPBOARD AIR TRAFFIC CONTROL SYSTEMS		**2.765**	**4.770**	**8.079**	**3.092**	**3.122**	**4.027**	**5.657**
W1657 SHORE AIR TRAFFIC CONTROL (ATC) SYSTEMS		**0.282**	**0.297**	**0.337**	**0.382**	**0.434**	**0.443**	**0.450**

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This program element provides for the development, integration, and testing of automated Air Traffic Control (ATC) hardware and software required to provide improved flight safety and more reliable all-weather ATC and landing system capabilities at Naval Air Stations and Marine Corps Air Stations and Fleet Area Control & Surveillance Facilities (FACSFAC) worldwide. Funded programs are required to upgrade or replace aging ATC and landing system equipment on aircraft, aircraft carriers, amphibious ships, Naval Air Stations, Marine Corps Air Stations and Navy/Marine Corps tactical/expeditionary airfields and remote landing sites. This program element will also fund the development of a Global Positioning System data link to enable the transfer of precise positioning information between ships and aircraft.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604504N AIR CONTROL ENGINEERING				PROJECT NUMBER AND NAME W0718 MARINE AIR TRAFFIC CONTROL & LANDING SYSTEM (MATCALS)			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**2.857**	**5.288**	**4.686**	**4.783**	**0.860**	**0.876**	**0.893**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This program provides for continued development, integration, and testing of hardware and software to meet requirement for all-weather operation and improved flight safety of Air Traffic Control and Landing Systems at Navy/Marine Corps expeditionary airfields. Current program includes approved transition to Phase I for the Air Surveillance and Precision Approach Radar Control System (ASPARCS). The ASPARCS will replace the legacy Air Traffic Control (ATC) Precision Approach Radar (PAR), Air Surveillance Radar (ASR), and Communications and Control Subsystem with a High Mobility Multipurpose Wheeled Vehicle based PAR, ASR, and Operational Subsystem/Communication Subsystem. ASPARCS Phase II is for the Preplanned Product Improvements. Phase II is the design and development of software code to interface Tactical Digital Information Link (TADIL-J) input/output to existing Phase I software; to incorporate National Imagery Mapping Agency (NIMA) functionality; and enhanced simulation and training.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604504N AIR CONTROL ENGINEERING	W0718 MARINE AIR TRAFFIC CONTROL & LANDING SYSTEM (MATCALS)

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		2.857	5.288	0.062
RDT&E Articles Quantity				

Perform systems engineering functions in support of the ASPARCS program. This effort includes preparation of Developmental Test/Operational Test (DT/OT) plans for Phase I and Phase II ASPARCS, completing ASPARCS Phase I DT/OT, and technical oversight of the ASPARCS program.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost				3.021
RDT&E Articles Quantity				

Design and develop software code to interface Tactical Digital Information Link (TADIL-J) input/output to existing ASPARCS Phase I software; design changes to existing ASPARCS software to achieve Defense Information Infrastructure-Common Operating Environment (DII-COE) level 5 compliance. In addition, incorporate National Imagery Mapping Agency (NIMA) functionality, and enhanced simulation and training into the existing ASPARCS software.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost				1.603
RDT&E Articles Quantity				

Perform design efforts to integrate the Multi Function Information Distribution System (MIDS) data link terminal into the ASPARCS Phase II system.

R-1 SHOPPING LIST - Item No. 109

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604504N AIR CONTROL ENGINEERING	W0718 MARINE AIR TRAFFIC CONTROL & LANDING SYSTEM (MATCALS)

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:	1.631	5.347	4.698
Current BES/President's Budget	2.857	5.288	4.686
Total Adjustments	1.226	-0.059	-0.012
Summary of Adjustments			
Congressional program reductions			
Congressional undistributed reductions		-0.059	
Congressional rescissions			
SBIR/STTR Transfer			
Economic Assumptions			-0.009
Reprogrammings	1.226		
Reprioritization			-0.003
Congressional increases			
Update			
Subtotal	1.226	-0.059	-0.012

Schedule:

A change in the Acquisition Strategy, approved in January 2003, added an Operational Assessment (OA) to be conducted by the Marine Corps Operational Test and Evaluation Activity during the Developmental Testing (DT), and added a Low Rate Initial Production (LRIP) decision in the third quarter of FY2004, based on the results of the OA. This change in Acquisition Strategy eliminated the DT-IIC, moved OT to the fourth quarter of FY2004, moved the MSIII decision to first quarter FY2005, and IOC to fourth quarter FY2005. A delay in completing planned DT due to Original Equipment Manufacturer, Lockheed Martin, technical issues with the precision approach radar resulted in a Congressional Mark in FY2004. This mark eliminated procurement of the two LRIP systems and moved IOC to FY2006.

An Acquisition Strategy Review conducted November 2003 eliminated the OA and LRIP, leaving OT in late FY2004, MSIII in the first quarter F2005, and IOC the third quarter FY2006. Phase II MSII will not be conducted until Phase I MSIII decision is made. Subsequent Phase II events have moved a year as a result of the Phase I delays.

Technical:

Not Applicable.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604504N AIR CONTROL ENGINEERING	W0718 MARINE AIR TRAFFIC CONTROL & LANDING SYSTEM (MATCALS)

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
OPN BLI 281500, MATCALS	7.601	4.090	15.614	19.624	20.169	19.721	17.321	Continuing	Continuing

E. ACQUISITION STRATEGY:

Air Surveillance and Precision Approach Radar System (ASPARCS) is an ACAT IVT program. Lockheed Martin was awarded the contract for this effort in June of 2000. This effort included First Article development (Fixed Price Incentive) with (Firm Fixed Priced) production options. The Lockheed Martin contract includes a Cost Plus Fixed Fee option for Phase II of the program. Phase II will include the development of the Common Aviation Command & Control System interoperability capability, the National Imagery Mapping Agency (NIMA) capability, and an enhanced training capability. The Operational Subsystem/Communication Subsytem (OS/CS) is being developed and integrated as a joint Lockheed /Naval Air Warfare Center, Aircraft Division (NAWC AD) effort. The first article and production OS/CS subsystems will be produced by NAWC AD.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)											DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604504N AIR CONTROL ENGINEERING			PROJECT NUMBER AND NAME W0718 MARINE AIR TRAFFIC CONTROL & LANDING SYSTEM (MATCALS)						
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 Devel Phase I	C/FFP	Lockheed Martin	13.806								13.806	13.806
Primary Hardware Devel Phase II	C/CPFF	Lockheed Martin						0.884	11/04	1.304	2.188	2.188
Training Development	WX	NAWCAD S.I.	0.175							0.000	0.175	
Systems Engineering	WX	NAWCAD S.I.	5.131					0.617	11/04	Continuing	Continuing	
Ancillary Hardware Deveopment	SS/FFP	Rockwell Collins	0.424								0.424	0.424
Primary Hardware Devel TTLS	FFP	ANPC	2.000								2.000	2.000
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			21.536	0.000		0.000		1.501		Continuing	Continuing	
Remarks:												
Software Development	C/CPFF	Lockheed Martin						2.306	11/04	3.473	5.779	5.779
Software Development	WX	NAWCAD S.I.						0.351	11/04	0.417	0.768	
Integrated Logistics Support	WX	NAWCAD S.I.	0.236			0.100	11/03	0.100	11/04	Continuing	Continuing	
Configuration Management	WX	NAWCAD S.I.	0.353								0.353	
Technical Data	WX	NAWCAD S.I.	0.394			0.085	11/03	0.085	11/04	Continuing	Continuing	
Development Support MATCALS	WX	NAWCAD S.I.	0.205								0.205	
											0.000	
											0.000	
Subtotal Support			1.188	0.000		0.185		2.842		Continuing	Continuing	
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604504N AIR CONTROL ENGINEERING				PROJECT NUMBER AND NAME W0718 MARINE AIR TRAFFIC CONTROL & LANDING SYSTEM (MATCALS)						
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 S.I.	0.286	2.575	11/02	4.400	11/03	0.100	11/04	1.745	9.106	
Operational Test & Evaluation	WX	MCOTEA	0.342	0.149	11/02	0.581	11/03	0.075	11/04	0.160	1.307	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal T&E			0.628	2.724		4.981		0.175		1.905	10.413	
Program Management Support	WX	NAWCAD S.I.	0.212	0.133	11/02	0.122	11/03	0.138	11/04	Continuing	Continuing	
Travel	WX	NAVAIR	0.081					0.030	11/04	Continuing	Continuing	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Management			0.293	0.133		0.122		0.168		Continuing	Continuing	
Total Cost			23.645	2.857		5.288		4.686		Continuing	Continuing	

Remarks:

Remarks:

R-1 SHOPPING LIST - Item No. 109

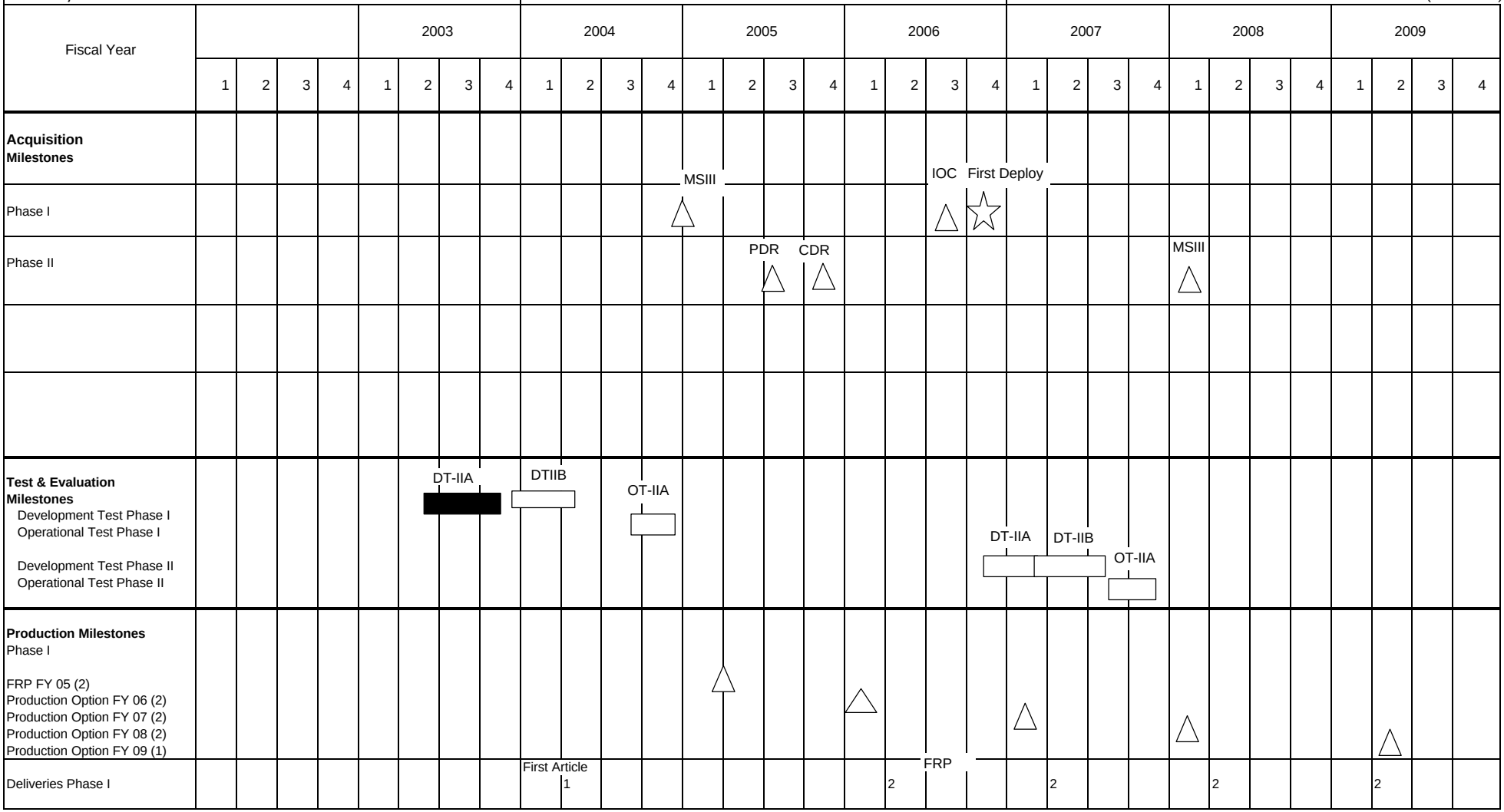
CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **February 2004**

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

PROGRAM ELEMENT NUMBER AND NAME: 0604504N AIR CONTROL ENGINEERING

PROJECT NUMBER AND NAME: W0718 MARINE AIR TRAFFIC CONTROL & LANDING SYSTEM (MATCALS)



R-1 SHOPPING LIST - Item No. 109

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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604504N AIR CONTROL ENGINEERING			PROJECT NUMBER AND NAME W0718 MARINE AIR TRAFFIC CONTROL & LANDING SYSTEM (MATCALS)			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Developmental Testing (DT-IIA) Phase I		2Q-4Q						
Developmental Testing (DT-IIB) Phase I		4Q	1Q-2Q					
Operational Testing (OT-IIA) Phase I			3Q-4Q					
Milestone III (MS III) Phase I				1Q				
Full Rate Production (FRP) Decision Phase I				1Q				
Full Rate Production Start Phase I				1Q				
IOC Phase I					3Q			
First Deployment Phase I					4Q			
Critical Design Review (CDR) Phase II				4Q				
Preliminary Design Review (PDR) Phase II				3Q				
Developmental Testing (DT-IIA) Phase II					4Q	1Q		
Developmental Testing (DT-IIB) Phase II						1Q-3Q		
Operational Testing (OT-IIA) Phase II						3Q-4Q		
Milestone III Phase II							1Q	

R-1 SHOPPING LIST - Item No. 109

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604504N AIR CONTROL ENGINEERING			PROJECT NUMBER AND NAME W0993, Shipboard Air Traffic Control Systems				
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**2.765**	**4.770**	**8.079**	**3.092**	**3.122**	**4.027**	**5.657**
RDT&E Articles Qty		**2**	**1**					

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Shipboard Air Traffic Control Central systems, interfacing with versions of the AN/TPX-42(V) Direct Altitude and Identity Readout system (DAIR) allow Shipboard Air Traffic Controllers to identify, marshal, and direct aircraft within a 50 Nautical Mile (NM) radius of the ship. At closer range (8NM) a ship's Automatic Carrier Landing System (ACLS) and Independent Landing Monitor (ILM) are operationally required to effect safe landing on the moving decks of ships. The AN/SPN-41 ILM and AN/SPN-46 ACLS provide verification of aircraft approach glideslope position and precise aircraft automatic control respectively during its final approach and landing sequence to an aircraft carrier. Due to acquisition limitations in rain, the Moving Target Detection (MTD) technology used in the AN/SPN-46 is being adapted for the AN/SPN-43 search surveillance radar and in the AN/SPN-35B precision approach radar. The insertion of MTD technology plus an antenna pedestal upgrade constitute the AN/SPN-35C upgrade. This AN/SPN-35C and AN/SPN-46 configurations also require development of an interface with the Battle Force Tactical Trainer. Dual efforts are underway to improve AN/SPN-46 system availability and supportability until at least 2020. These efforts include various Engineering Change Proposals (ECP's), and the Life Cycle Extension (LCE) program transitional changes include a re-architecture of its radar control group process with COTS technology, replacement of the computer group processing hardware, and conversion of system program software from CMS-2 to the more commonly used C/C++ programming language. In recent years, the top 25% of the AN/SPN-43 frequency band has been reallocated to the Fixed Wireless Access community. Because the Navy requires an air traffic control radar, this project unit will include engineering efforts to identify requirements and develop a suitable replacement before the AN/SPN-43 becomes operationally ineffectual. Finally, the AN/TPX-42A(V)14 DAIR underwent several phased upgrades that have resulted in two field changes. System improvements include replacing militarized front-end equipment in the track processor with COTS technology, converting the operational program software to more commonly used and flexible 'C' language, and integrating a flat panel monitor into the AN/UYQ-70 console. The development of a common console will reduce operational costs, improve reliability, and provide compatible interfaces and commonality for all ATC workstation.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604504N AIR CONTROL ENGINEERING	W0993, Shipboard Air Traffic Control Systems

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
AN/SPN-43 Upgrade		0.263		
RDT&E Articles Quantity				

Initiated development of one SPN-43C replacement (article) in FY03.

		FY 03	FY 04	FY 05
Shipboard testing for AN/SPN-35C.		0.117	0.065	
RDT&E Articles Quantity				

Completed DT-IIC and safety certification in FY03. Conduct OPEVAL support and develop a test bed in FY04.

		FY 03	FY 04	FY 05
AN/SPN-46 Radar Control Group		0.751	2.285	5.875
RDT&E Articles Quantity		1		

Previously called "Unit 19". Continued development of AN/SPN-46 Radar Control Group redesign ECP (for prior development, see under W1657) in FY03 and FY04, with design completion and test in FY05. The RDT&E article represents Versa Module Eurocard (VME) cards and backplane that replace Standard Electronic Module (SEM) cards in the Unit 19.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604504N AIR CONTROL ENGINEERING	W0993, Shipboard Air Traffic Control Systems

B. Accomplishments/Planned Program (Cont.)

		FY 03	FY 04	FY 05
AN/SPN-46 Computer Group Replacement				0.797
RDT&E Articles Quantity				

Previously called "AYK-14 Processor Software". Initiate replacement of AN/SPN-46 AYK-14 processor and conversion of software from CMS to "C" language in FY05.

		FY 03	FY 04	FY 05
AN/TPX-42 Improvements		1.634	2.420	1.407
RDT&E Articles Quantity		1	1	

Continued development of AN/TPX-42 Track Processor (article) Upgrade ECP (for prior development, see under W1657) in FY03, with completion anticipated in FY04, and the development of AN/TPX-42 Common Console in FY04 and FY05.

		FY 03	FY 04	FY 05
AN/SPN-46 Miscellaneous ECPs				
RDT&E Articles Quantity				

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604504N AIR CONTROL ENGINEERING	W0993, Shipboard Air Traffic Control Systems

C. PROGRAM CHANGE SUMMARY:

Funding:	FY2003	FY2004	FY2005
FY 2004-2005 President's Budget:	2.907	4.824	2.321
FY 2005 President's Budget	2.765	4.770	8.079
Total Adjustments	-0.142	-0.054	5.758
Summary of Adjustments			
Congressional program reductions			
Congressional undistributed reductions		-0.054	
Congressional rescissions			
SBIR/STTR Transfer	-0.047		
Economic Assumptions			-0.004
Reprogrammings	-0.095		
Reprioritization			5.762
Congressional increases			
Subtotal	-0.142	-0.054	5.758

Schedule:

The FY 2005 adjustment has permitted milestones for the AN/SPN-46 Radar Control Group ("Unit 19") to be accelerated to meet fleet requirements. Due to reprioritization within the Navy Department, the previous schedule depicted on exhibit R-4 (AN/SPN-43 Upgrade) has been replaced by the current R-4 schedules for AN/TPX-42 Air Traffic Control Console and AN/SPN-46 Radar Control Group.

Technical:

Not Applicable.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604504N AIR CONTROL ENGINEERING	W0993, Shipboard Air Traffic Control Systems

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
OPN BLI 283200 Automatic Carrier Landing Systems	11.450	17.364	12.515	17.934	18.523	18.910	19.288	Continuing	Continuing
OPN BLI 283100 Shipboard Air Traffic Control	8.109	7.802	7.695	8.048	8.203	8.367	8.532	Continuing	Continuing

E. ACQUISITION STRATEGY:

The AN/SPN-35C upgrade acquisition will consist of several commercial procurements that will be integrated by the NAWCAD into the final configuration. Four primary contracts will be used, with CLINs for a base year and four options. In addition, several miscellaneous or ancillary hardware requirements will also be required that will take the form of small purchases, to be made from the open market (for items such as cables, connectors and backshells).

AN/SPN-46 Radar Control Group redesign and AN/SPN-46 Computer Group replacement subprojects are part of the AN/SPN-46 Life Cycle Extension (LCE) project, which is anticipated to be designated ACAT IV. Initial contract awards are expected in FY 2004 and FY 2006 respectively for these subprojects.

AN/TPX-42 Common Console is an anticipated ACAT IV-T program, with improvements being incorporated into the production of AN/TPX-42 upgrade kits.

All other projects are non-ACAT upgrades to existing systems. An evolutionary acquisition approach is being used to introduce these technology advancements that either satisfy user requirements, such as all weather operation, or address supportability and cost of ownership problems.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604504N AIR CONTROL ENGINEERING			PROJECT NUMBER AND NAME W0993, Shipboard Air Traffic Control Systems							
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 H/W Dev - SPN-35	WR	NAWCAD Pax River, MD	4.845							Continuing	Continuing	
Primary H/W Dev - SPN-41	WR	NAWCAD Pax River, MD	6.890							Continuing	Continuing	
Primary H/W Dev - SPN-43	WR	NAWCAD Pax River, MD	7.249	0.254	11/02					Continuing	Continuing	
Primary H/W Dev - SPN-46	WR	NAWCAD Pax River, MD	7.993	0.424	11/02	1.900	11/03			Continuing	Continuing	
Primary H/W Dev - TPX-42	WR	NAWCAD Pax River, MD	0.985	0.233	11/02	0.759	11/03	0.473	11/04	Continuing		
Training Development - SPN-35	C/T&M	IDSI Indian Head, MD	0.030								0.030	
Training Development - SPN-46	C/T&M	IDSI Indian Head, MD	0.090								0.090	
Training Development - SPN-42	C/T&M	IDSI Indian Head, MD									0.000	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			28.082	0.911		2.659		0.473		Continuing	Continuing	
Remarks:												
Software Development - SPN-43	WR	NAWCAD Pax River, MD								Continuing	Continuing	
Software Development - SPN-46	WR	NAWCAD Pax River, MD		0.255	11/02			1.152	11/04	Continuing	Continuing	
Software Development - TPX-42	WR	NAWCAD Pax River, MD		1.197	11/02	0.882	11/03	0.510	11/04	Continuing	Continuing	
Integrated Log Spt - SPN-43	WR	NAWCAD Pax River, MD								Continuing	Continuing	
Integrated Log Spt - SPN-46	WR	NAWCAD Pax River, MD		0.072	11/02	0.385	11/03			Continuing	Continuing	
Integrated Log Spt - TPX-42	WR	NAWCAD Pax River, MD		0.150	11/02	0.275	11/03	0.101	11/04	Continuing	Continuing	
Studies & Analyses - SPN-43	WR	NAWCAD Pax River, MD	0.306	0.009	11/02						0.315	
Studies & Analyses - TPX-42	WR	NAWCAD Pax River, MD				0.315	11/03	0.243	11/04		0.558	
Subtotal Support			0.306	1.683		1.857		2.006		Continuing	Continuing	
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604504N AIR CONTROL ENGINEERING				PROJECT NUMBER AND NAME W0993, Shipboard Air Traffic Control Systems						
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 & Eval - SPN-35	WR	NAWCAD Pax River MD	0.623	0.117	11/02						0.740	
Developmental Test & Eval - SPN-46	WR	NAWCAD Pax River MD						5.481	11/04		5.481	
Developmental Test & Eval - TPX-42	WR	NAWCAD Pax River MD				0.134	11/03	0.080	11/04		0.214	
Operational Test & Eval - SPN-35	WR	NAWCAD Pax River MD				0.065	11/03				0.065	
											0.000	
											0.000	
											0.000	
Subtotal T&E			0.623	0.117		0.199		5.561			6.500	
Remarks:												
Program Management Support	C/Cost	NTA Patuxent River MD	1.134	0.039	11/02	0.040	11/03	0.024	11/04	Continuing	Continuing	
Travel	WR	NAWCAD Pax River MD		0.015	11/02	0.015	11/03	0.015	11/04	Continuing	Continuing	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Management			1.134	0.054		0.055		0.039		Continuing	Continuing	
Remarks:												
Total Cost			30.145	2.765		4.770		8.079		Continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 109

EXHIBIT R4, Schedule Profile — **AN/TPX-42 Air Traffic Control Console** — DATE: **February 2004**

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

PROGRAM ELEMENT NUMBER AND NAME: 0604504N AIR CONTROL ENGINEERING

PROJECT NUMBER AND NAME: W0993, Shipboard Air Traffic Control Systems

Fiscal Year	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
Prototype Phase									■	■	■	■																				
System Requirements Review									SRR ▲	SRR ▲	SRR ▲																					
Preliminary Design Review												PDR △																				
System Development												□	□	□	□																	
Critical Design Review													CDR △																			
Quality Design and Build													□	□	□																	
Test Readiness Review																TRR ▲																
Test & Evaluation Milestones																																
Development Test												□	□	□	□	□	□	□	□													
Technical Evaluation																				□												
Operational Evaluation																				OT-IIC □												
Production Milestones																																
LRIP I FY 06																LRIP I Start △																
Deliveries																		1 △														

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

CLASSIFICATION:

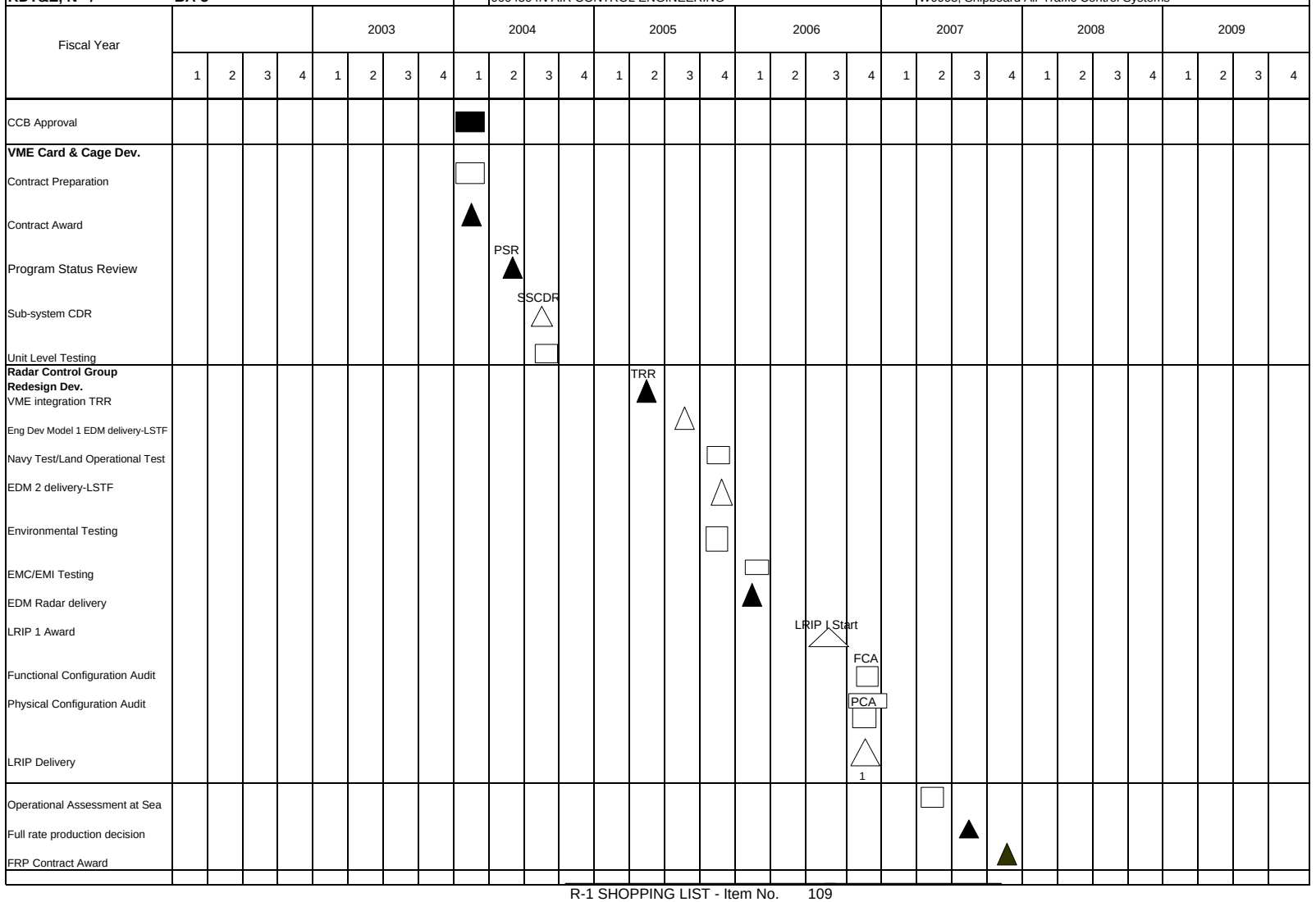
Exhibit R-4a, Schedule Detail **AN/TPX42 Air Traffic Control Console**					DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-5**	PROGRAM ELEMENT 0604504N Air Control Engineering				PROJECT NUMBER AND NAME W0993, Shipboard Air Traffic Control Systems			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Prototype Phase			1Q-4Q					
System Requirements Review (SRR)			1Q-3Q					
Preliminary Design Review (PDR)			4Q					
System Development			4Q	1Q-4Q				
Critical Design Review (CDR)				2Q				
Quality Design and Build				2Q				
Test Readiness Review (TRR)					1Q			
Developmental Testing (DT)			4Q	1Q-4Q	1Q-3Q			
Start Low-Rate Initial Production I (LRIP I)					1Q			
LRIP I Delivery					2Q			
Technical Evaluation (TECHEVAL)					3Q			
Operational Evaluation (OT-IIC) (OPEVAL)					4Q			

R-1 SHOPPING LIST - Item No. 109

EXHIBIT R4, Schedule Profile
AN/SPN-46 Radar Control Group

DATE: **February 2004**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604504N AIR CONTROL ENGINEERING	W0993, Shipboard Air Traffic Control Systems



R-1 SHOPPING LIST - Item No. 109

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

CLASSIFICATION:

UNCLASSIFIED

Exhibit R-4a, Schedule Detail **AN/SPN-46 RADAR CONTROL GROUP**						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-05**	PROGRAM ELEMENT 0604504N Air Control				PROJECT NUMBER AND NAME W0993 Carrier ATC			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
CCB Approval			1Q					
VME Card & Cage Development								
Contract Preparation			1Q					
Contract Award			1Q					
Program Status Review			2Q					
Sub-System Critical Design Review (SSCDR)			3Q					
Unit Level Testing			3Q					
Radar Control Group Redesign Development								
VME Integration Test Readiness Review				2Q				
Eng Dev Model #1 (EDM) Radar Control Delivery - LSTF				3Q				
Navy Test/Land based Operational Assessment				4Q				
EDM#2 Radar Control Group Delivery - LSTF				4Q				
Environmental Testing				4Q				
EMC/EMI Testing					1Q			
EDM Radar Delivery					1Q			
LRIP 1 Award					3Q			
Functional Configuration Audit (FCA)					4Q			
Physical Configuration Audit (PCA)					4Q			
LRIP Delivery					4Q			
Operational Assessment at sea						2Q		
Full Rate Production (FRP) Decision						3Q		
FRP Contract Award						4Q		

R-1 SHOPPING LIST - Item No. 109

Notes:
Two phases complete the VME development efforts.
Start the the total Unit 19 redesign (hardware before completion of testing of the VME Cards and Card Cage effort. Use results at PDR for Redesign Effort.
Two EDMs: One at the Landing Systems Test Facility (Patuxent River, MD) and the other to Environmental and EMC/EMI Testing.
One LRIP following completion of the EDM Testing.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604504N AIR CONTROL ENGINEERING				PROJECT NUMBER AND NAME W1657, Shore Air Traffic Control Systems			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**0.282**	**0.297**	**0.337**	**0.382**	**0.434**	**0.443**	**0.450**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This program provides for engineering development, integration, adaptation, and testing of new and/or modernized real-time Air Traffic Control (ATC) systems, air navigational aids, landing systems, and ATC communication systems for Naval and Marine Corps Air Stations (NAS/MCAS) and Fleet Area Control and Surveillance Facilites (FACSFAC) worldwide. These systems are critical to Naval Aviation and provide for safe, efficient air operations. Additionally the FAA is effecting major modernization of the National Airspace System (NAS); e.g.; transitioning from radar-based to space-based technology with usage of digital technology in communications, displays, etc. The Navy must maintain compatibility with FAA developed ATC systems in order to ensure seamless interoperability within the NAS. NAS modernization initiatives in Project W1657 include the Visual Information Display System (VIDS) and follow-on Pre-planned Product Improvements, with additional RDT&E efforts required for modified commerical-off-the-shelf (COTS) ATC systems and equipment for modernization and recapitalization of these systems at our NAS, MCAS & FACSFAC facilities worldwide. Prior to FY 2003 this project unit also funded shipboard projects involving Automatic Carrier Landing System (ACLS) and AN/TPX-42A(V) Direct Altitude and Identity Readout (DAIR) performance upgrades.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604504N AIR CONTROL ENGINEERING	W1657, Shore Air Traffic Control Systems

(U) B. Accomplishments/Planned Program

VIDS		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.148	0.121	0.140
RDT&E Articles Quantity				

Continue engineering development and development of pre-planned product improvements for the Visual Information Display System.

FIBER OPTIC INTERSITE SYSTEM UPGRADE		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.067	0.063	0.073
RDT&E Articles Quantity				

Initiate research and development efforts required for the Fiber Optic Intersite System (FOIS) Upgrade.

NEXT GENERATION COMMUNICATION SYS UPG		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.067	0.063	0.074
RDT&E Articles Quantity				

Begin initial research & development efforts required for the Next Generation Communication System Upgrade.

R-1 SHOPPING LIST - Item No. 109

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604504N AIR CONTROL ENGINEERING	W1657, Shore Air Traffic Control Systems

(U) B. Accomplishments/Planned Program (Cont.)

FACSFAC	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.050	0.050
RDT&E Articles Quantity			

Initiate research efforts to determine the best technical approach to integrate various data link and communication system upgrades into the FACSFAC System

R-1 SHOPPING LIST - Item No. 109

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604504N AIR CONTROL ENGINEERING	W1657, SHORE AIR TRAFFIC CONTROL SYSTEM

C. PROGRAM CHANGE SUMMARY:

Funding:	FY2003	FY2004	FY2005
FY2004 President's Budget:	0.303	0.301	0.338
FY2005 President's Budget:	0.282	0.297	0.337
Total Adjustments	-0.021	-0.004	-0.001
Summary of Adjustments			
Congressional program reductions			
Congressional undistributed reductions		-0.004	
Congressional rescissions			
SBIR/STTR Transfer			
OSD			
Navy (FMB/Sponsor/NAVAIR)			
Economic Assumtions			-0.001
Reprogrammings	-0.021		
Congressional increases			
Subtotal	-0.021	-0.004	-0.001

(U) Schedule:

Not Applicable.

(U) Technical:

Not Applicable.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604504N AIR CONTROL ENGINEERING	W1657, Shore Air Traffic Control Systems

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
OPN BLI 284000 National Air Space System	7.018	15.935	16.122	31.345	27.819	28.376	28.942	Continuing	Continuing
OPN BLI 284500 Air Station Support Equip	6.836	7.543	3.640	3.849	3.929	4.008	4.088	Continuing	Continuing
OPN BLI 284600 Microwave Landing System	0.000	0.000	7.232	7.728	9.042	9.083	10.017	21.464	102.857
OPN BLI 284700 FACSFAC	4.221	4.305	3.712	3.885	4.012	4.061	4.157	Continuing	Continuing

E. ACQUISITION STRATEGY:

All projects are non-ACAT upgrades to existing systems. An evolutionary acquisition approach is being used to introduce technology advancements that either satisfy emergent user requirements or address supportability and cost of ownership problems.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **FEBRUARY 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-05**	PROGRAM ELEMENT NUMBER AND NAME 0604507N / Enhanced Modular Signal Processor (EMSP)				PROJECT NUMBER AND NAME 1440 / Enhanced Modular Signal Processor			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**0.501**	**0.994**	**1.075**	**1.088**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The objective of this Program Element (PE) is to improve Navy Signal Processing Hardware and Software Capabilities. Efforts include the design, development and integration of a portable AN/UYS-X test set to support AN/UYS-1 and AN/UYS-2/2A platform system integration activities, development of a Portable Digital Signal Processing Operating System (PDOS) , an associated tool set that supports development of reusable signal processing application software, and replacement of obsolete, unreliable and unsupportable AN/UYS-1/2/2A legacy host computer resources.

Defense Emergency Response Funds (DERF) Funds:

Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-05	0604507N / Enhanced Modular Signal Processor (EMSP)	1440 / Enhanced Modular Signal Processor

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
AN/UYS-X Portable Test Set		0.501		
RDT&E Articles Quantity				

Designed, developed and completed integration of a portable AN/UYS-X test set to support AN/UYS-1 and AN/UYS-2/2A platform system integration activities.

		FY 03	FY 04	FY 05
PDOS Development			0.230	0.250
RDT&E Articles Quantity				

Commence development of a Portable Digital Signal Processing Operating System (PDOS), an associated tool set that supports development of reusable signal processing application software.

		FY 03	FY 04	FY 05
Legacy Host Computer Replacement of AN/UYS-1/2/2A			0.764	0.825
RDT&E Articles Quantity				

Investigate and commence replacement of AN/UYS-1/2/2A legacy host computer resources which are obsolete, unreliable and unsupportable.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-05	0604507N / Enhanced Modular Signal Processor (EMSP)	1440 / Enhanced Modular Signal Processor

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY04 President's Controls) :	0.502	1.006	1.085
Current BES/President's Budget: (FY05 President's Controls)	0.501	0.994	1.075
Total Adjustments	-0.001	-0.012	-0.010
Summary of Adjustments			
Congressional program reductions			
Congressional undistributed reductions			
Congressional rescissions		-0.012	
SBIR/STTR Transfer			
Economic Assumptions			-0.009
Reprogrammings			
Other Navy/OSD Adjustments	-0.001		-0.001
Congressional increases			
Subtotal	-0.001	-0.012	-0.010

Schedule:

None

Technical:

None

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-05	0604507N / Enhanced Modular Signal Processor (EMSP)	1440 / Enhanced Modular Signal Processor

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
OPN BLI 2980 / Items Less Than $5M (N61 NSP portion only)	0.0	0.3	0.4	0.6	0.0	0.0	0.0	0.0	1.3

E. ACQUISITION STRATEGY:

Development work in this project is performed primarily by NAWC/Pax River and NAVSEA/Crane.

F. MAJOR PERFORMERS:

Naval Air Warfare Center/Patuxent River (NAWC/Pax River): EMSP Computer Program Support Activity (CPSA), Technical Design Agent
Naval Sea Systems Command (NAVSEA/Crane): EMSP ISEA/Hardware Support Activity

R-1 SHOPPING LIST - Item No. 110

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **FEBRUARY 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-05**		PROGRAM ELEMENT 0604507N / Enhanced Modular Signal Processor (EMSP)			PROJECT NUMBER AND NAME 1440 / Enhanced Modular Signal Processor							
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
Signal Processor COTS Technology	Var.	Var.	3.215							0.000	3.215	
Subtotal Product Development			3.215	0.000		0.000		0.000		0.000	3.215	
Remarks:												
Software Development	WX	NAWC/Pax River, MD	3.705	0.344	12/02	0.672	11/03	0.651	11/04	Continuing	Continuing	
Hardware Development	WX	NAVSEA/Crane, IN	0.307	0.132	12/02	0.292	10/03	0.396	11/04	Continuing	Continuing	
Common Processing	Var.	Var.	0.050								0.050	
Common Processing	IP	ARI, CT	0.225								0.225	
Subtotal Support			4.287	0.476		0.964		1.047		Continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 110

CLASSIFICATION:

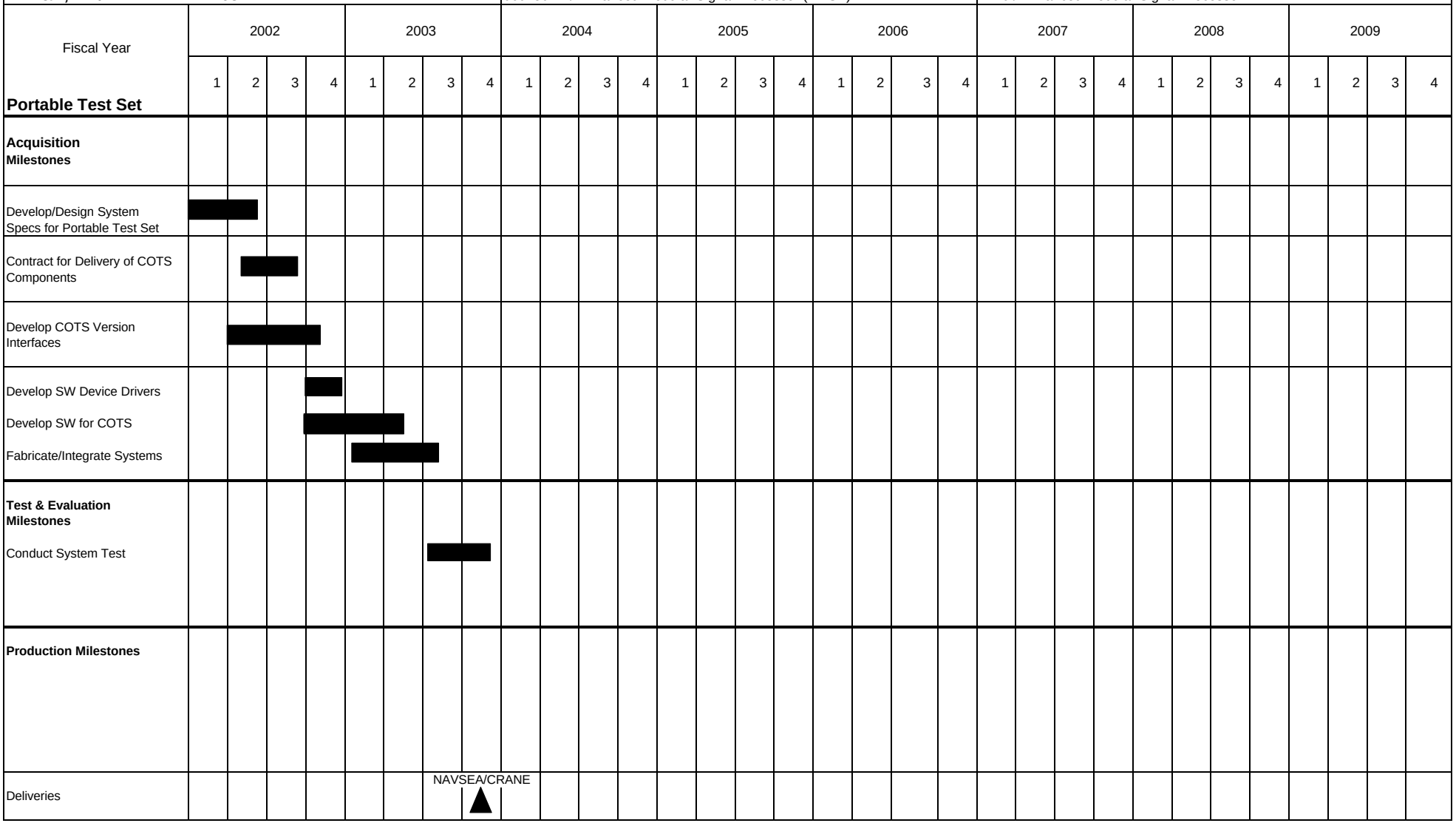
Exhibit R-3 Cost Analysis (page 2)										DATE: **FEBRUARY 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-05**		PROGRAM ELEMENT 0604507N / Enhanced Modular Signal Processor (EMSP)				PROJECT NUMBER AND NAME 1440 / Enhanced Modular Signal Processor						
Cost Categories	Contract Method & Type	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
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Program Management Support	IP	TWD & Associates, VA	0.328	0.025	01/03	0.030	10/03	0.028	10/04	Continuing	Continuing	
Subtotal Management			0.328	0.025		0.030		0.028		Continuing	Continuing	
Remarks:												
Total Cost			7.830	0.501		0.994		1.075		Continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 110

CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **FEBRUARY 2004**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-05	0604507N / Enhanced Modular Signal Processor (EMSP)	1440 / Enhanced Modular Signal Processor



CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **FEBRUARY 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-05**	PROGRAM ELEMENT 0604507N / Enhanced Modular Signal Processor (EMSP)				PROJECT NUMBER AND NAME 1440 / Enhanced Modular Signal Processor			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Portable Test Set System Development								
Portable Test Set System Design								
Contract for Delivery of COTS Components								
Develp COTS Version Interfaces								
Develop Software Device Drivers								
Develop Software for COTS Components		1Q-2Q						
Fabricate and Integrate Systems		1Q-3Q						
Conduct Systems Testing		3Q-4Q						
Delivery to ISEA (NAVSEA/Crane)		4Q						

R-1 SHOPPING LIST - Item No. 110

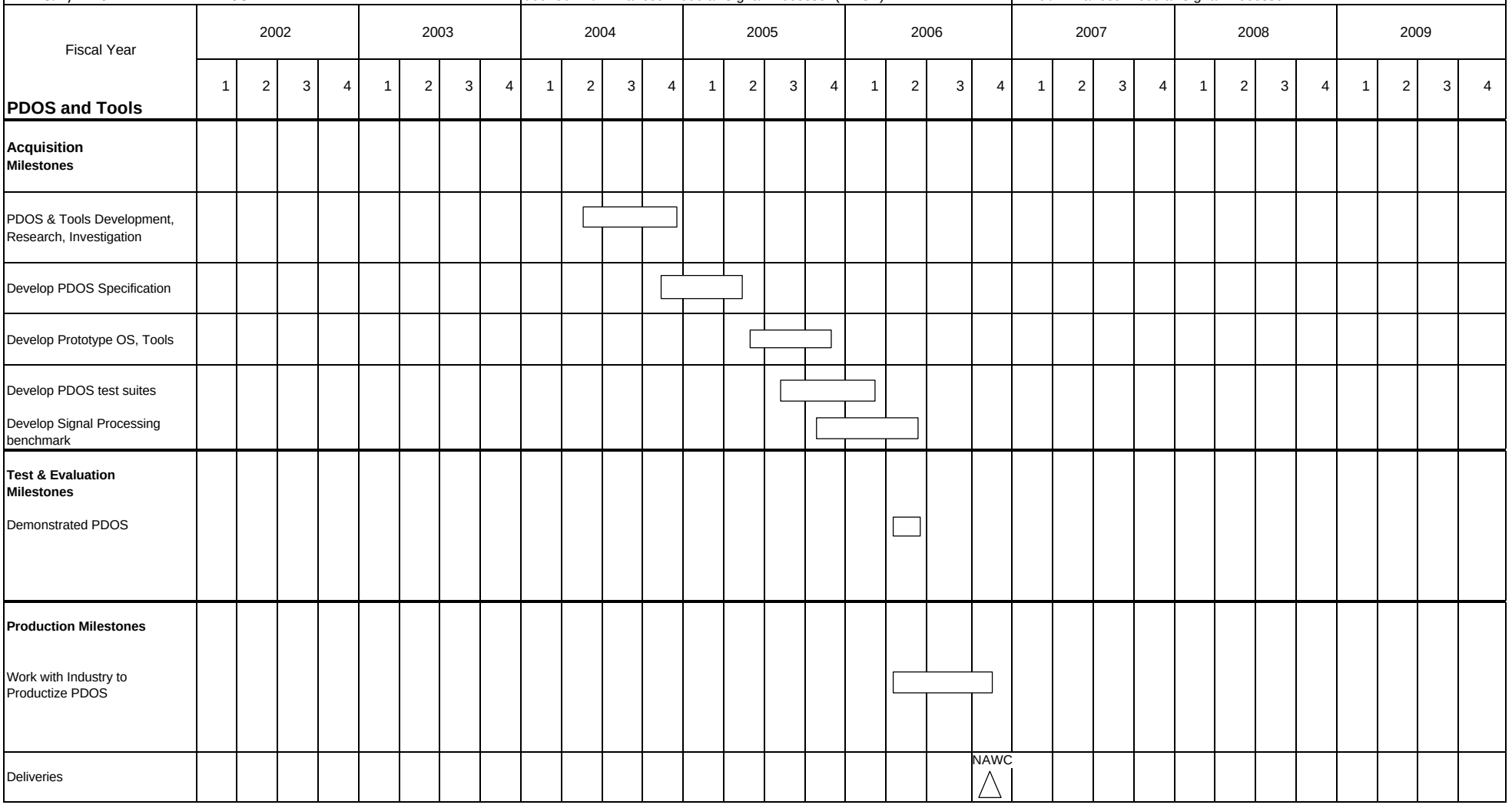
CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **FEBRUARY 2004**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA-05**

PROGRAM ELEMENT NUMBER AND NAME: 0604507N / Enhanced Modular Signal Processor (EMSP)

PROJECT NUMBER AND NAME: 1440 / Enhanced Modular Signal Processor



R-1 SHOPPING LIST - Item No. 110

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **FEBRUARY 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-05**	PROGRAM ELEMENT 0604507N / Enhanced Modular Signal Processor (EMSP)				PROJECT NUMBER AND NAME 1440 / Enhanced Modular Signal Processor			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
PDOS and Tools Development			2Q-3Q					
Conduct Investigation and Research			3Q-4Q					
Develop PDOS Specification			4Q	1Q-2Q				
Publicize PDOS at DSP Conferences				2Q				
Develop Prototype OS and tools				2Q-4Q				
Develop PDOS test suites				3Q-4Q	1Q			
Develop Signal Processing benchmark				4Q	1Q-2Q			
Conduct workshops				4Q	1Q			
Demonstrate PDOS					2Q			
Capture PDOS performance metrics					2Q			
Work with industry to productize PDOS					2Q-4Q			
Delivery to CPSA (NAWC/ Pax River)					4Q			

R-1 SHOPPING LIST - Item No. 110

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																															DATE: **FEBRUARY 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-05**									PROGRAM ELEMENT NUMBER AND NAME 0604507N / Enhanced Modular Signal Processor (EMSP)														PROJECT NUMBER AND NAME 1440 / Enhanced Modular Signal Processor											
Fiscal Year	2002				2003				2004				2005				2006				2007				2008				2009			
Legacy Host Computer Replacement	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																																
AN/UYS-1 Investigate Legacy Computer Replacement									■	□																						
AN/UYS-2/2A Investigate Legacy Computer Replacement															□																	
AN/UYS-1 COTS Software Development											□	□	□																			
AN/UYS-2/2A COTS Software Development																		□	□													
Test & Evaluation Milestones																																
AN/UYS-1 Validation Testing														□	□																	
AN/UYS-2/2A Validation Test																			□	□												
Production Milestones																																
AN/UYS-1 Contract for Delivery of Replacement host											□	□																				
AN/UYS-2/2A Contract for Delivery of Replacement host																□	□															
Deliveries															AN/UYS-1 (NAWC) △				AN/UYS-2/2A (NAWC) △													

R-1 SHOPPING LIST - Item No. 110

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **FEBRUARY 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-05**	PROGRAM ELEMENT 0604507N / Enhanced Modular Signal Processor (EMSP)				PROJECT NUMBER AND NAME 1440 / Enhanced Modular Signal Processor			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Investigate Legacy Computer Replacement - AN/UYS-1			1Q-2Q					
Contract for delivery of replacement host computer			2Q-4Q					
Develop software for COTS components			3Q-4Q	1Q-2Q				
Validation/Regression testing				2Q-3Q				
Delivery to CPSA (NAWC/Pax River)				4Q				
Investigate Legacy Computer Replacement - AN/UYS-2/2A				3Q-4Q				
Contract for delivery of replacement host computer				4Q	1Q-2Q			
Develop software for COTS components					2Q-3Q			
Validation/Regression testing					3Q-4Q			
Delivery to CPSA (NAWC/Pax River)					4Q			

R-1 SHOPPING LIST - Item No. 110

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 0604512N Shipboard Aviation Systems			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost		**24.311**	**23.586**	**28.631**	**33.097**	**31.486**	**22.127**	**21.344**
W2232 CV Launch & Recovery Systems		**22.380**	**18.148**	**28.631**	**33.097**	**31.486**	**22.127**	**21.344**
W9071 Shipboard Aviation Information Technology		**1.931**	**3.955**					
W9385 Machine Vision Confirmation of Launch Bar Eng			**1.483**					

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This Navy unique project addresses the System Development and Demonstration (SDD) of all systems required to recover and launch Navy/Marine Corps aircraft (fixed/rotary wing and Vertical/Short Take-Off and Landing (VSTOL) operating aboard aircraft carriers (CV/CVN), amphibious assault ships (LHA/LHD) and aviation facility ships. This program includes the concept exploration and the development phase of the following systems under Projects W2232, and Project W9071 including the funding of Production Representative Models (PRM):

- (U) Virtual Imaging System for Approach and Landing (VISUAL): VISUAL provides ship's force and Landing Signal Officer (LSO) with enhanced images of the aircraft during recovery operations in low visibility, day and night conditions.
- (U) Moriah Wind System (MWS): Integrated digital wind measurement designed to replace the Type F wind system on all U.S. Navy air capable ships.
- (U) Advanced Arresting Gear (AAG): The AAG replaces the MK7 arresting gear, which has reached the limits of its operating capability.
- (U) Cost Reduction and Effectiveness Improvement Initiative (CREI) Aircraft Carrier Arresting Gear Hydraulic Fluid: This program seeks to replace the unique hydraulic fluid , ethylene glycol , used in the arresting gear systems with a commercially available ethylene glycol product. The commercial product will be less expensive, contain system component protection and will reduce the life cycle cost of the system.
- (U) Shipboard Aviation Data Management System Initiative: This initiative will use state-of-the-art information technology and decision support systems to automate the current manual intensive process in collecting and distributing information to enable aviation operations on board aircraft carriers to be accomplished in a more efficient and effective manner.
- (U) Machine Vision Confirmation of Launch Bar Engagement: This Phase III SBIR will be used for the testing of a shipboard demo. This would include a full system on one catapult for a period of at least six months. Reliability testing would also be conducted prior to installation. This is a follow-on to an initial Phase II SBIR project entitled "Autonomous Launch Bar Seating Check Machine Vision Confirmation of Launch Bar Engagement".

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604512N Shipboard Aviation Systems				PROJECT NUMBER AND NAME W2232 CV Launch & Recovery Systems			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**22.380**	**18.148**	**28.631**	**33.097**	**31.486**	**22.127**	**21.344**
RDT&E Articles Qty		**4**						

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This Navy unique project addresses the System Development and Demonstration (SDD) of all systems required to recover and launch Navy/Marine Corps aircraft [fixed/rotary wing and Vertical/Short Take-Off and Landing (VSTOL)] operating aboard aircraft carriers (CV/CVN), amphibious assault ships (LHA/LHD) and aviation facility ships. This program includes the system development phase of the following systems under Project W2232, including the funding of production representative models (PRM):

- (U) Moriah Wind System (MWS): MWS replaces current analog wind system with an integrated digital wind measurement system which will be an affordable, LAN compatible, wind suite for all classes of air capable Navy ships.

- (U) Virtual Imaging System for Approach and Landing (VISUAL): VISUAL provides ship's force and Landing Signal Officer (LSO) with enhanced images of the aircraft during recovery operations in low visibility, day and night conditions.

- (U) Advanced Arresting Gear (AAG): The AAG replaces the MK7 arresting gear, which has reached the limits of its operating capability.

- (U) Cost Reduction and Effectiveness Improvement Initiative (CREI) (Aircraft Carrier Arresting Gear Hydraulic Fluid): This program seeks to replace the unique hydraulic fluid, ethylene glycol, used in the arresting gear systems with a commercially available ethylene glycol product. The commercial product will be less expensive, contain system component projection, and will reduce the life cycle cost of the systems.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604512N Shipboard Aviation Systems	W2232 CV Launch & Recovery Systems

(U) B. Accomplishments/Planned Program

VISUAL		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		6.650	1.918	
RDT&E Articles Quantity		2		

VISUAL
Completed fabrication of two (2) CV/CVN PRM units and conducted integration/test efforts. Provided engineering and management support to the program.
Delivered two (2) CV/CVN PRM units. Complete environmental/EMI/R&M lab and conduct landbased/shipboard developmental testing. Provide engineering and management support to the program. Complete CV/CVN system operational testing. Conduct MS C for CV systems.

MWS		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		2.827	0.250	
RDT&E Articles Quantity		2		

MWS
Completed CDR and delivered two (2) MWS PRM. Initiate and complete developmental testing. Receive MS C and FRP approval. Provide engineering and management support for the program.

CREI		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.184		
RDT&E Articles Quantity				

CREI
Conducted PDR for Commercial Arresting Gear hydraulic fluid in support of Cost Reduction & Effectiveness Improvement Initiative (CREI).
Initiated developmental testing of commercial Arresting Gear recyclable hydraulic fluid. Conducted dead-load testing on selected alternative hydraulic fluids. Transitioned the program to production and fleet use.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604512N Shipboard Aviation Systems	W2232 CV Launch & Recovery Systems

(U) B. Accomplishments/Planned Program

AAG		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		12.719	15.980	28.631
RDT&E Articles Quantity				

AAG

Completed AoA and Technology Maturity Assessment. Prepared and received approval for Acquisition Strategy. Prepared and released RFP to Industry. Conduct source selection efforts. Prepared for and received milestone A approval and awarded Technology Development (TD) contract(s). Complete System Requirements Review. Initiate system design efforts for AAG to include modeling and simulation and trade studies. Complete Preliminary Design and Integrated Baseline Reviews. Select SDD phase contractor. Receive MS B approval and award SDD contract. Initiate Critical Design Review. Provide engineering and management support to the program.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604512N Shipboard Aviation Systems	W2232 CV Launch & Recovery Systems

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:	24.075	18.352	25.255
Current President's Budget	22.380	18.148	28.631
Total Adjustments	-1.695	-0.204	3.376
Summary of Adjustments			
Congressional program reductions			
Congressional undistributed reductions		-0.204	
Congressional rescissions			
SBIR/STTR Transfer	-0.338		
Economic Assumptions			-0.074
Reprogrammings	-1.357		
Sponsor/FMB/NAVAIR Adjustments			
Reprioritization			3.450
Congressional increases			
Subtotal	-1.695	-0.204	3.376

(U) Schedule:

VISUAL program slipped due to technical challenges on CV unit. These challenges have caused the following modifications to the VISUAL effort: VISUAL TRR scheduled for 4Q/02 has been changed to 3Q/03; DT scheduled for 1Q-3Q/03 has been changed to 3Q/03-1Q/04; TECHEVAL scheduled for 2Q-4Q/03 has been changed to 4Q/03-1Q/04; Operation Testing scheduled for 2Q/03 has been changed to 1Q/04 and OPEVAL scheduled for 1Q/04 has been changed to 1Q-2Q/04 . Delivery of CV EDM Shipboard Unit was delayed from 1Q/03-3Q/03. Delivery of CV EDM Lab Unit was delayed from 1Q/03-4Q/03. VISUAL L Class development was cancelled due to cost overruns in the CV program.
AAG program slipped due to minor delay in Source Selection process. This resulted in the following changes: Milestone A scheduled for 3Q/03 has been changed to 4Q/03 and Contract Award scheduled for 3Q/03 has been changed to 4Q/03. The following changes were made to test and evaluation milestones to more accurately reflect the program of record: Developemental testing scheduled for 3Q/07-4Q/07 has been changed to 3Q/07-1Q/08 and Development Test/Operational Assist scheduled for 1Q/09-4Q/09 to 2Q/09-3Q09

(U) Technical:

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604512N Shipboard Aviation Systems	PROJECT NUMBER AND NAME W2232 CV Launch & Recovery Systems

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
OPN (Aircraft Launch & Recovery Equipment, 43SJ)	18.598	20.127	21.275	30.028	30.738	31.002	32.165	28.780	212.713
Related RDT&E:									
P.E. 0603512N (Carrier Systems Development)									

(U) E. ACQUISITION STRATEGY:

MWS: The Navy has prepared a performance specification and competitively awarded an IDIQ contract to cover SDD (CPIF) and production requirements (FFP).

VISUAL: The Navy prepared a performance specification and competitively awarded a cost plus incentive fee contract to develop/deliver PRMs, with fixed-price successive target production options. LH system development is a contratual option

AAG: The Navy will competitively award up to two Cost Plus Award Fee (CPAF) TD phase contracts to develop the AAG. Upon completion of the Preliminary Design and Integrated Baseline Reviews, the Navy will award a single Cost Plus Incentive Fee (CPIF) contract for the SDD phase to develop and demonstrate a production representative AAG at the NAVAIR Lakehurst Jet Car and Runway Aircraft Landing test sites. After successuful demonstratilon of the production representative AAG, the Navy will award Fixed Price Incentive Fee (FPIF) contracts for production quantities.

CREI: The Navy competitvely awarded a prototype contract of a commercial fluid. The Navy laboratory tested commercial samples and then awarded and tested one engines worth of fluid.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604512N Shipboard Aviation Systems				PROJECT NUMBER AND NAME W2232 CV Launch & Recovery Systems						
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 H/W Development (AAG)	C/CPAF	General Atomics/Sunnyvale, CA		4.639	07/03	5.649	12/03				10.288	10.288
Primary H/W Development (AAG)	C/CPAF	Northrop Grumman/San Diego, CA		4.394	07/03	5.328	12/03				9.722	9.722
Primary H/W Development (AAG)	C/CPIF	TBD						21.390	11/04	61.125	82.515	82.515
Primary H/W Development (AAG)	WX	NAWCAD, Lakehurst		0.775	11/02	0.530	11/03	1.137	11/04	Continuing	Continuing	
Primary H/W Development (VISUAL)	C/CPIF	DRS / Anaheim, CA	21.586	4.681	11/02	1.200	02/04				27.467	27.467
Primary H/W Development (MWS)	CPIF/FP	QPI / Fredricksburg, VA	1.789	1.836	11/02	0.249	11/03				3.874	3.874
Primary H/W Development (MWS)	WX	NAWCAD, Lakehurst		0.135	11/02						0.135	
Systems Engineering	WX	NAWCAD, Lakehurst	45.612	3.955	11/02	3.851	11/03	2.877	11/04	Continuing	Continuing	
(MWS/CREI/VISUAL/AAG/ALRCS)												
Systems Engineering (VISUAL/MWS	WX	NAWCAD, Patuxent River	0.307								0.307	
Systems Engineering (VISUAL)	WX	NSWC, Crane IN	1.800								1.800	
Subtotal Product Development			71.094	20.415		16.807		25.404		Continuing	Continuing	

Remarks: A portiion of the FY03 AAG contract funding will be carried over to FY04, given the late FY03 TD contract award.

Development Support												
Software Development												
Integrated Logistics Support												
Configuration Management												
Technical Data												
Studies & Analyses												
GFE												
Award Fees												
Subtotal Support												

Remarks:

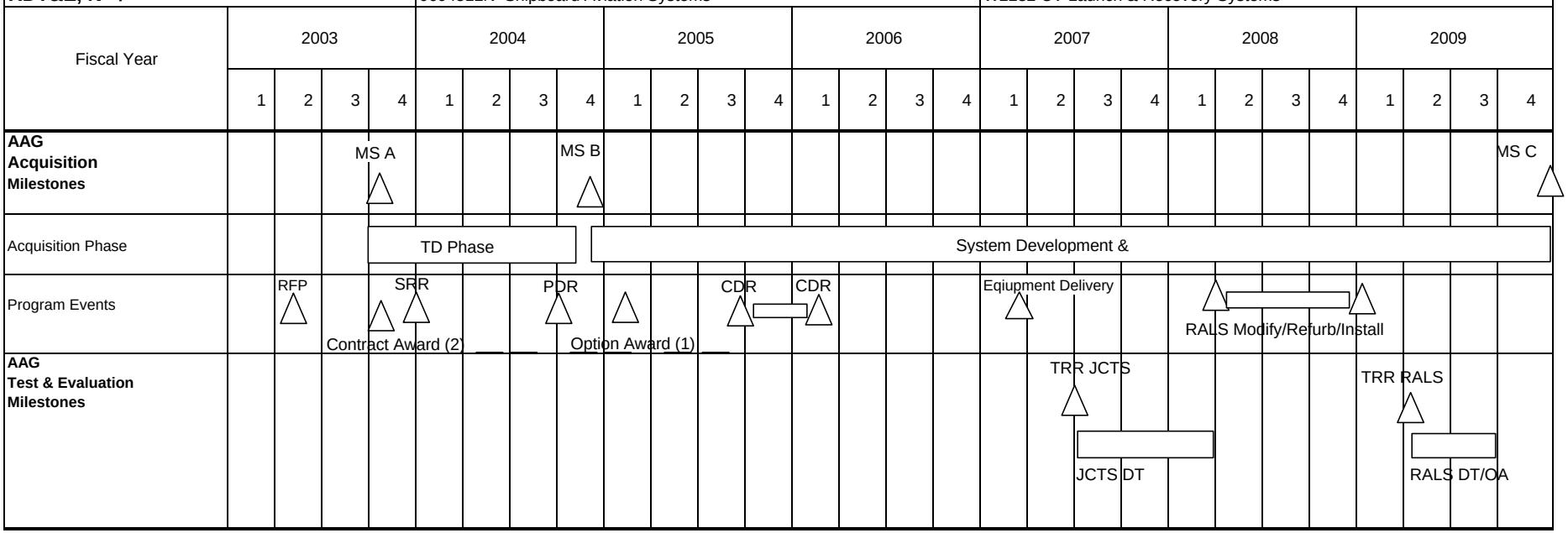
CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)											DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604512N Shipboard Aviation Systems				PROJECT NUMBER AND NAME W2232 CV Launch & Recovery Systems							
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 Lakehurst, NJ		0.920	11/02						0.920		
Operational Test & Evaluation	WX	NAWCAD Lakehurst, NJ				0.045	11/03				0.045		
AAG Award Fees	C/CPAF	General Atomics/Sunnyvale, CA		0.244	07/03	0.318	11/03				0.562	0.562	
AAG Award Fees	C/CPAF	Northrop Grumman/San Diego, CA		0.488	07/03	0.636	11/03				1.124	1.124	
AAG Award Fees	C/CPIF	TBD						2.917	11/04	8.335	11.252	11.252	
Subtotal T&E				1.652		0.999		2.917		8.335	13.903		
Remarks:													
Program Management Support	RX	NAWCAD Patuxent Rv, MD		0.214	03/03	0.216	05/04	0.220	05/05	Continuing	Continuing		
Travel	WX	NAWCAD Patuxent Rv, MD		0.020	11/02	0.045	11/03	0.045	11/04	Continuing	Continuing		
Travel	WX	NAWCAD Lakehurst, NJ		0.080	11/02	0.081	11/03	0.045	11/04	Continuing	Continuing		
Subtotal Management				0.314		0.342		0.310		Continuing	Continuing		
Remarks:													
Total Cost			71.094	22.380		18.148		28.631		Continuing	Continuing		
Remarks:													

R-1 SHOPPING LIST - Item No. 111

CLASSIFICATION:

EXHIBIT R4, Schedule Profile			DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /**	PROGRAM ELEMENT NUMBER AND NAME 0604512N Shipboard Aviation Systems	PROJECT NUMBER AND NAME W2232 CV Launch & Recovery Systems	



R-1 SHOPPING LIST - Item No. 111

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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT 0604512N Shipboard Aviation Systems				PROJECT NUMBER AND NAME W2232 CV Launch & Recovery Systems			
Schedule Profile - AAG		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
TD Phase								
Release RFP		2Q						
Milestone A		4Q						
Contract Award		4Q						
System Requirments Review (SRR)			1Q					
Preliminary Design Review			3Q-4Q					
SDD Phase								
MS B			4Q					
Option Award				1Q				
Critical Design Review (CDR) - Multiple CDRs				3Q-4Q	1Q			
Test Readiness Review (TRR)						2Q		2Q
Developmental Testing (DT)						3Q-4Q	1Q	
System Mods/Refurbishment							2Q-3Q	
System Install at Runway Arrested Landing Site							4Q	1Q
Development Test/Operational Assist								2Q-3Q
MS C								4Q

R-1 SHOPPING LIST - Item No. 111

EXHIBIT R4, Schedule Profile — DATE: **February 2004**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /	0604512N Shipboard Aviation Systems	W2232 CV Launch & Recovery Systems

Fiscal Year	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
VISUAL Acquisition Milestones						MS C/FRP							CV															
Prototype Phase						CV							IOC First Deployment															
		System Development & Demonstration																										
System Development	CV PCA				CV PRR							CV PCA																
EDM Delivery			Shipboard 1	Lab 1																								
Software (delivered with system)		CV		CV																								
VISUAL Test & Evaluation Milestones		**CV**	TRR																									
Development Test				DT-II A &B																								
Operational Test					OT II A		OT-II B																					
VISUAL Production Milestones																												
FY04 Option							1		1																			
FY05 Option													5															
FY06 Option																	4											
FY07 Option																												
FY08 Option																												
FY09 Option																												
Deliveries											1		1				5				4							

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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT 0604512N Shipboard Aviation Systems				PROJECT NUMBER AND NAME W2232 CV Launch & Recovery Systems			
Schedule Profile - VISUAL		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
CV Quality Design and Build								
CV Test Readiness Review (TRR)		3Q						
CV Eng Dev Model (EDM) CV1 Delivery - Lab		4Q						
CV Developmental Testing (DT-IIA)		3Q-4Q	1Q					
CV Functional Configuration Audit (FCA)		1Q						
CV Eng Dev Model (EDM) CV2 Delivery - Shipboard		3Q						
CV Developmental Testing (DT-IIB)(TECHEVAL)		4Q	1Q					
CV Operational Testing (OT-IIA)			1Q					
CV Operational Evaluation (OT-IIB) (OPEVAL)			1Q-2Q					
CV Preproduction Readiness Review (PRR)			2Q					
CV Milestone C (MS C)			3Q					
CV Full Rate Production (FRP) Decision			3Q					
CV IOC					1Q			
CV First Deployment					1Q			
CV Physical Configuration Audit (PCA)				4Q				

R-1 SHOPPING LIST - Item No. 111

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604512N Shipboard Aviation Systems				PROJECT NUMBER AND NAME W9071 Aviation Shipboard Information Technology			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**1.931**	**3.955**					
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This Navy unique project addresses the System Development and Demonstration (SDD) of all systems required to recover and launch Navy/Marine Corps aircraft (fixed/rotary wing and Vertical/Short Take-Off and Landing (VSTOL) operating aboard aircraft carriers (CV/CVN), amphibious assault ships (LHA/LHD) and aviation facility ships. This program is funded under SDD because it encompasses engineering development and demonstration of new end-items prior to production approval decision. This program includes concept exploration and system develoment and demonstration of shipboard aviation data management systems required to automate manual processes during aviation operations on board aircraft carriers under Project W9071:

- (U) Shipboard Aviation Data Management System Initiative: This initiative will use state-of-the-art information technology and decision support systems to automate the current manual intensive process in collecting and distributing information to enable aviation opertations on board aircraft carriers to be accomplished in a more efficient and effective manner.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604512N Shipboard Aviation Systems	W9071 Aviation Shipboard Information Technology

(U) B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		1.931	3.955	
RDT&E Articles Quantity				

Shipboard Aviation Information Technology
Developed system demonstration of flight operations, flight deck, weapons, and ALRE maintenance management functions. Complete development of Flight Deck Management, Air Operations management, V2 Maintenance Management, and Weapons Information Systems Management applications. Define hardware and develop network to run all ADMACS applications. Design interfaces for all external interfacs. Install aboard aircraft carrier for evaluation.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604512N Shipboard Aviation Systems	W9071 Aviation Shipboard Information Technology

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:	1.956	0.000	
Current BES/President's Budget	1.931	3.955	
Total Adjustments	-0.025	3.955	0.000
Summary of Adjustments			
Congressional program reductions			
Congressional undistributed reductions		-0.045	
Congressional rescissions			
SBIR/STTR Transfer	-0.025		
Economic Assumptions			
Reprogrammings			
Sponsor/FMB/NAVAIR Adjustments			
Congressional increases		4.000	
Subtotal	-0.025	3.955	0.000

(U) Schedule:

Not Applicable

(U) Technical:

Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604512N Shipboard Aviation Systems	W9071 Aviation Shipboard Information Technology

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
Not Applicable									

(U) E. ACQUISITION STRATEGY:

NAWCAD Lakehurst activity defined requirements and system architecture with engineering support from industry as required. FY03 strategy to develop prototype software architecture and prototype flight deck management applications. Follow on strategy to develop, test, and produce system will be determined upon identification of follow on funding. FY04 strategy to complete development of software architecture and prototype ADMACS applications, build prototype system, conduct lab test, install aboard ship for evaluation.

R-1 SHOPPING LIST - Item No. 111

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604512N Shipboard Aviation Systems				PROJECT NUMBER AND NAME W9071 Aviation Shipboard Information Technology						
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
Systems Engineering	WX	NAWCAD Lakehurst, NJ	1.710	1.124	01/03	2.455	12/03				5.289	
Systems Engineering	T&M	STV/M&T Joint Venture		0.807	06/03	1.500	02/04				2.307	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			1.710	1.931		3.955		0.000		0.000	7.596	
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:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604512N Shipboard Aviation Systems				PROJECT NUMBER AND NAME W9071 Aviation Shipboard Information Technology						
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											0.000	
Program Management Support											0.000	
Travel											0.000	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			1.710	1.931		3.955		0.000		0.000	7.596	
Remarks:												

R-1 SHOPPING LIST - Item No. 111

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604512N Shipboard Aviation Systems				PROJECT NUMBER AND NAME W9385 Machine Vision Confirmation of Launch Bar Engagement			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost			**1.483**					
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This Navy unique project addresses the System Development and Demonstration (SDD) of all systems required to recover and launch Navy/Marine Corps aircraft (fixed/rotary wing and Vertical/Short Take-Off and Landing (VSTOL) operating aboard aircraft carriers (CV/CVN), amphibious assault ships (LHA/LHD) and aviation facility ships. This program is funded under SDD because it encompasses engineering development and demonstration of new end-items prior to production approval decision. This program includes concept exploration and system develoment and demonstration of shipboard aviation data management systems required to automate manual processes during aviation operations on board aircraft carriers under Project W9385:

- (U) Machine Vision Confirmation of Launch Bar Engagement: This SBIR will be used for the testing of a shipboard demo. This would include a full system on one catapult for a period of at least six months. Reliability testing would also be conducted prior to installation. This is a follow-on to an initial Phase II SBIR project entitled “Autonomous Launch Bar Seating Check Machine Vision Confirmation of Launch Bar Engagement”.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604512N Shipboard Aviation Systems	W9385 Machine Vision Confirmation of Launch Bar Engagement

(U) B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost			1.483	
RDT&E Articles Quantity				

Refine prototype developed in Phase II. Complete development of the alignment software to automatically align the camera should the remote head be removed for maintenance. Conduct shipboard demo to include: properly installed hook-up lights, a full port and starboard system, alignment software, proof of mechanical and electronic bypass and subjecting the system to environmental testing.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604512N Shipboard Aviation Systems	W9385 Machine Vision Confirmation of Launch Bar Engagement

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:		0.000	
Current BES/President's Budget		1.483	
Total Adjustments	0.000	1.483	0.000
Summary of Adjustments			
Congressional program reductions			
Congressional undistributed reductions		-0.017	
Congressional rescissions			
SBIR/STTR Transfer			
Economic Assumptions			
Reprogrammings			
Sponsor/FMB/NAVAIR Adjustments			
Congressional increases		1.500	
Subtotal	0.000	1.483	0.000

(U) Schedule:

Not Applicable

(U) Technical:

Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604512N Shipboard Aviation Systems	W9385 Machine Vision Confirmation of Launch Bar Engagement

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
Not Applicable									

(U) E. ACQUISITION STRATEGY:

Award contract to MSE to complete prototype hardware and software developed in the Phase II effort and conduct a shipboard demonstration.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604512N Shipboard Aviation Systems			PROJECT NUMBER AND NAME W9385 Machine Vision Confirmation of Launch Bar Engagement							
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
Systems Engineering	TBD	MSE Tech App/Butte, MT				1.483	05/04				1.483	1.483
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			0.000	0.000		1.483		0.000		0.000	1.483	
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:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604512N Shipboard Aviation Systems			PROJECT NUMBER AND NAME W9385 Machine Vision Confirmation of Launch Bar Engagement							
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											0.000	
Program Management Support											0.000	
Travel											0.000	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			0.000	0.000		1.483		0.000		0.000	1.483	
Remarks:												

R-1 SHOPPING LIST - Item No. 111

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: **FEBRUARY 2004**	
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-05**					R-1 ITEM NOMENCLATURE 0604518N Combat Information Center Conversion			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost		**0.000**	**13.093**	**8.228**	**6.920**	**7.088**	**6.586**	**0.000**
3094 / Common Undersea Picture		**0.000**	**9.929**	**8.228**	**6.920**	**7.088**	**6.586**	**0.000**
1604 / NTDS Software Improvement		**0.000**	**3.164**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The objective of this Program Element (PE), under Project 3094, is to integrate several current USW developmental technologies covered under Global Command and Control System - Maritime (GCCS-M) Operational Requirements Document (ORD) 510-06-99 (signed 02/99) to produce an integrated Common Undersea Picture (CUP) for use by Carrier Battle Group (CVBG) air, surface, submarine, and surveillance USW and MIW assets. A CUP Peer Review Group will select technologies to be incorporated into a build-test-build process to develop a net-centric USW Capability. Significant improvements will be made to USW multi-platform mission planning and evaluation, vulnerability assessment, situational awareness, collaborative communications, prosecution and execution, training, Operator Machine Interface (OMI), and operational reconstruction and analysis. CUP will align with and build upon common architectures, including GCCS-M, incorporating "Best of Best" applications into a common Sea Combat Commander/Theater Commander Toolset. Successive Engineering Development Model (EDM) builds will be delivered to the GCCS-M Program of Record for production and fleet fielding.

This PE, under Project 1604 in FY 2004, will fund the Advanced Combat Direction System (ACDS) Block 0 and Shipboard Gridlock System/Auto Correlation (SGS/AC) Baseline 5.1 computer program upgrade to resolve the assigned Joint Combat Identification Evaluation Team (JCIET) Single Integrated Air Picture (SIAP) warfighting shortfalls. The purpose is to provide a common correlation/decorrelation scheme among all services giving the warfare commanders a Single Integrated Air Picture (SIAP). The correlation Interoperability Change Proposal (ICP) driven changes would apply to the ACDS Block 0 program with functionality changes being implemented in SGS/AC as well, in order to implement a M9 message (Link 11). This ICP will eliminate cluttered tactical picture and improve operator workload and optimize the allocation of weapons and threats.

Defense Emergency Response Funds (DERF) Funds:

Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **FEBRUARY 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-05**	PROGRAM ELEMENT NUMBER AND NAME 0604518N Combat Information Center Conversion				PROJECT NUMBER AND NAME 3094 / Common Undersea Picture			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**0.000**	**9.929**	**8.228**	**6.920**	**7.088**	**6.586**	**0.000**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Project 3094 will leverage technologies from several current USW development efforts and developers tool sets through a peer reviewed technology selection and evolutionary development build/test/build process to develop a Common Undersea Picture (CUP) capability for Carrier Battle Group USW Surface, Submarine, Air, and support assets. Significant improvements will be made to USW multi-platform mission planning and evaluation, vulnerability assessment, situational awareness, collaborative communications, prosecution and execution, training, OMI, and operational reconstruction and analysis. CUP will align and build upon common architectures, including GCCS-M, incorporating the "Best of Best" applications into a common Sea Combat Commander/Theater Commander Toolset planned for installation on one Carrier Strike Group (CSG) in FY 2004 and two Expeditionary Strike Forces (ESFs) and supporting shore nodes per year beginning in FY05.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-05	0604518N Combat Information Center Conversion	3094 / Common Undersea Picture

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
CUP GCCS-M, DII-COE Integration			1.230	1.356
RDT&E Articles Quantity				

Defense Information Infrastructure-Common Operating Environment (DII-COE), Global Command and Control System - Maritime (GCCS-M) Licenses and integration; Command and Control (C2) integration testing; network and security testing and certifications

		FY 03	FY 04	FY 05
CUP Requirements Analysis			1.652	1.778
RDT&E Articles Quantity				

Requirements analysis and design; net-centric USW metrics analysis; operational context analysis; functional analysis, interface design, and system specifications supporting mission planning and evaluation, vulnerability assessment, situational awareness, collaborative communications, prosecution and execution, training, Operator Machine Interface (OMI) and operational reconstruction and analysis.

		FY 03	FY 04	FY 05
CUP TDA Support			1.822	2.314
RDT&E Articles Quantity				

Technical Design Agent (TDA) support; Peer Review Group technology developments and successive EDM Build software development and modification with in-lab test-bed; Test and Evaluation planning and support of Developmental Testing and early operational assessment.

R-1 SHOPPING LIST - Item No. 112

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-05	0604518N Combat Information Center Conversion	3094 / Common Undersea Picture

B. Accomplishments/Planned Program (Cont.)

		FY 03	FY 04	FY 05
CUP Carrier Integration			1.036	0.969
RDT&E Articles Quantity				

Carrier Tactical Support Center (TSC) Integration; Tactical Decision Aids (TDAs); management and communication of contact/track data and contact database interface design; Carrier installation design, documentation, and install support; Carrier logistics development and management.

		FY 03	FY 04	FY 05
CUP EDM Platform Integration/Application Development			4.189	1.811
RDT&E Articles Quantity				

Develop prototype Build 0 as temporary installation and support at-sea testing and exercises for one Carrier Strike Group (CSG) in FY04, along with supporting tempalt ILS and training. Begin Build 1 EDM development and integration and OMI (Operator-Machine Interface) design; incorporate Peer Review Group technology developments into the build-test-build process; integrate air, surface, submarine and surveillance and MIW assets; develop evolutionary embedded training; provide Fleet liaison support. Coordinate and conduct At-Sea testing and deliver to GCCS-M for production build in FY 2005 (Build 1 hardware procurement, installation and ILS (Integrated Logistics Support) in FY05 is covered in associated OPN PE 0204112N, BLI 2176).

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-05	0604518N Combat Information Center Conversion	3094 / Common Undersea Picture

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY04 President's Controls) :	0.000	18.045	16.300
Current BES/President's Budget: (FY05 President's Controls)	0.000	9.929	8.228
Total Adjustments	0.000	-8.116	-8.072

Summary of Adjustments

Congressional rescissions		-0.111	
Economic Assumptions		-0.005	-0.075
Reprogrammings *			-7.992
Other Navy/OSD Adjustments			-0.005
Congressional decreases/increases		-8.000	
Subtotal	0.000	-8.116	-8.072

Schedule:

FY 2004 plan changed to reflect install of one prototype Build 0 system on a Carrier Strike Group (CSG) vice two on Expeditionary Strike Forces (ESFs) due to FY 2004 $8.0M Congressional reduction.

Technical:

None

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-05	0604518N Combat Information Center Conversion	3094 / Common Undersea Picture

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
OPN BLI 2176/ USW Support Equipment (N61 portion only)	0	0	7.97	8.113	5.853	6.345	0	0	28.281

Specific Sub Procurement Item:
Space Information Command and Control Programs (N61), Common Undersea Picture (CUP)

E. ACQUISITION STRATEGY:

- Prime contractor award planned 2Q FY 2004.
- Successive EDM builds to be developed, tested and delivered to GCCS-M program of record for production and Fleet fielding.

F. MAJOR PERFORMERS:

- Johns Hopkins University Applied Physics Laboratory (JHU/APL), MD - CUP Technical Design Agent and Test & Evaluation support
- Naval Air Systems Command, Patuxent River, MD - CUP interface design and documentation, software management, test & evaluation
- Naval Sea Systems Command, Carderock, MD - CUP interface design and documentation, software management, test & evaluation
- Naval Sea Systems Command, Dahlgren, VA - CUP requirements analysis, ship integration and mission planning support
- Naval Sea Systems Command, Keyport, WA - CUP Carrier integration and track management
- Naval Sea Systems Command, Newport, RI - CUP Technical Design Agent support; submarine integration.
- Space and Naval Warfare Systems Command, San Diego, CA - Defense Information Infrastructure-Common Operating Environment (DII-COE), GCCS-M, Command and Control (C2) collaboration tools, network and security certifications

R-1 SHOPPING LIST - Item No. 112

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)

DATE: **FEBRUARY 2004**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA-05**

PROGRAM ELEMENT: 0604518N Combat Information Center Conversion

PROJECT NUMBER AND NAME: 3094 / Common Undersea Picture

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 H/W & S/W Development	C/CPFF	JHU/APL, MD	0.000			0.870	12/03	0.738	10/04	Continuing	Continuing	
Primary H/W & S/W Development	PD	NAVAIR Patuxent River, MD	0.000			0.150	01/04	0.247	10/04	Continuing	Continuing	
Primary H/W & S/W Development	WX	NAVSEA Carderock, MD	0.000			0.848	11/03	0.590	10/04	Continuing	Continuing	
Primary H/W & S/W Development	WX	NAVSEA Dahlgren, VA	0.000			1.105	10/03	0.707	10/04	Continuing	Continuing	
Primary H/W & S/W Development	WX	NAVSEA Keyport, WA	0.000			0.280	11/03	0.348	10/04	Continuing	Continuing	
Primary H/W & S/W Development	WX	NAVSEA Newport, RI	0.000			1.080	12/03	1.021	10/04	Continuing	Continuing	
Primary H/W & S/W Development	WX	SPAWAR San Diego, CA	0.000			0.500	12/03	0.491	10/04	Continuing	Continuing	
Primary H/W & S/W Development	C/CPFF	PROGENY, CA	0.000			1.522	11/03	2.395	10/04	Continuing	Continuing	
Primary H/W & S/W Development	Var.	Var.	0.000			3.164	11/03	0.971	10/04	Continuing	Continuing	
Subtotal Product Development			0.000	0.000		9.519		7.508		Continuing	Continuing	

Remarks:

Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	

Remarks:

R-1 SHOPPING LIST - Item No. 112

CLASSIFICATION:

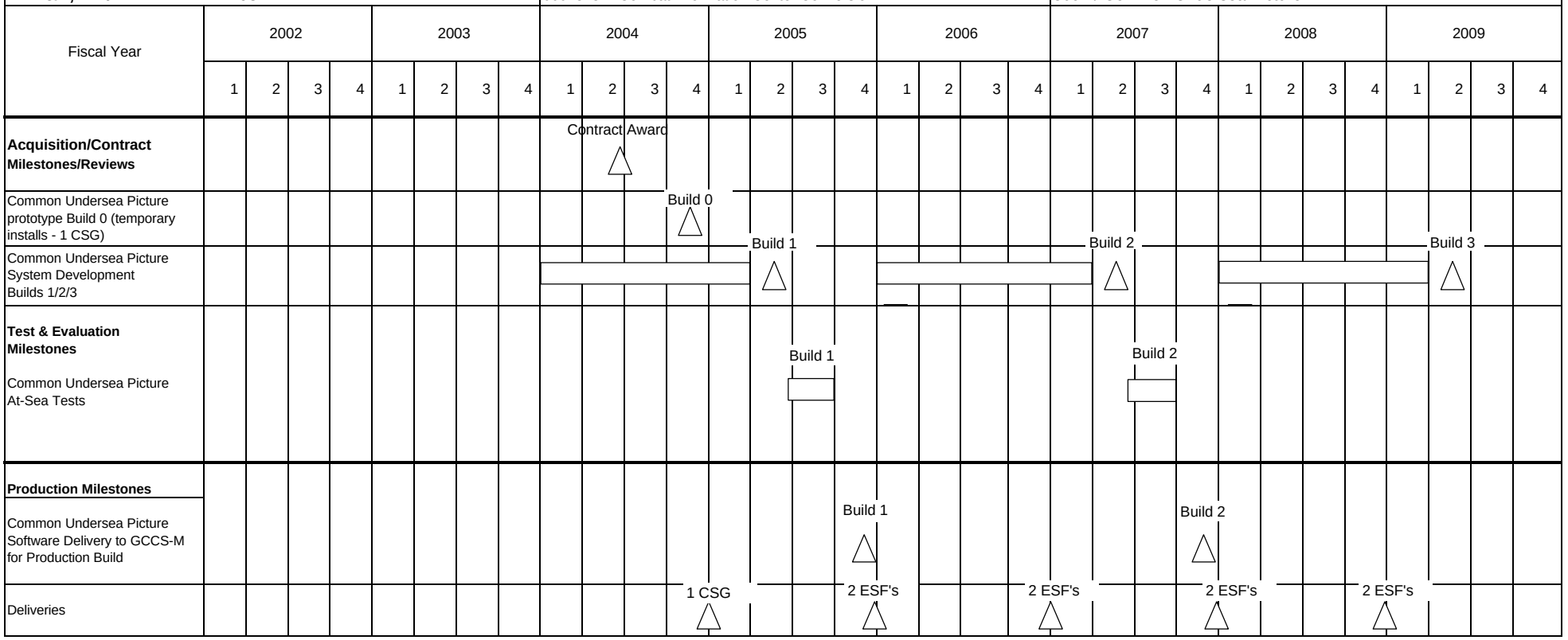
Exhibit R-3 Cost Analysis (page 2)								DATE: **FEBRUARY 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-05**		PROGRAM ELEMENT 0604518N Combat Information Center Conversion				PROJECT NUMBER AND NAME 3094 / Common Undersea Picture						
Cost Categories	Contract Method & Type	Performing Activity & 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
At-Sea Test & Evaluation	Var.	Var.	0.000					0.300	10/04	Continuing	Continuing	
Subtotal T&E			0.000	0.000		0.000		0.300		Continuing	Continuing	
Remarks:												
Program Management Support	Var.	Var.	0.000			0.410	12/03	0.420	10/04	Continuing	Continuing	
Subtotal Management			0.000	0.000		0.410		0.420		Continuing	Continuing	
Remarks:												
Total Cost			0.000	0.000		9.929		8.228		Continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 112

CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **FEBRUARY 2004**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-05	0604518N Combat Information Center Conversion	3094 / Common Undersea Picture



R-1 SHOPPING LIST - Item No. 112

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **FEBRUARY 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-05**	PROGRAM ELEMENT 0604518N Combat Information Center Conversion				PROJECT NUMBER AND NAME 3094 / Common Undersea Picture			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Common Undersea Picture System Development Build 1			1Q-4Q	1Q				
Contract Award			2Q					
CUP Build 0 Delivered to 1 CSG			4Q	1Q				
Build 1 Completed				2Q				
Build 1 At-Sea Test				2Q-3Q				
Build 1 Delivery to GCCS-M for Production Build				4Q				
CUP Build 1 Delivered to 2 ESF's				4Q	1Q			
Common Undersea Picture System Development Build 2					1Q-4Q	1Q		
Build 2 Completed						2Q		
Build 2 At-Sea Test						2Q-3Q		
Build 2 Delivery to GCCS-M for Production Build						4Q		
CUP Build 2 Delivered to ESF's						4Q	1Q	
Common Undersea Picture System Development Build 3							1Q-4Q	1Q
Build 3 Completed (delivered in FY09)								2Q

R-1 SHOPPING LIST - Item No. 112

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **FEBRUARY 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-05**	PROGRAM ELEMENT NUMBER AND NAME 0604518N Combat Information Center Conversion				PROJECT NUMBER AND NAME 1604/NTDS Software Improvement/Common C&D			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**0.000**	**3.164**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

FY 2004: This PE, under Project 1604, will fund the Advanced Combat Direction System (ACDS) Block 0 and Shipboard Gridlock System/Auto Correlation (SGS/AC) Baseline 5.1 computer program upgrade to resolve the assigned Joint Combat Identification Evaluation Team (JCIET) Single Integrated Air Picture (SIAP) warfighting shortfalls. The purpose is to provide a common correlation/decorrelation scheme among all services giving the warfare commanders a Single Integrated Air Picture (SIAP). The correlation Interoperability Change Proposal (ICP) driven changes would apply to the ACDS Block 0 program with functionality changes being implemented in SGS/AC as well, in order to implement a M9 message (Link 11). This ICP will eliminate cluttered tactical picture and improve operator workload and optimize the allocation of weapons and threats.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-05	0604518N Combat Information Center Conversion	1604/NTDS Software Improvement/Common C&D

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Computer Program Development & Sys. Integration			3.164	
RDT&E Articles Quantity				

Complete computer program development upgrades to SGS/AC Baseline 5.1 and ACDS Block 0 for the Amphibious class ships and complete systems integration efforts to test between ACDS Block 0 and SGS/AC Baseline 5.1. Complete SSDS MK2 systems engineering to finalize Interoperability Change Proposal (ICP) and Engineering Change Proposal (ECP) and start development. Final test and deliveries in FY05 and outyears are programmed under the Program Element 0603879N, Project S3031.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: FEBRUARY 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
BA-05	0604518N Combat Information Center Conversion	1604/NTDS Software Improvement/Common C&D

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous FY 2005 OSD's Budget:	0.000	3.199	0.189
Current FY 2005 President's Budget:	0.000	3.164	0.000
Total Adjustments	0.000	-0.035	-0.189
Summary of Adjustments			
Sec. 8094: Management Improvements		-0.008	
Sec. 8126: Efficiencies/Revision		-0.027	
Reprogrammings			-0.189
Subtotal	0.000	-0.035	-0.189

Schedule:

Technical:

R-1 SHOPPING LIST - Item No. 112

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-05	0604518N Combat Information Center Conversion	1604/NTDS Software Improvement/Common C&D

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost

E. ACQUISITION STRATEGY:

The acquisition management of this particular effort is for the Software Support Acivities (SSA) for ACDS Block O and SGS/AC and fund the facilities to implement the required computer program changes, complete the integation effort, test and deliver.

F. MAJOR PERFORMERS:

Naval Sea Systems Command, Dahlgren Division located in Dahlgren, Virginia is the Software Support Agent (SSA) for the SGS/AC baseline 5.1 program. 10/03.
Naval Sea Systems Command, Dam Neck Division located in Virgina Beach, Virginia is the Software Support Agent (SSA) for the ACDS Block 0 program. 10/03.
Raytheon Company located in San Diego, California is the SSDS MK2 Design Agent . 10/03

R-1 SHOPPING LIST - Item No. 112

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)											DATE: **FEBRUARY 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-05**			PROGRAM ELEMENT 0604518N Combat Information Center Conversion			PROJECT NUMBER AND NAME 1604/NTDS Software Improvement/Common C&D						
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 Product Development	C/CPAF	Hughes Aircraft Co.	106.521							0.000	106.521	
Primary Product Development	SS/CPFF	Hughes Aircraft Co.	17.806							0.000	17.806	
Primary Product Development	SS/CPFF		14.563							0.000	14.563	
Govt. Engineering & Formal Test	WR	SSC/SD	43.326							0.000	43.326	
Govt. System Eng./ILS/Training/Test	WR	NSWC/PHD, CA	2.885							0.000	2.885	
Miscellaneous/Government	VAR	Various	2.101							0.000	2.101	
Miscellaneous/Contractors	VAR	Various	10.488							0.000	10.488	
System Engineering	CPFF	Various	3.360							0.000	3.360	
System Engineering	PD	APL, Largo, MD	1.369							0.000	1.369	
Raytheon Company	C/CPFF	San Diego, CA	0.000			1.676	10/03			0.000	1.676	
Product Upgrade/ACDS Block 0	WR	NSWC/Dam Neck, VA	0.000			0.308	10/03			0.000	0.308	
Product Upgrade/ASGS/AC	WR	NSWC/Dahlgren, VA	0.000			1.180	10/03			0.000	1.180	
Subtotal Product Development			202.419	0.000		3.164		0.000		0.000	205.583	

Remarks:

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **FEBRUARY 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-05**		PROGRAM ELEMENT 0604518N Combat Information Center Conversion			PROJECT NUMBER AND NAME 1604/NTDS Software Improvement/Common C&D							
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
Test Facility/Simulation Upgrade /Lic	VAR	Various	14.496							0.000	14.496	
Subtotal Support			14.496	0.000		0.000		0.000		0.000	14.496	

Remarks:

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **FEBRUARY 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-05**		PROGRAM ELEMENT 0604518N Combat Information Center Conversion				PROJECT NUMBER AND NAME 1604/NTDS Software Improvement/Common C&D						
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
DT/OT Test, Test Spt., IV&V Efforts	VAR	Various	21.786							0.000	21.786	
Subtotal T&E			21.786	0.000		0.000		0.000		0.000	21.786	
Remarks:												
Resource Management Support	VAR	Various	1.025							0.000	1.025	
Contractor Engineering Support	VAR	Various	0.250							0.000	0.250	
Program Management Support	VAR	Various	1.867							0.000	1.867	
Travel	VAR	Various	0.179							0.000	0.179	
Subtotal Management			3.321	0.000		0.000		0.000		0.000	3.321	
Remarks:												
Total Cost			242.022	0.000		3.164		0.000		0.000	245.186	
Remarks:												

R-1 SHOPPING LIST - Item No. 112

CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **FEBRUARY 2004**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA-05**

PROGRAM ELEMENT NUMBER AND NAME: 0604518N Combat Information Center Conversion

PROJECT NUMBER AND NAME: 1604/NTDS Software Improvement/Common C&D

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																																
ACDS Block 0 System Upgrade Effort								Start	PDR			QA																				
SGS/AC System/Baseline 5.1 Upgrade Effort								Start	PDR		QA																					
SSDS MK2 Systems Engineering & Devleopment									Start Development																							
Test & Evaluation Milestones																																
Developmental Testing (DT)												DT																				
Production Milestones																																
Not Applicable																																
Deliveries																																

R-1 SHOPPING LIST - Item No. 112

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **FEBRUARY 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-05**	PROGRAM ELEMENT 0604518N Combat Information Center Conversion				PROJECT NUMBER AND NAME 1604/NTDS Software Improvement/Common C&D			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Software Specification Review (SSR)								
Preliminary Design Review (PDR)			1Q					
System Development			1Q-4Q					
Critical Design Review (CDR)								
Quality Design and Build			1Q-4Q					
Test Readiness Review (TRR)			4Q					
Developmental Testing (DT-IIA)			4Q					

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2004	
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUA˙BA-5**				R-1 ITEM NOMENCLATURE 0604558N/VIRGINIA Class Design Development			
COST ($ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost	**234.592**	**144.576**	**143.270**	**153.485**	**140.045**	**144.033**	**117.015**
1947/VIRGINIA Class HM&E Development	**122.189**	**74.242**	**99.719**	**110.095**	**98.863**	**105.699**	**87.892**
1950/VIRGINIA Class Combat Systems Dev	**88.676**	**38.573**	**39.805**	**40.725**	**38.459**	**35.555**	**26.262**
2887/SSN Combat Sys Tech Insert/Refresh	**4.761**	**10.816**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
3062/Submarine Multi Mission Team Trainer	**16.207**	**6.000**	**3.746**	**2.665**	**2.723**	**2.779**	**2.861**
9231/Shipmates for VIRGINIA Class	**1.618**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
9232/COTS Combat Control Framework	**1.141**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
9386/SSN Development - SBIR Phase III Research	**0.000**	**4.945**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
9387/VIRGINIA Class SSN Development	**0.000**	**10.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
Quantity of RDT&E Articles							

Defense Emergency Response Funds (DERF): NOT APPLICABLE

A. (U) Mission Description and Budget Item Justification: The U.S. Navy must maintain a submarine fleet that is of sufficient capability and numbers to defend American interests. The VIRGINIA Class Submarine, formerly the New Attack Submarine (New SSN), is being designed to fulfill this need. It will counter the potential threats of the next century in a multi- mission capable submarine that has the ability to provide covert, sustained combat presence in denied waters. The primary goal of the program is to develop an affordable yet capable submarine by evaluating a broad range of system and technology alternatives, and pursuing cost reduction, producibility improvement, and technical risk management. This Program Element (PE) provides the technology, prototype components, and systems engineering needed to design and construct the VIRGINIA Class Submarine and build and its Command, Control, Communications, and Intelligence (C3I) System. This PE directly supports the following VIRGINIA Class Submarine missions: (1) covert strike warfare; (2) anti-submarine warfare; (3) covert intelligence collection/surveillance, indication and warning, and electronic warfare; (4) anti-surface ship warfare; (5) special warfare; (6) mine warfare; and (7) battle group support.

(U) Project 2887: The Congressional plus-up is for MPP SBIR follow-on for Technology Insertion and refresh for VIRGINIA SSN Combat System.

(U) Project 3062: The Submarine Multi-Mission Team Trainer (SMMTT) program replaces the proprietary mainframe computer system by re-hosting functions on industry standard Local Area Network (LAN) workstations. The mainframes can no longer be upgraded due to service life. The SMMTT modification applies to both the Combat Control System (CCS) trainers and the Acoustic trainers and will occur in three distinct phases. SMMTT Phase 1 and Phase 2 were funded in OPN BLI 5661 to complete the trainer-unique software offload and enables further enhancements. SMMTT Phase 3, funded in this RDT&E line will provide the architectural foundation to replace all MIL Standard hardware with commercial emulation hardware, and rehost existing proprietary based software into COTS software systems, therefore enabling platform independence and wide area network capability. The use of open architecture trainer systems allows for the continuous growth of functional flexibility, ultimately leading to employment training conducted for any submarine combat system.

(U) Project 9231: The Congressional plus-up is for Shipmates for the VIRGINIA Class. Develop a Non-Tactical Data Application Processing System application for the shipboard LAN.
(U) Project 9232: The Congressional plus-up is for COTS Combat Control Framework to develop a software architecture that supports migration of the Global Command and Control System-Maritime (GCCS-M) segments into the planned IT-21 server.
(U) Project 9386: Thew Congressional plus-up is for VIRGINIA Class SSN Development SBIR Phase III Reserach to establish and extend a Technology Insertion program.
(U) Project 9387: The Congressional plus-up is for VIRGINIA Class SSN Development of Navigation Upgrades and critical HM&E technology development.

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2004	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**				PROJECT NUMBER AND NAME 1947/VIRGINIA Class HM&E DEVELOPMENT			
COST ($ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost	**122.189**	**74.242**	**99.719**	**110.095**	**98.863**	**105.699**	**87.892**
RDT&E Articles Qty							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

A (U) Mission Description and Budget Item Justification: (U) This project encompasses all the ship system development efforts for the VIRGINIA Class Submarine and the Technology Insertion Program for reducing cost and upgrading performance of future hulls by virtue of improvements in ship and combat systems. Technology developments, training, and logistics for developmental items, and VIRGINIA Class test & evaluation are included. This project is essential to achieve balanced platform capability, affordability, and flexibility in a low rate production environment. The thrust of these efforts will be to develop and apply multiple advanced system technologies which are integrated into the design of the VIRGINIA Class Submarine. New technologies are being transitioned from industry and government research and development programs where doing so offers substantial performance improvement and/or affordability payoffs. Transition opportunities include those from the Defense Advanced Research Projects Agency (DARPA) Sensors & Payloads program.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604558N/VIRGINIA Class Design Development	1947/VIRGINIA Class HM&E DEVELOPMENT

B. Accomplishments/Planned Program

	FY 03	FY04	FY 05	FY 06
Accomplishments/Effort/Subtotal Cost	87.037	21.541	32.668	
RDT&E Articles Quantity				

HM&E DEVELOPMENT

FY03 Accomplishments: Continued design, manufacturing, and qualification testing of prototype technologies and components such as: ship service turbine generator (SSTG), main propulsion unit improvements, weapons stowage and handling systems; propulsor improvements, electromagnetic signature reduction; and ship control system. Initiated shock qualification of weapons handling module and other major components and completed shock qualification of air flasks. Continued system verification studies, tests, and analyses in support of ship design including signature, hydrodynamics, materials, and survivability analyses and tests. Provided Integrated Product and Process Development (IPPD) (Design/Build) team support at shipyards, Navy laboratories and in-house. Supported ship design and construction efforts with engineering evaluations and ship integration assessments for emergent ship design and systems development issues. Completed the design of concept to reduce propulsor change out time and improve acoustic performance. Completed Basleine Ship Control System and initiated Ship Control System Block Upgrades. Completed limited evaluation of common VIRGINIA/SEAWOLF Acoustic Lessons Learned. Technology Insertions include (1) initiating the development of Non-Tactical Data Processing Improvements (NTDPS) (SUBLAN), APB (A) 03, (2) continuing APB (T) 01-02, and (3) completion of APB (A) 01-02.

FY04 Plan: Continue design, manufacturing, and qualification testing of prototype technologies and components such as: ship service turbine generator (SSTG), weapons stowage and handling systems; electromagnetic signature reduction; and ship control system block upgrades. Continue shock qualification of weapons handling module and other major components. Continue system verification studies, tests, and analyses in support of ship design including signature, hydrodynamics, materials, and survivability analyses and tests. Complete development of Diesel Generator. Provide Integrated Product and Process Development (IPPD) (Design/Build) team support at shipyards, Navy laboratories and in-house. Support ship design and construction efforts with engineering evaluations and ship integration assessments for emergent ship design and systems development issues.

FY05 Plan: Continue design, manufacturing, and qualification testing of prototype technologies and components such as: weapons stowage and handling systems and ship service turbine generator (SSTG). Complete shock qualification of weapons handling module and continue shock qualification of other major components. Continue system verification studies, tests, and analyses in support of ship design including signature, hydrodynamics, materials, and survivability analyses and tests. Provide Integrated Product and Process Development (IPPD) (Design/Build) team support at shipyards, Navy laboratories and in-house. Support ship design and construction efforts with engineering evaluations and ship integration assessments for emergent ship design and systems development issues.
Initiation of development of the Conformal Acoustic Velocity Sensor (CAVES) large Wide Aperture Array (LWAA).

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604558N/VIRGINIA Class Design Development	1947/VIRGINIA Class HM&E DEVELOPMENT

B. Accomplishments/Planned Program (continued)

	FY 03	FY04	FY 05	FY 06
Accomplishments/Effort/Subtotal Cost	9.862	6.113	7.754	
RDT&E Articles Quantity				

ADMINISTRATIVE/ENVIRONMENTAL
Continue analyses and evaluations relating to force effectiveness assessment and component performance tradeoffs. Maintain cost based approach to VIRGINIA Class submarine construction through use of IPPD's concurrent engineering processes. Continue coordination of VIRGINIA Class submarine specification at the shipbuilder. Continue cost estimating and validation of cost reduction ideas for VIRGINIA Class submarine overall design development. Continue environmental compliance and pollution prevention efforts.

	FY 03	FY04	FY 05	FY 06
Accomplishments/Effort/Subtotal Cost	4.603	3.419	1.938	
RDT&E Articles Quantity				

LOGISTIC SUPPORT
FY03 Continued VIRGINIA Class trainers/training development to support VIRGINIA Class. Through FY04, these efforts include the On-board Team Trainer Master Controller (OBTT MC), VIRGINIA Ship Control Operator Trainer (VSCOT), VIRGINIA Ship Control Maintenance Trainer (VSCMT), Weapons Launch Console (WLC) Trainer upgrade and the Emergency Diesel Generator Trainer. FY05 will continue development efforts in progress.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604558N/VIRGINIA Class Design Development	1947/VIRGINIA Class HM&E DEVELOPMENT

B. Accomplishments/Planned Program (Cont.)

	FY 03	FY04	FY 05	FY 06
Accomplishments/Effort/Subtotal Cost	20.687	43.169	57.359	
RDT&E Articles Quantity				

TEST AND EVALUATION

FY03 Continued the development of the Test and Evaluation Master Plan (TEMP), Vulnerability Analysis Report (VAR) and Total Ship Survivability Trial (TSST). Planned and coordinated second shipbuilder Test and Evaluation efforts. Conducted shipbuilder trials, and dockside testing. Prepared test plans, schedules and support associated with developmental testing, conduct Operational Testing - Phase IIB, Shock, Acoustic and Launchers Trials Testing, Weapons System Accuracy Trials and Technical Evaluation. Conducted engineering evaluation of test results. LFT&E modeling and analysis. Continued development of the total ship test plan in support of DT/OT-IIA-IIF.

FY04 Conduct shipbuilder at-sea trials, and dockside testing. Plan and coordinate second shipbuilder Test and Evaluation efforts. Prepare test plans, schedules and support associated with developmental testing, conduct Operational Testing - Phase IIC, Shock, Acoustic and Launchers Trials Testing, Weapons System Accuracy Trials. Conduct Hydrodynamic Performance Testing, Weapon System Accuracy Test (WSAT) and Launcher Trials. Conduct engineering evaluation of test results. LFT&E modeling and analysis. Continue the development of the Test and Evaluation Master Plan (TEMP), Vulnerability Analysis Report (VAR) and Total Ship Survivability Trial (TSST). Continue development of the total ship test plan in support of DT/OT-IIA-IIF.

FY05 Planning for Full Ship Shock Test on SSN775 to be conducted in FY06. Conduct Acoustic Trials, Lockout Trunk Testing and C3I Testing. Continue planning for TECHEVAL and OPEVAL.

R-1 SHOPPING LIST - Item No. 113

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604558N/VIRGINIA Class Design Development	1947/VIRGINIA Class HM&E DEVELOPMENT

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 04 Pres Controls)	125.915	75.842	87.118
Current BES/President's Budget: (FY05/06 PRES Controls)	122.189	74.242	99.719
Total Adjustments	-3.726	-1.600	12.601
Summary of Adjustments			
Miscellaneous adjustments			13.621
NWCF Rate Adjustments			-1.679
Miscellaneous adjustments	-1.711	-1.600	
Cancel Accounts	-0.322		
SBIR Assessment	-1.693		
Subtotal	-3.726	-1.600	11.942

Schedule:

"Not Applicable"

Technical:

"Not Applicable."

R-1 SHOPPING LIST - Item No. 113

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604558N/VIRGINIA Class Design Development	1947/VIRGINIA Class HM&E DEVELOPMENT

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
SCN Line 201300 PE: 0203281N	2479.2	2427.4	2670.1	2453	2339.8	2710.3	3053.3	5388.5	43353.9	74776.7
SCN Line 201310 PE: 0203281N	0	0	0	0	0	0	0	0	0	589.2
O&M'N BA-2 1B2B PE: 0204283N	0	0	15.7	18.6	24.7	40.2	57.4	57.8	cont.	cont.
OPN BA-8 Line Item 094200	0	0	0	56.1	189.1	187.3	192.7	218.7	cont.	cont.

(U) Related RDT&E
(U) PE 0603561N (Advanced Submarine System Development)
(U) PE 0603570N (Advanced Nuclear Power Systems)
(U) PE 0602121N (Surface Ship Technology)

E. ACQUISITION STRATEGY:

The VIRGINIA Class Submarine Program has implemented Integrated Product and Process Development (IPPD). The traditional distinct phasing of the design process has been replaced with the continuous concurrent engineering IPPD process. The IPPD approach has facilitated a smoother transition from design to manufacturing, with Design expected to complete this year, and has reduced the number of changes typically encountered during construction of the lead and early follow-on ships. In September 1997, Congress passed a law allowing Electric Boat (EB) and Northrop Grumman Newport News (NGNN) to team for production of the first four VIRGINIA Class Submarines. Under the teaming agreement, EB remained the design yard for the VIRGINIA Class Submarine and NGNN became a part of the IPPD process. The Program Office is expected to continue the EB/NGNN teaming arrangement and is considering a block buy for FY03 and is also considering other alternate strategies. Future focus will be to complete ship design, continuance of Logistics product development, Technology Insertion and testing for the VIRGINIA Class submarines.

F. MAJOR PERFORMERS:

1. Electric Boat Corporation, Groton CT - Virginia Class Lead Shipbuilder - Contract Award Date 28 Sept. 1998.
2. Naval Surface Warfare Center, Carderock Division, Bethesda, MD - Research, Development, Test & Evaluation Laboratory
3. Naval Undersea Warfare Center, Newport, RI - Research, Development, Test & Evaluation Laboratory

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604558N/VIRGINIA Class Design Development				PROJECT NUMBER AND NAME 1947/VIRGINIA Class HM&E 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
Component Development	Contract	EB-2112 Groton, CT	445.686	25.271	11/02	4.100	11/03	8.256	11/04	42.368	525.681	
Component Development	SS/CPFF	EB-4030 Groton, CT	234.056	1.420	11/02	2.400	11/03	1.600	11/04	1.600	241.076	
Component Development	SS/CPFF	LM-6226	10.202	7.813	11/02	0.000	11/03	0.000	11/04	0.000	18.015	
Component Development	WR	NSWC Carderock MD	396.015	43.128	11/02	13.246	11/03	18.820	11/04	78.061	549.270	
Component Development	WR	NSWC Crane, IA	4.029	0.000	11/02	0.000	11/03	0.000	11/04	0.000	4.029	
Component Development	WR	NUWC Newport, RI	74.710	4.611	11/02	1.734	11/03	3.690	11/04	21.479	106.224	
Component Development	WR	NFPC Phila, PA	3.523	2.273	11/02	0.110	11/03	0.000	11/04	0.000	5.906	
Component Development	Various	Misc	197.287	8.812	Various	2.452	Various	4.019	Various	59.098	271.668	
Technology Insertion	Various	Misc	18.192	0.460	Various	0.000	Various	0.000	Various	385.560	404.212	
											0.000	
Subtotal Product Development			1,383.700	93.788		24.042		36.385		588.166	2,126.081	
Remarks:												
Development Support											0.000	
Software Development											0.000	
Integrated Logistics Support	WR	NSWC Carderock MD	0.150	0.717	11/02	0.000	11/03	0.000	11/04	0.000	0.867	
Integrated Logistics Support	WR	NAWC Orlando, FL	22.212	3.499	11/02	2.773	11/03	1.420	11/04	0.000	29.904	
Integrated Logistics Support	WR	NUWC Newport, RI	2.269	0.245	11/02	1.446	11/03	1.657	11/04	0.769	6.386	
Technical Data											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			24.631	4.461		4.219		3.077		0.769	37.157	
Remarks:												

R-1 SHOPPING LIST - Item No. 113

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604558N/VIRGINIA Class Design Development				PROJECT NUMBER AND NAME 1947/VIRGINIA Class HM&E 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
Test & Evaluation	Contract	EB-2112 Groton, CT	2.059	1.892	11/02	1.223	11/03	12.725	11/04	33.111	51.010	
Test & Evaluation	WR	NSWC Carderock MD	14.099	10.395	11/02	20.196	11/03	21.867	11/04	63.080	129.637	
Test & Evaluation	WR	NUWC Newport, RI	11.138	5.159	11/02	8.129	11/03	8.272	11/04	38.463	71.161	
Test & Evaluation	C/CPAF	EG&G C6411 Rockville, MD	6.461	1.008	11/02	0.885	11/03	0.965	11/04	11.152	20.471	
Test & Evaluation	Various	Miscellaneous	10.056	2.233	11/02	12.736	11/03	13.530	11/04	62.330	100.885	
Test & Evaluation											0.000	
Test & Evaluation											0.000	
Subtotal T&E			43.813	20.687		43.169		57.359		208.136	373.164	
Remarks:												
Contractor Engineering Support	C/CPAF	SEAPORT D7019 Rockville MD	5.261	3.253	11/02	2.812	11/03	2.898	11/04	34.210	49.732	
Program Management Support	C/CPAF	EG&G C6411 Rockville, MD	21.537								21.537	
Program Management Support	Various	Miscellaneous	19.232								19.232	
Travel											0.000	
Award Fees		EG&G C6411 Rockville, MD	1.032								1.032	
SBIR Assessment											0.000	
Subtotal Management			47.062	3.253		2.812		2.898		34.210	91.533	
Remarks:												
Total Cost			1,499.206	122.189		74.242		99.719		831.281	2,626.637	
Remarks:												

R-1 SHOPPING LIST - Item No. 113

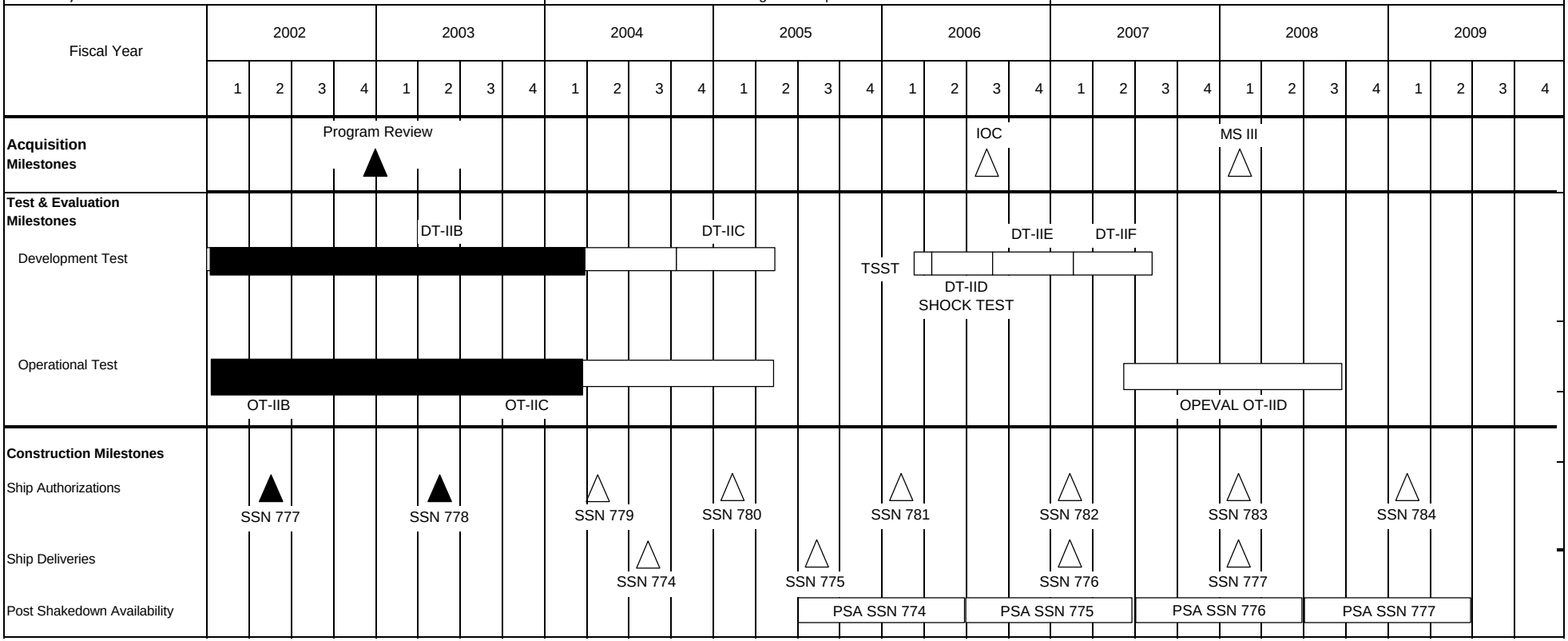
CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **February 2004**

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

PROGRAM ELEMENT NUMBER AND NAME: 0604558N/VIRGINIA Class Design Development

PROJECT NUMBER AND NAME: 1947/VIRGINIA Class HM&E DEVELOPMENT



R-1 SHOPPING LIST - Item No. 113

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2004		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT 0604558N/VIRGINIA Class Design Development				PROJECT NUMBER AND NAME 1947/VIRGINIA Class HM&E DEVELOPMENT			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Program Review	4Q							
Developmental Test (DT-IIB)	1Q-4Q	1Q-4Q	1Q-4Q					
Operational Test (OT-IIB)	1Q-3Q							
Operational Test (OT-IIC)	3Q-4Q	1Q-4Q	1Q-4Q	1Q-2Q				
Ship Authorization (SSN 777)	2Q							
Ship Authorization (SSN 778)		2Q						
Ship Authorization (SSN 779)			1Q					
Ship Delivery (SSN 774)			3Q					
Developmental Test (DT-IIC)			4Q	1Q-2Q				
Ship Authorization (SSN 780)				1Q				
Post Shakedown Availability (PSA SSN 774)				3Q-4Q	1Q-2Q			
Ship Delivery (SSN 775)				3Q				
Ship Authorization (SSN 781)					1Q			
Total Ship Survivability Trial (TSST)					1Q-2Q			
Developmental Test (DT-IID) Full Ship Shock Test					2Q-3Q			
Initial Operating Capability (IOC)					3Q			
Post Shakedown Availability (PSA SSN 775)					3Q-4Q	1Q-2Q		
Developmental Test (DT-IIE)					3Q-4Q	1Q		
Developmental Test (DT-IIF)						1Q-3Q		
Ship Authorization (SSN 782)						1Q		
Ship Delivery (SSN 776)						1Q		
Operational Evaluation (OT-IID) (OPEVAL)						2Q-4Q	1Q-3Q	
Post Shakedown Availability (PSA SSN 776)						3Q-4Q	1Q-2Q	
Milestone III (MS III)							1Q	
Ship Authorization (SSN 783)							1Q	
Ship Delivery (SSN 777)							1Q	
Post Shakedown Availability (PSA SSN 777)							3Q-4Q	1Q-2Q
Ship Authorization (SSN 784)								1Q

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604558N/VIRGINIA Class Design Development				PROJECT NUMBER AND NAME 1950/VIRGINIA Class Combat System Development			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**88.676**	**38.573**	**39.805**	**40.725**	**38.459**	**35.555**	**26.262**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

A. (U) Mission Description and Budget Item Justification: (U) This project encompasses the top level systems development, test and integration into the ship of the VIRGINIA Class Submarine C3I System (formerly referred to as Combat Systems), which includes multiple subsystems. The scope of the system is expanded from Sonar and Combat Control subsystems to include AN/BLQ-10 Electronic Support (ES) Measures, Exterior Communications, Submarine Regional Warfare System, Navigation, Total Ship Monitoring, Imaging, Tactical Acoustic Communications, Radar, Interior Communications, Tactical Support Devices, Fiber Optic Cable Subsystem, and Special Purpose Subsystems, such as Battle Force Team Trainer and others. VIRGINIA Class Submarine specific development efforts includ requirements definition, software, hardware development, software/hardware test, prototype production, and electronic integration as well as physical integration into the platform.

(U) The VIRGINIA Class Submarine implementation approach is based on Open System, Commercial-off-the-Shelf (COTS) Non-Developmental Items or subsystems. The program leverages on-going subsystems developments or developing new subsystems where needed to satisfy VIRGINIA Class requirements. The recurring cost of VIRGINIA Class Submarine C3I Systems is being reduced to meet the program's affordability goals. Modifications to many subsystems must be developed to: (1) reduce the shipbuilding and construction recurring costs through the use of COTS components; (2) use proven computer technologies to evolve to an Open System design; (3) enhance capabilities to support expanded operational requirements, reduced manning, and reduced shipboard component footprint.

(U) To meet the collective future threat, the submarine force must operate as effectively in littoral regions as it traditionally has in open ocean. Close coordination with surface battle groups and airborne units is essential to mission accomplishment. To meet the VIRGINIA Class Submarine mission, the following capabilities are provided by the VIRGINIA Class Submarine C3I System: (1) Passive and Active detection of multiple contacts, including early warning threat determination through processing and analysis of sensor data; (2) classification of sensor data for the purpose of identifying contacts; (3) localization (tracking) of contacts through target motion analysis; (4) preset, launch, and control of weapons and countermeasures; (5) improved communication and connectivity with other battle group elements, airborne units, and special operations forces; (6) incorporation of vertical launch system to enhance strike warfare; and (7) more effective covert surveillance through video imaging with onboard digital enhancement capabilities, and improved electronic warfare analysis capabilities.

(U) The FY04/05 budget submit expanded the original definition of the F1950 project mission to include an ongoing post VIRGINIA Class TECH/OPEVAL RDT&E effort to continue the development of VIRGINIA Unique Combat System Improvements. The VIRGINIA Class C3I will continue to leverage backfit communities efforts, but even with “common” systems that the Navy has developed there will continue to be VIRGINIA Unique capability improvements required. The FY08 and out funding identified is for those efforts.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604558N/VIRGINIA Class Design Development	1950/VIRGINIA Class Combat System Development

B. Accomplishments/Planned Program --- C3I Systems Engineering

	FY 03	FY 04	FY 05	FY 06
Accomplishments/Effort/Subtotal Cost	51.747	23.965	25.250	
RDT&E Articles Quantity				

1. (U) FY 2003 ACCOMLISHMENTS:

• (U) ($51.747M) Continued the development of high priority ship safety/self-protect deficiencies identified during integration efforts and formal DT/OT. Completed development of high priority technology refreshment changes to C3I System/subsystems.

2. (U) FY 2004 PLAN:

• (U) ($23.965M) Continue development of high priority ship safety/self-protect deficiencies identified during integration and lead ship sea test efforts. Continue the information assurance impletmentation of NPES systems/subsystems. Develop a Network Centric Architecture for Non-Tactical Data Processing System as well as additional GCCS-M capabilities for the Sonar Subsystem

3. (U) FY 2005 PLAN:

• (U) ($25.250M) Continue development of high priority ship safety/self-protect deficiencies identified during integration and lead ship sea test efforts. Begin the detailed planning for C3I System/subsystems testing as part of VIRGINIA Class TECH/OPEVAL. Continue the information assurance implementation for NPES system/subsystems.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604558N/VIRGINIA Class Design Development	1950/VIRGINIA Class Combat System Development

B. Accomplishments/Planned Program (Cont.) --- Sonar Combat Control and Architecture Subsystems

	FY 03	FY 04	FY 05	FY 06
Accomplishments/Effort/Subtotal Cost	36.929	14.608	14.555	
RDT&E Articles Quantity				

1. (U) FY 2003 ACCOMLISHMENTS:

• (U) ($36.929M) Continued development of S/CC/A subsystem changes identified during integration efforts. Completed development of high priority technology refreshment changes to S/CC/A subsystems. Continued integration of Tactical Tomahawk capability into S/CC/A.

2. (U) FY 2004 PLAN:

• (U) ($14.608M) Continue development of high priority S/CC/A ship safety/self-protect deficiencies identified during integration and lead ship sea test efforts. Complete integration of Tactical Tomahawk capability into S/CC/A.

3. (U) FY 2005 PLAN:

• (U) ($14.555M) Continue development of high priority S/CC/A ship safety/self-protect deficiencies identified during integration and lead ship sea test efforts. Begin the detailed planning for S/CC/A subsystems testing as part of VIRGINIA Class TECH/OPEVAL.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604558N/VIRGINIA Class Design Development	1950/VIRGINIA Class Combat System Development

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 04 Pres Controls)	90.852	30.445	27.362
Current BES/President's Budget: (FY05 Pres Controls)	88.676	38.573	39.805
Total Adjustments	-2.176	8.128	12.443
Summary of Adjustments			
Miscellaneous adjustments			13.000
FY02 Inflation Savings			
FY03 SBIR and Manpower Adjustments	-2.167		-0.363
NWCF Rate Adjustment			-0.038
FY04 Virginia Class Adjustment		-3.300	
FY03 Inflation and Various	-0.009	-0.472	-0.156
Submarine Combat Control System Architecture		2.100	
Virginia Class - Network Centric Architecture		4.000	
Virginia Class - Information Assurance		5.800	
Subtotal	-2.176	8.128	12.443

Schedule:

"Not Applicable"

Technical:

"Not Applicable"

R-1 SHOPPING LIST - Item No. 113

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604558N/VIRGINIA Class Design Development	1950/VIRGINIA Class Combat System Development

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
SCN Line 201300 PE: 0203281N	2479.2	2427.4	2670.1	2453	2339.8	2710.3	3053.3	5388.5	43353.9	74776.7
SCN Line 201310 PE: 0203281N	0	0	0	0	0	0	0	0	0	589.2
O&M'N BA-2 1B2B PE: 0204283N	0	0	15.66	18.636	24.663	40.236	57.371	57.8	cont.	cont.
OPN BA-1 Line Item 094200	0	0	0	56.1	189.1	187.3	192.7	218.7	cont.	cont.

(U) Related RDT&E
(U) PE 0603504N (Advanced Submarine Combat Systems Development
(U) PE 0603561N (Advanced Submarine System Development)
(U) PE 0603562N Submarine Tactical Warfare Systems)
(U) PE 0603570N (Advanced Nuclear Power Systems)
(U) PE 0604503N (Submarine System Equipment Development)
(U) PE 0604574N (Navy Tactical Computer Resorses)
(U) PE 0604777N (Navigation/ID Systems)
(U) PE 0101226N (Submarine Acoustic Warfarte Development)
(U) PE 0604562N (Submarine Tactical Warfare System)
(U) PE 0604524N (Submarine Combat System)

E. ACQUISITION STRATEGY:

The VIRGINIA Class Submarine Program has implemented Integrated Product and Process Development (IPPD). The traditional distinct phasing of the design process has been replaced with the continuous concurrent engineering IPPD process. The IPPD approach has facilitated a smoother transition from design to manufacturing, with Design expected to complete this year, and has reduced the number of changes typically encountered during construction of the lead and early follow-on ships. In September 1997, Congress passed a law allowing Electric Boat (EB) and Northrop Grumman Newport News (NGNN) to team for production of the first four VIRGINIA Class Submarines. Under the teaming agreement, EB remained the design yard for the VIRGINIA Class Submarine and NGNN became a part of the IPPD process. The Program Office is expected to continue the EB/NGNN teaming arrangement and is considering a block buy for FY03 and is also considering other alternate strategies. Future focus will be to complete ship design, continuance of Logistics product development, Technology Insertion and testing for the VIRGINIA Class submarines. Technology insertion has been virtually eliminated between FY04 and FY09 due to budget cuts in the RDT&E,N and SCN appropriations.

F. MAJOR PERFORMERS:

Lockheed Martin, Manassas, Virginia. C3I Prime Contractor, Development and Limited Production of the S/CC/A Subsystems, Contract Award Date 24 April 1996.

Naval Undersea Warfare Center, Newport, Rhode, Island, Technical Direction Agent for all Virginia Class Electronics.

Exhibit R-3 Cost Analysis (page 1)

DATE: **February 2004**

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

PROGRAM ELEMENT: 0604558N/VIRGINIA Class Design Development

PROJECT NUMBER AND NAME: 1950/VIRGINIA Class Combat System 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
C3I Prime Contract E&MD Total	C/CPAF	Lockheed Manassas, VA	233.173	18.822	Various	4.069	Various	3.204	Various	0.248	259.516	259.516
C3I Prime Contract E&MD Award Fe	C/CPAF	Lockheed Manassas, VA	6.899	0.944	Various	0.500	Various	0.500	Various	0.000	8.843	8.843
C3I Prime Contract Post Delivery	C/FFP	Lockheed Manassas, VA	16.500	3.135	Various	2.509	Various	2.509	Various	3.877	28.530	28.530
Unique Virginia Class Improvments	TBD	Various/TBD	0.000							95.806	95.806	95.806
Advanced Display Sys (AN/UYQ-70)	SS/CPFF		0.000								0.000	
	CPIF	Lockheed St. Paul, MN	24.191	2.730	11/02	1.432	11/03	0.906	11/04	9.688	38.947	38.947
Multi-Purpose Processor	SS/CPIF	Digital Sys Fairfax, VA	41.449								41.449	41.449
Multi-Purpose Processor	SS/CPIF	Lockheed Manassas, VA	1.755								1.755	1.755
Photonics	C/CPIF	Kollmorgen Northhampton, M	24.656	5.106	11/02	1.000	11/03	1.590	11/04	11.533	43.885	43.885
Non-Penetrating Periscope	C/CPIF	Kollmorgen Northhampton, M	4.060								4.060	4.060
Electronic Support Measures	C/FFP	Lockheed Syracuse, NY	37.858	0.209	11/02					6.410	44.477	44.477
Platform Integration	SS/CPFF	EB Corp Groton, CT	27.382	0.358	11/02	0.790	11/03	1.500	11/04	17.723	47.753	47.753
Platform Integration	SS/CPFF	NNews Shipbuilding NNews,	3.065								3.065	3.065
Integrated Electronic Mast	SS/CPIF	Goleta Portsmouth, RI	8.897								8.897	8.897
Tactical Simulator	SS/CPFF	Goleta Portsmouth, RI	2.750								2.750	2.750
High Frequency Sail Array	SS/CPFF	Applied Research Austin, TX	3.273								3.273	3.273
Navigation/Radar	SS/CPFF	Sperry Corp Charlottsville, VA	6.153								6.153	6.153
Technology Refreshment	Various	Various/TBD	9.757	1.008	Various	0.545	Various	0.769	Various	9.590	21.669	
Open System Module	SS/CPFF	UNISYS Corp St. Paul, MN	2.500								2.500	2.500
Technical Direction Agent	N/A	NUWC Newport, RI	188.083	17.609	Various	6.559	Various	8.500	Various	66.832	287.583	
Technology Refreshment/Info. Assur.	C/CPFF	Progeny Systems,Manassas,	9.828	2.992	11/02	5.527	11/03	1.164	11/04	0.896	20.407	
Systems Engineering	N/A	NSWC Cardock, MD	3.995	0.465	11/02						4.460	
Systems Engineering	N/A	NSWC Crane, IN	3.439	0.283	11/02						3.722	
Systems Engineering	N/A	SSC Charleston, SC	2.333								2.333	
Systems Engineering	N/A	SSC San Diego, CA	1.635	0.910	11/02						2.545	
Systems Engineering	N/A	NUWC Keyport, WA	4.876	2.982	11/02	1.350	11/03	1.450	11/04	4.600	15.258	
Miscellaneous	Various	Various	41.364	28.329	Various	11.510	Various	12.129	Various	101.406	194.738	
Subtotal Product Development			709.871	85.882		35.791		34.221		328.609	1,194.374	

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	

Remarks:

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604558N/VIRGINIA Class Design Development				PROJECT NUMBER AND NAME 1950/VIRGINIA Class Combat System 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	
Test & Evaluation	Various	Various						2.805	Various	15.691	18.496	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.000	0.000		0.000		2.805		15.691	18.496	
Remarks:												
Contractor Engineering Support			0.000								0.000	
Contractor Support Services/ETS	C/CPAF	EG&G Rockville, MD	3.040	2.794	Various	2.782	Various	2.779	Various	24.813	36.208	
Contractor Support Services/ETS	C/CPAF	EG&G Rockville, MD	14.406								14.406	
CSS/ETS Award Fee	C/CPFF	EG&G Rockville, MD	1.195								1.195	
Contractor Support Services/ETS	C/CPFF	EG&G Rockville, MD	8.857								8.857	
Contractor Support Services/ETS	C/CPFF	SWL Inc. Vienna, VA	5.705								5.705	
Contractor Support Services/ETS	C/CPFF	American Sys Chantilly, VA	2.099								2.099	
Miscellaneous	Various	Various	4.676								4.676	
Program Management Support			0.000								0.000	
Travel			0.000								0.000	
Subtotal Management			39.978	2.794		2.782		2.779		24.813	73.146	
Remarks:												
Total Cost			749.849	88.676		38.573		39.805		369.113	1,286.016	
Remarks:												

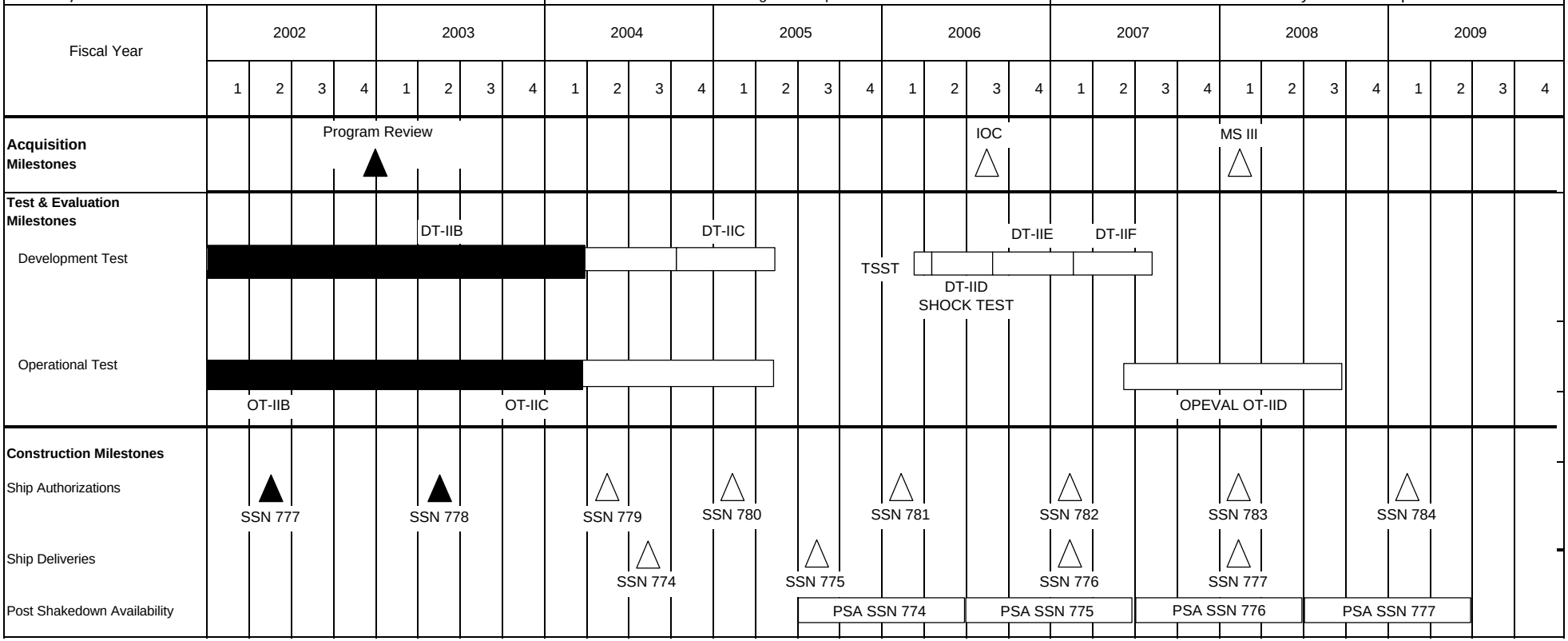
CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **February 2004**

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

PROGRAM ELEMENT NUMBER AND NAME: 0604558N/VIRGINIA Class Design Development

PROJECT NUMBER AND NAME: F1950/VIRGINIA Class Combat System Development



R-1 SHOPPING LIST - Item No. 113

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2004		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT 0604558N/VIRGINIA Class Design Development				PROJECT NUMBER AND NAME 1950/VIRGINIA Class Combat System Development			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Program Review	4Q							
Developmental Test (DT-IIB)	1Q-4Q	1Q-4Q	1Q-4Q					
Operational Test (OT-IIB)	1Q-3Q							
Operational Test (OT-IIC)	3Q-4Q	1Q-4Q	1Q-4Q	1Q-2Q				
Ship Authorization (SSN 777)	2Q							
Ship Authorization (SSN 778)		2Q						
Ship Authorization (SSN 779)			1Q					
Ship Delivery (SSN 774)			3Q					
Developmental Test (DT-IIC)			4Q	1Q-2Q				
Ship Authorization (SSN 780)				1Q				
Post Shakedown Availability (PSA SSN 774)				3Q-4Q	1Q-2Q			
Ship Delivery (SSN 775)				3Q				
Ship Authorization (SSN 781)					1Q			
Total Ship Survivability Trial (TSST)					1Q-2Q			
Developmental Test (DT-IID) Full Ship Shock Test					2Q-3Q			
Initial Operating Capability (IOC)					3Q			
Post Shakedown Availability (PSA SSN 775)					3Q-4Q	1Q-2Q		
Developmental Test (DT-IIE)					3Q-4Q	1Q		
Developmental Test (DT-IIF)						1Q-3Q		
Ship Authorization (SSN 782)						1Q		
Ship Delivery (SSN 776)						1Q		
Operational Evaluation (OT-IID) (OPEVAL)						2Q-4Q	1Q-3Q	
Post Shakedown Availability (PSA SSN 776)						3Q-4Q	1Q-2Q	
Milestone III (MS III)							1Q	
Ship Authorization (SSN 783)							1Q	
Ship Delivery (SSN 777)							1Q	
Post Shakedown Availability (PSA SSN 777)							3Q-4Q	1Q-2Q
Ship Authorization (SSN 784)								1Q

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **FEBRUARY 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604558N/VIRGINIA Class Design Development				PROJECT NUMBER AND NAME 3062/Submarine Multi-Mission Team Trainer			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**16.207**	**6.000**	**3.746**	**2.665**	**2.723**	**2.779**	**2.861**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

To achieve desired submarine force readiness levels, it is necessary to construct highly sophisticated shorebased Combat System Team Trainers capable of training personnel in all aspects of submarine approach, attack and surveillance operations in a controlled, simulated environment.

The Combat Control System (CCS) MK 1 and CCS MK 2 are installed on SSN and SSBN (TRIDENT) Class submarines, and there are currently plans to further upgrade these systems with the next H/W and S/W revisions which provide enhanced warfighter capabilities. The Tactical Acoustic Rapid COTS (commercial-off-the-shelf) Insertion (ARCI) Phased upgrades are also being installed with the next revision which provides enhanced warfighter capabilities. These CCS and ARCI upgrades directly impact shore based Team Trainers. In addition, the Advanced Processing Builds (APB), which feed technology insertion into the CCS/Acoustic development, also impact the trainers.

The Submarine Multi-Mission Team Trainer (SMMTT) supports operator, employment, strike, and Battle Group training for enlisted and officer pipelines. The SMMTT provides individual operators and combat teams the opportunity to train ashore, prior to, and between deployments. The shore based training provides a means of maintaining team proficiency in stand alone or in combined team mode prior to ship deployment.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-5**		PROJECT NUMBER AND NAME 3062/Submarine Multi-Mission Team Trainer

B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	16.207	6.000	3.746
RDT&E Articles Quantity			

FY03 Develop/integrate new software capabilities and system interfaces. Initiate development of display software.
FY04 Incorporate visualization/simulation (VIS/SIM) technology into appropriate displays. Develop Weapons Console emulations.
FY05 Combine components and tailor interfaces to create immersive environment. Incorporate latest Advanced Processor Build (APB).

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000
RDT&E Articles Quantity			

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000
RDT&E Articles Quantity			

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-5	0604558N/VIRGINIA Class Design Developme	3062/Submarine Multi-Mission TeamTrainer

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 04 Pres Controls)	16.239	6.068	3.823
Current President's Budget: (FY04/05 Pres Bud Controls)	16.207	6.000	3.746
Total Adjustments	-0.032	-0.068	-0.077
Summary of Adjustments			
Cancel Account	-0.032		
Miscelleaneous reductions		-0.068	-0.077
Subtotal	-0.032	-0.068	-0.077

Schedule:

"Not Applicable."

Technical:

"Not Applicable."

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-5	0604558N/VIRGINIA Class Design Development	3062/Submarine Multi-Mission Team Trainer

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
566100, Submarine Training Device Modification	0	0	10.1	30.1	25.7	14.1	12.7	12.8	0	105.5

E. ACQUISITION STRATEGY:

The SMMTT program phase 3 software development is accounted for in this RDT&E line. All production kits and software procured in OPN BLI 566100 PE 0804731N.

F. MAJOR PERFORMERS:

NSWCCD

R-1 SHOPPING LIST - Item No. 113

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **FEBRUARY 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-5**		PROGRAM ELEMENT 0604558N/VIRGINIA Class Design Development			PROJECT NUMBER AND NAME 3062/Submarine Multi-Mission Team Trainer							
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
											0.000	
											0.000	
Component Development	WX	NSWCCD, Bethesda, MD	0.000	15.749	various	5.332	various	3.046	various	8.230	32.357	N/A
Component Development	FR	UT ARL	0.000	0.458	02/03	0.668	est Feb04	0.700	various	2.800	4.626	4.626
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			0.000	16.207		6.000		3.746		11.030	36.983	

Remarks:

											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	

Remarks:

R-1 SHOPPING LIST - Item No. 113

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **FEBRUARY 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-5**		PROGRAM ELEMENT 0604558N/VIRGINIA Class Design Development			PROJECT NUMBER AND NAME 3062/Submarine Multi-Mission Team Trainer							
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
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			0.000	16.207		6.000		3.746		11.030	36.983	
Remarks:												

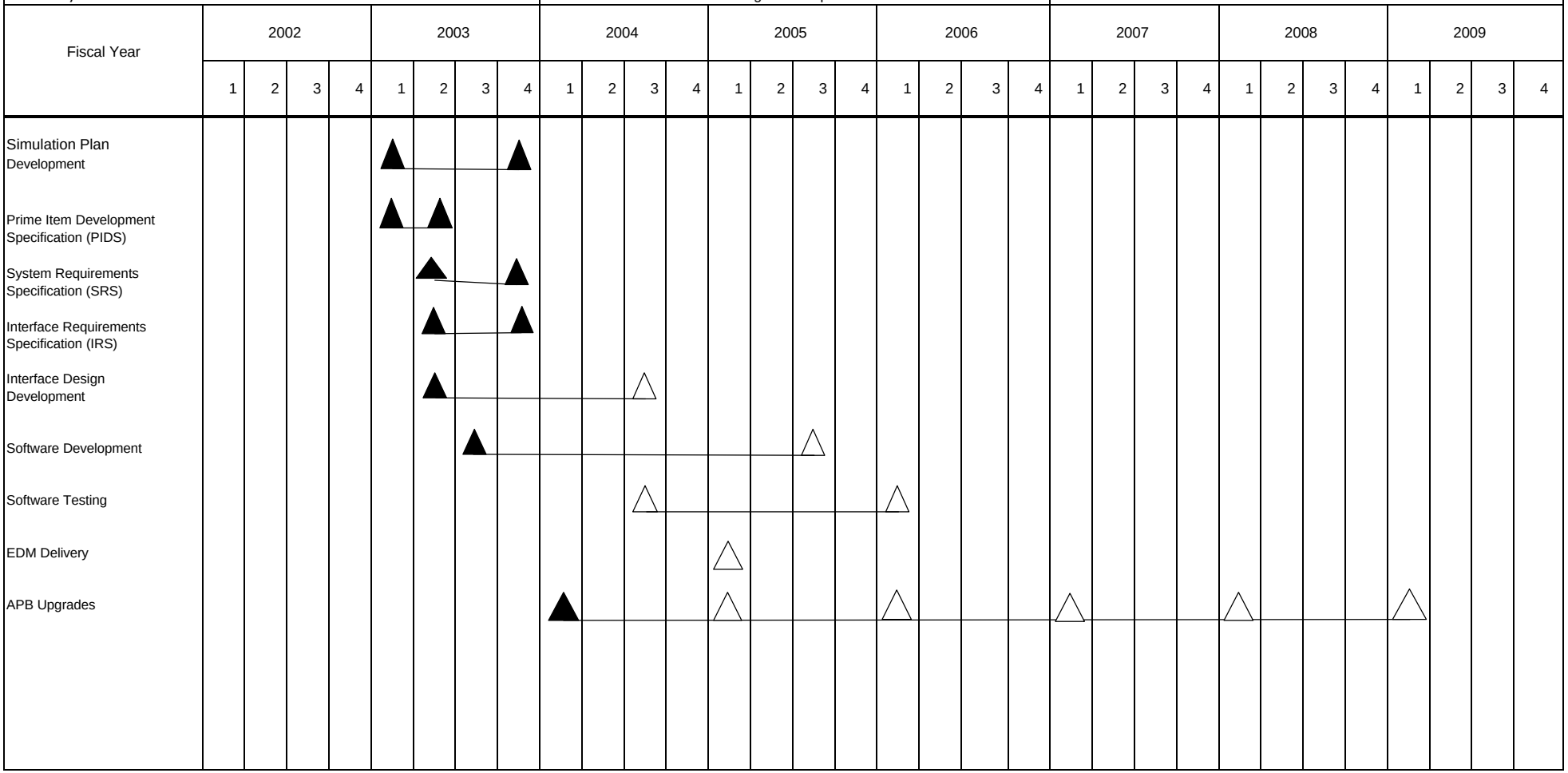
R-1 SHOPPING LIST - Item No. 113

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	0604558N/VIRGINIA Class Design Development	3062/Submarine Multi-Mission Team Trainer



R-1 SHOPPING LIST - Item No. 113

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **FEBRUARY 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N/BA-5**	PROGRAM ELEMENT 0604558N/VIRGINIA Class Design Development				PROJECT NUMBER AND NAME 3062/Submarine Multi-Mission Team Trainer			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Simulation Plan Development		1Q-4Q						
PIDS		1Q-2Q						
SRS		2Q-4Q						
IRS		2Q-4Q						
Interface Design Development		2Q-4Q	1Q-3Q					
Software Development		3Q-4Q	1Q-4Q	1Q-3Q				
Software Testing			3Q-4Q	1Q-4Q	1Q			
EDM Delivery				1Q				
APB Upgrades			1Q	1Q	1Q	1Q	1Q	1Q

R-1 SHOPPING LIST - Item No. 113

CLASSIFICATION:

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 SSN-21 Development/0604561N			
COST ($ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost	**15.957**	**23.827**	**3.020**	**3.047**	**3.673**	**3.025**	**3.085**
SSN-21 Developments/1946	**3.818**	**3.655**	**3.020**	**3.047**	**3.673**	**3.025**	**3.085**
SEAFAC Range Upgrade/9233	**12.139**	**20.172**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**

Defense Emergency Response funds (DERF) Funds: **Not Applicable**

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

1946 SSN-21 Developments: The SEAWOLF Submarine is a multi-mission ship that provides unprecedented performance capabilities. It is the quietest, most heavily-armed attack submarine the Navy has ever built. The design of the SEAWOLF is based on an extensive research and development program and incorporates technological advancements to provide: order of magnitude improvement in ship quieting; improved acoustic sensors; more capable combat systems; greater weapon capacity and capability; quieter launch; weapon launch at high ship speed; advanced reactor; improved performance machinery program; an advanced propulsor; increased operating depth; improved ship control; and enhanced survivability. Beginnning in FY05, SEAFAC Range Upgrade funding is included in 1946.

9233 SEAFAC Range Upgrade: The SEAWOLF Class submarine is a multi-mission ship that provides numerous unprecedented submarine performance capabilities such as more capable combat systems, greater weapons capacity and capability, advanced reactor, improved acoustic sensors, increased operating depth, improved ship control, and enhanced survivability. Among these capabilities is an unprecedented acoustic stealth performance as a result of an order of magnitude improvement in ship quieting. Maintaining the acoustic stealth advantage and upholding the effectiveness and survivability of the SEAWOLF and future class submarines require that radiated acoustic signatures are periodically measured and understood. To this end, Southeast Alaska Acoustic Measurement Facility (SEAFAC) range will be upgraded with new underwater acoustic measurement systems capable of measuring new generation quiet-class submarines stationed in the Pacific fleet. The SEAFAC Range Upgrade Program comprises of a multi-year effort to design, develop, procure, install and test High Gain Measurement Systems (HGMS) in the Static and Underway Sites at SEAFAC. Efforts to upgrade the Static Site began in FY03 and efforts to upgrade the Underway Site begin in FY04. (Note: Project 1946 and OPN BLI 094200 fund FY05 and future SEAFAC upgrades.)

R-1 SHOPPING LIST - Item No.114

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**				PROJECT NUMBER AND NAME 1946 / SSN-21 Developments			
COST ($ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost	**3.818**	**3.655**	**3.020**	**3.047**	**3.673**	**3.025**	**3.085**
RDT&E Articles Qty							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The SEAWOLF Submarine is a multi-mission ship that provides unprecedented performance capabilities. It is the quietest, most heavily-armed attack submarine the Navy has ever built. The design of the SEAWOLF is based on an extensive research and development program and incorporates technological advancements to provide: order of magnitude improvement in ship quieting; improved acoustic sensors; more capable combat systems; greater weapon capacity and capability; quieter launch; weapon launch at high ship speed; advanced reactor; improved performance machinery program; an advanced propulsor; increased operating depth; improved ship control; and enhanced survivability. Beginnning in FY05, SEAFAC Range Upgrade funding is included in 1946

R-1 SHOPPING LIST - Item No.114

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604561N / SSN-21 Developments	1946 / SSN-21 Developments

B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	0.337	0.769	0.887	
RDT&E Articles Quantity				

FY-03 Accomplishments: Complete the analysis and reporting in compliance with Class plan and DOT&E requirements resulting from the Operational Evaluation (OPEVAL)/Technical Evaluation (TECHEVAL). FY-04 and FY-05 Plan: Conduct follow-on OPEVAL testing for the class.

	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	0.450	0.675	0.175	
RDT&E Articles Quantity				

FY-03 Accomplishments: Conduct component shock tests and analysis and continue shock qualification for CFE and GFE in compliance with Class plans and DOT&E requirements. FY-04 and FY-05 Plan: Completion of component shock tests and analysis for CFE and GFE in compliance with Class Plans and DOT&E requirements. Perform shock qualifications for the Global Command and Control System (GCCS) for the Common Submarine Radio Room (CSRR).

	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	0.000	0.000	1.500	
RDT&E Articles Quantity				

FY-05 Plan: System test and validation, and corrective action efforts are planned for the SEAFAC Static Site. System development, engineering, and integration efforts are planned for the SEAFAC Underway Site.

R-1 SHOPPING LIST - Item No.114

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604561N / SSN-21 Developments	1946 / SSN-21 Developments

B. Accomplishments/Planned Program (Cont.)

	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	2.321	1.523	0.208	
RDT&E Articles Quantity				

FY-03 Accomplishments: Re-engineering and correction of NPE Systems, including SCS and ECS. Investigation of acoustic deficiencies associated with Main Ballast Tanks and Sail. Continue risk management efforts in all high risk areas. FY-04 Plan: Re-engineering of NPE Systems and investigation of acoustic deficiencies. FY-05 Plan: Re-engineering and correction of SCS and Dry Deck Shelter (DDS) Interface (TIDS Migration).

	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	0.710	0.688	0.250	
RDT&E Articles Quantity				

FY-04 Plan: Development of prototype for External Hydraulic Pump.

	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	
RDT&E Articles Quantity				

R-1 SHOPPING LIST - Item No.114

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604561N / SSN-21 Developments	1946 / SSN-21 Developments

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 04 President's Controls)	3.883	3.708	3.057
Current BES/President's Budget: (FY05 President's Controls)	3.818	3.655	3.020
Total Adjustments	-0.065	-0.053	-0.037
Summary of Adjustments			
Section 8094: Management Improvements	0.000	-0.010	0.000
Section 8029: FFRDC Reduction	0.000	-0.011	0.000
Section 8126: Efficiencies	0.000	-0.032	0.000
SBIR FY03	-0.055	0.000	0.000
BSO Adjustments	-0.010	0.000	0.000
Misc Adjustments	0.000	0.000	0.015
Inflation	0.000	0.000	-0.008
Non Purchase Inflation	0.000	0.000	-0.002
FY05 ITR RDT&E Rebalancing	0.000	0.000	-0.002
NSCF Rates - NSWC	0.000	0.000	-0.040
Subtotal	-0.065	-0.053	-0.037

Schedule:

Not applicable.

Technical:

Not applicable.

R-1 SHOPPING LIST - Item No.114

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604561N / SSN-21 Developments	1946 / SSN-21 Developments

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost

E. ACQUISITION STRATEGY:

(U) To deliver three SEAWOLF submarines under cost cap.
(U) To continue to correct SEAWOLF Acoustics deficiencies.
(U) To increase commonality with Virginia Class Submarines.
(U) Continue to review all areas for possible cost reductions.

F. MAJOR PERFORMERS:

Naval Surface Warfare Center (NSWC) Carderock, MD - FY-03 $1.721; FY-04 $.862; FY-05 $1.675 (Acoustics, NPE, Shock, Test & Evaluation, SEAFAC and Tech Insertion).
Naval Undersea Warfare Center (NUWC) Newport RI - FY-05 $.793 (Test and Evaluation)
SPAWAR San Diego CA - FY-03 - .$700: FY04 - $450 - Multi-Function Crypto System Development and Shock Qualification

R-1 SHOPPING LIST - Item No.114

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604561N / SSN-21 Developments				PROJECT NUMBER AND NAME 1946 / SSN-21 Developments						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY 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		NSWC Carderock/Various						1.500			1.500	
Ancillary Hardware Development											0.000	
Systems Engineering	SS/CPFF	General Dynam Groton CT	369.541	0.055	Various	0.075	Various	0.100	Various	0.200	369.971	369.971
Systems Engineering	SS/CPFF	NGNN Newport News VA	118.601	0.429	Various	0.500	Various	0.000	Various	0.200	119.730	119.631
Systems Engineering	WR/RC	NSWC Carderock, MD	317.639	1.721	Various	0.862	Various	0.175	Various	4.085	324.482	
Systems Engineering	WR/RC	NUWC Newport, RI	49.158	0.395	Various	0.793	Various	0.260	Various	0.000	50.606	
Systems Engineering	Various	Various	469.369	0.553	Various	0.885	Various	0.271	Various	8.087	479.165	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			1,324.308	3.153		3.115		2.306		12.572	1,345.454	
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:												

R-1 SHOPPING LIST - Item No.114

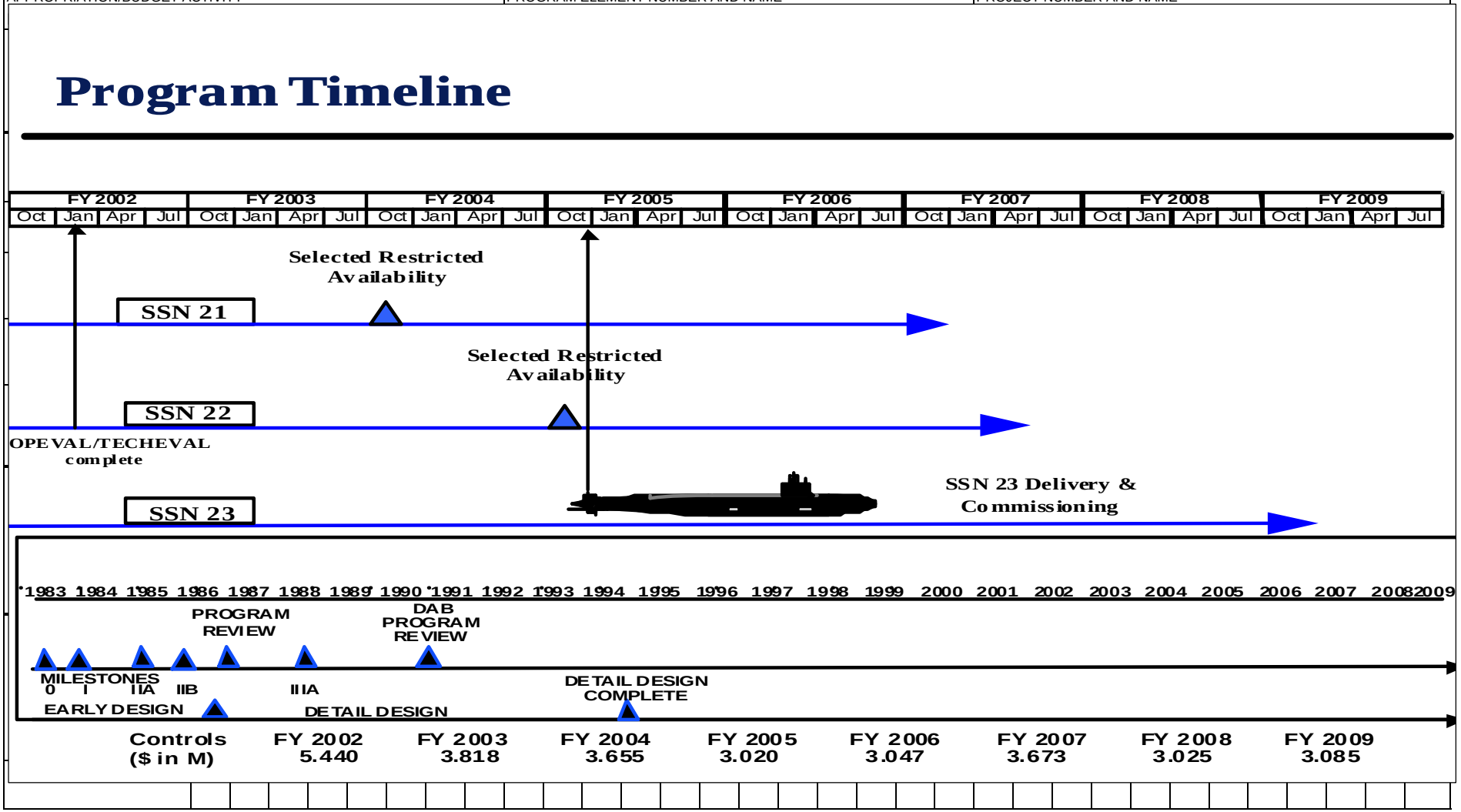
CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604561N / SSN-21 Developments				PROJECT NUMBER AND NAME 1946 / SSN-21 Developments						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY 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	SS/CPFF	General Dynam Groton CT	68.994	0.000		0.000		0.000		0.000	68.994	68.994
Developmental Test & Evaluation	WR	NSWC Carderock MD	95.800	0.150	Various	0.100	Various	0.000		0.000	96.050	
Developmental Test & Evaluation	Various	Various	124.296	0.155	Various	0.440	Various	0.714	Various	0.402	126.007	
Operational Test & Evaluation											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			289.090	0.305		0.540		0.714		0.402	291.051	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support & ETS	Various	Various	48.075	0.360		0.000		0.000		0.000	48.435	
Travel											0.000	
Labor (Research Personnel)											0.000	
SBIR Assessment											0.000	
Subtotal Management			48.075	0.360		0.000		0.000		0.000	48.435	
Remarks:												
Total Cost			1,661.473	3.818		3.655		3.020		12.830	1,684.796	
Remarks:												

R-1 SHOPPING LIST - Item No. 114

CLASSIFICATION:

EXHIBIT R4, Schedule Profile		DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME



R-1 SHOPPING LIST - Item No.114

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604561N / SSN-21 Developments				PROJECT NUMBER AND NAME 9233 / SEAFAC Range Upgrade			
COST ($ in Millions)	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost	**0.000**	**12.139**	**20.172**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The SEAWOLF Class submarine is a multi-mission ship that provides numerous unprecedented submarine performance capabilities such as more capable combat systems, greater weapons capacity and capability, advanced reactor, improved acoustic sensors, increased operating depth, improved ship control, and enhanced survivability. Among these capabilities is an unprecedented acoustic stealth performance as a result of an order of magnitude improvement in ship quieting.

Maintaining the acoustic stealth advantage and upholding the effectiveness and survivability of the SEAWOLF and future class submarines require that radiated acoustic signatures are periodically measured and understood. To this end, Southeast Alaska Acoustic Measurement Facility (SEAFAC) range will be upgraded with new underwater acoustic measurement systems capable of measuring new generation quiet-class submarines stationed in the Pacific fleet. The SEAFAC Range Upgrade Program comprises of a multi-year effort to design, develop, procure, install and test High Gain Measurement Systems (HGMS) in the Static and Underway Sites at SEAFAC. Efforts to upgrade the Static Site began in FY03 and efforts to upgrade the Underway Site begin in FY04.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2003**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604561N / SSN-21 Developments	9233 / SEAFAC Range Upgrade

B. Accomplishments/Planned Program

	FY 02	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	12.139	20.172	0.000
RDT&E Articles Quantity				

FY03 Actual: Preliminary and detailed design efforts for the SEAFAC Static Site High Gain Measurement Systems, Array Handling and Suspension Systems; Beamforming, Analysis and Processing System; and submarine Total Ship Monitoring System Interface were conducted. Static Site material procurement and system development efforts were initiated.
FY04 Plan: Continuance of Static Site system development, integration and testing; and initiation of Underway Site design and development efforts are planned.

	FY 02	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				

	FY 02	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604561N / SSN-21 Developments	9233 / SEAFAC Range Upgrade

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 04 President's Controls)	0.000	9.774	0.000
Current BES/President's Budget: (FY05 President's Controls)	12.139	20.172	0.000
Total Adjustments	12.139	10.398	0.000
Summary of Adjustments			
Business Process Reform	-0.051	0.000	0.000
Economic Assumptions	-0.071	0.000	0.000
IT Cost Growth	-0.023	0.000	0.000
SEAFAC Range Upgrade	12.750	0.000	0.000
Management Improvements	0.000	-0.054	0.000
Efficencies Revisions	0.000	-0.173	0.000
FY03 SBIR	-0.331	0.000	0.000
Inflation Savings	-0.135	0.000	0.000
SEAFAC Underway HGA Upgrades	0.000	10.625	0.000
Subtotal	12.139	10.398	0.000

Schedule:

Not applicable.

Technical:

Not applicable.

R-1 SHOPPING LIST - Item No. 114

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604561N / SSN-21 Developments	9233 / SEAFAC Range Upgrade

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost

Not applicable.

E. ACQUISITION STRATEGY: *

Not applicable.

F. MAJOR PERFORMERS: **

SAIC and subcontractors for in-water HGMS (array) design, development and installation.
Naval Surface Warfare Center (NSWC) Carderock Division, MD for system engineering, integration, and test.

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

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604561N / SSN-21 Developments				PROJECT NUMBER AND NAME 9233 / SEAFAC Range Upgrade						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY 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	Various	SAIC		9.583	Various	13.584	Various				23.167	
Ancillary Hardware Development						1.023	Various				1.023	
Component Development											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	WR	NSWC Carderock MD		2.556	TBD	4.239	TBD				6.795	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			0.000	12.139		18.846		0.000		0.000	30.985	
Remarks: Award dates are dependent upon availability of funds at the beginning of each fiscal year as dictated by the CRA.												
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:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604561N / SSN-21 Developments				PROJECT NUMBER AND NAME 9233 / SEAFAC Range Upgrade						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY 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	WR	NSWC Carderock MD				1.326	TBD				1.326	
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		1.326		0.000		0.000	1.326	
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support											0.000	
Travel											0.000	
Labor (Research Personnel)											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			0.000	12.139		20.172		0.000		0.000	32.311	
Remarks:												

R-1 SHOPPING LIST - Item No. 114

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT 0604561N / SSN-21 Developments				PROJECT NUMBER AND NAME 9233 / SEAFAC Range Upgrade			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Static Site Prelim Design & Concept Studies		2Q-4Q						
Static Site Prelim Design Review		4Q						
Static Site Detailed Design		4Q	1Q					
Static Site Critical Design Review			1Q					
Static Site System Development		4Q	1Q-4Q					
Underway Site Prelim Design & Concept Studies			1Q-3Q					
Underway Site Prelim Design Review			3Q					
Underway Site Detailed Design			2Q-4Q					
Underway Site Critical Design Review			4Q					
Underway Site System Development			2Q-4Q					
Test Planning		4Q	1Q					
Developmental Testing		4Q	1Q-4Q					

R-1 SHOPPING LIST - Item No. 114

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Budget Item Justification							DATE: **FEBRUARY 2004**	
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5**					R-1 ITEM NOMENCLATURE Submarine Tactical Warfare System/0604562N			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost		**24.445**	**32.354**	**43.404**	**40.425**	**54.467**	**56.318**	**57.356**
0236/SSN COMB CONT SYS IMP (ENG)		**24.445**	**32.354**	**43.404**	**40.425**	**54.467**	**56.318**	**57.356**

Defense Emergency Response Funds (DERF) Funds: Not Applicable

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This program develops Commercial-Off-The-Shelf (COTS) based software and hardware upgrades to integrate improved weapons and tactical control capabilities for all submarine Classes (SSN688, 688I, SSBN726, SEAWOLF, SSGN, and VIRGINIA (Post PSA)). The hardware upgrades (technology insertions) will be developed on a bi-annual basis to provide improved capability and address COTS obsolescence. The AN/BYG-1 is the combat control system common across all submarine platforms which incorporates tactical control, weapon control and tactical Local Area Network (LAN) functions into a single development program. Funding also accomodates the annual integration of Advanced Processing Builds (APBs) software to both tactical control (APB(T)) and weapon control (APB(W)) subsystems. The tactical control integration effort incorporates the integration of other sensor (ESM, sonar, radar, etc.) inputs to provide a common operation picture and improve situational awareness in an information assurance (IA) compliant environment. The weapon control development effort provides improvements to the weapons control subsystem based on improvements to missiles and torpedos. AN/BYG-1 allows the submarine Navy to rapidly update the ship safety tactical picture, integrates the common tactical picture into the battlegroup, improves torpedo interfaces and provides tactical TOMAHAWK (TOMAHAWK Block IV) capability.

Outyear funding develops and tests a COTS-based software weapons launch capability for all SSN688/688I and SEAWOLF submarines. This upgrade provides a more reliable launching capability for missiles and torpedos.

R-1 SHOPPING LIST - Item No. 115

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-5	0604562N/SUBMARINE TACTICAL WARFARE SYSTEM	0236/SSN COMB CONT SYS IMP (ENG)

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		13.759	0.000	0.000
RDT&E Articles Quantity				

Continue to develop engineering change to CCS MK2 Program D0 Block 1C to incorporate Tactical Tomahawk capabilities and upgrade for commonality with VIRGINIA Class and SSN 21 Class.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		3.686	0.000	0.000
RDT&E Articles Quantity				

Mitigate combat systems obsolescence, improve life-cycle cost, increase commonality and provide advanced war fighting capability to the submarine fleet based on the CCS MK2 combat system.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		4.000	0.000	0.000
RDT&E Articles Quantity				

Development of AN/BSG-1, mission distribution system upgrades and shore site support infrastructure.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-5	0604562N/SUBMARINE TACTICAL WARFARE SYSTEM	0236/SSN COMB CONT SYS IMP (ENG)

B. Accomplishments/Planned Program (Cont.)

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		3.000	0.000	0.000
RDT&E Articles Quantity				

Non Propulsion Electronics System Engineering, Integration and Test Program. The program also segregrates CCS into a Tactical Control System and a Weapons Control System concurrent with the development of CCS MK2 V5.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.000	19.238	27.583
RDT&E Articles Quantity				

Complete development, integration and test of AN/BYG-1 Technology Insertion 00 (TI-00) and TI02. Develop, integrate and test AN/BYG-1 TI04

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.000	13.116	15.821
RDT&E Articles Quantity				

Integrate and test APB(T) and APB(W) technology insertion and technology refresh.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604562N/SUBMARINE TACTICAL WARFARE SYSTEM	0236/SSN COMB CONT SYS IMP (ENG)

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY2004 President Budget)	25.089	32.238	35.670
FY2005 PB05 Budget Submit	24.445	32.354	43.404
Total Adjustments	-0.644	0.116	7.734
Summary of Adjustments:			
SBIR	-0.574		
Miscellaneous	-0.070	-0.384	-0.266
Weapon Control System		7.000	
Tactical Control System		4.000	
AN/BSG-1		-10.500	
SEAWOLF CCS			8.000
TOTAL:	-0.644	0.116	7.734

Schedule:

- Nomenclature used in the PB04 budget submit (CCS MK2 ECP4) has been changed to reflect the newly assigned AN/BYG-1 nomenclature. This nomenclature was changed to reflect the addition of Virginia Class Combat Control System into the common acquisition and development strategy. This allows for AN/BYG-1 to be the common combat control system nomenclature across all submarine platforms. The AN/ BYG-1 nomenclature, with bi-annual technolgy insertion designation (i.e. AN/BYG-1 (TI04)), replaces the CCS Mk2 Block 1C ECP4 nomenclature.
- AN/BSG-1 funding was reduced by $10.5M due to Milestone III schedule delay.

Technical:

- FY05 budget reflects the submarine combat systems business strategy embodied in the AN/BYG-1 program. This strategy incorporates integration of annual performance improvements and bi-annual technology refresh to address COTS obsolescence issues. As a result of this strategy there is an increase in test events required to satisfy DOT&E requirements.
- Department Of Navy is working to update requirement for AN/BSG-1 IOC date.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604562N/SUBMARINE TACTICAL WARFARE SYSTEM	0236/SSN COMB CONT SYS IMP (ENG)

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
OPN/BA-4 5420	61.652	69.513	147.481	148.068	110.294	122.027	125.375	CONT.	CONT.

Related RDT&E:
PE 0204229N (Tomahawk & Tomahawk Missile Planning Center)
PE 0205632N (MK 48 ADCAP)
PE 0603504N (Advanced Submarine Combat Systems Dev.)
PE 0604503N (SSN-688 and Trident Modernization)
PE 0604707N (Submarine Electronic Warfare Architecture/Eng. Support)

E. ACQUISITION STRATEGY: AN/BYG-1:

- Competitive contract awarded in Dec 02 which starts the development of a combat control which segregates tactical control from weapons control system.
- This budget integrates APBs developed by the advanced development community.
- Advanced Processing Builds-Tactical (APB (T)) products associated with AN/BYG-1 Release-To- Fleet 4Q 2003, 3Q 2004, 3Q 2006, 3Q 2007, 3Q 2008, and 3Q 2009.
- Advanced Processing Builds-Weapons (APB (W)) integration associated with AN/BYG-1 begins FY2005 and will be Released-To-Fleet bi-annually and concurrently with an annual APB(T) product. APB(W) are integrated bi-annually due to increased time for weapon certification and safety issues.
- Follow-On contract for both tactical and weapons control subsystems are planned for award in FY2008.
- This program has been tailored in accordance with the new DoD5000 directive to incorporate annual MDA production reviews.

F. MAJOR PERFORMERS:

Raytheon Portsmouth, RI - Software Development for AN/BYG-1 weapon control subsystem - December 2002 and System Development for AN/BSG-1 - June 1997
Digital Systems Resources (DSR) Fair Lakes, VA - Software Development for AN/BYG-1 tactical control system - December 2002.
NUWC Newport, RI - Government Engineering

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **FEBRUARY 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604562N/SUBMARINE TACTICAL WARFARE SYSTEM			PROJECT NUMBER AND NAME 0236/SSN COMB CONT SYS IMP (ENG)						
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
AN/BSG-1 System Development	CPIF	Raytheon Portsmouth, RI	16.143	1.177	12/02	0.000		0.000		4.500	21.820	
Ancillary Hardware Dev (AN/BSG-1)	PD	PEO-CMU Pax River, MD	9.003	1.582	Various	0.000	Various	0.000		6.000	16.585	
Government Engineering	WR	NUWC Newport, RI	52.089	2.512	Various	3.723	Various	11.034	Various	CONT.	CONT.	
Multi-Tube Weapon Simulator	SBIR	Progeny	1.635	0.000		1.000				0.000	2.635	
CCS MK2 Block 1C ECP	FFRDC	MITRE	0.754	0.383	11/02					1.000	2.137	
COTS Hardware & Software	CPFF	DDL Omni	7.000	1.500	01/03					0.000	8.500	
AN/BYG-1	CPIF/CPAF	Raytheon Portsmouth, RI				12.616	10/03	15.657	10/04	CONT.	CONT.	
AN/BYG-1	CPIF/CPAF	DSR				10.000	10/03	14.500	10/04	CONT.	CONT.	
AN/BYG-1	FFRDC	MITRE				0.365	10/03	0.513	10/04	CONT.	CONT.	
AN/BYG-1	CPIF/CPAF	ANTEON				4.000	12/03				4.000	
											0.000	
Subtotal Product Development			86.624	7.154		31.704		41.704		11.500	178.686	

Remarks:

Contract	Award/Oblig
AN/BYG-1	Dec 02
AN/BSG-1	Jun 97

Development Support Equipment											0.000	
Software Development (Mod0/1,2,3)	CPFF	Raytheon Portsmouth, RI	21.000	11.679	Various	0.000		0.000		CONT.	CONT.	
Software Development (Mod 5)	CPIF/CPAF	DSR		0.100	12/02						0.100	
Software Development (Mod 5)	CPIF/CPAF	Raytheon Portsmouth, RI		3.900	12/02							
Technical Data											0.000	
GFE											0.000	
Configuration Management											0.000	
Subtotal Support			21.000	15.679		0.000		0.000		0.000	36.679	

Remarks:

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **FEBRUARY 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604562N/SUBMARINE TACTICAL WARFARE SYSTEM			PROJECT NUMBER AND NAME 0236/SSN COMB CONT SYS IMP (ENG)							
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	Various	Various	7.800	1.112	01/03	0.300	10/03	1.000	10/04	CONT.	CONT.	
Operational Test & Evaluation	Various	Various	7.169	0.500	01/03	0.100	10/03	0.400	10/04	CONT.	CONT.	
Test & Evaluation	Various	Various	1.295	0.000		0.000		0.000			1.295	
.											0.000	
											0.000	
											0.000	
											0.000	
Subtotal T&E			16.264	1.612		0.400		1.400		0.000	19.676	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support	CPFF	EG&G Arlington, VA	8.481	0.000		0.250	10/03	0.300	10/04	CONT.	CONT.	
Travel	PD	NAVSEA Arlington, VA	0.350							CONT.	CONT.	
Labor (Research Personnel)											0.000	
SBIR Assessment											0.000	
Subtotal Management			8.831	0.000		0.250		0.300		0.000	9.381	
Remarks: Contract EG&G Award/Oblig Dec 01												
Total Cost			132.719	24.445		32.354		43.404		11.500	244.422	
Remarks:												

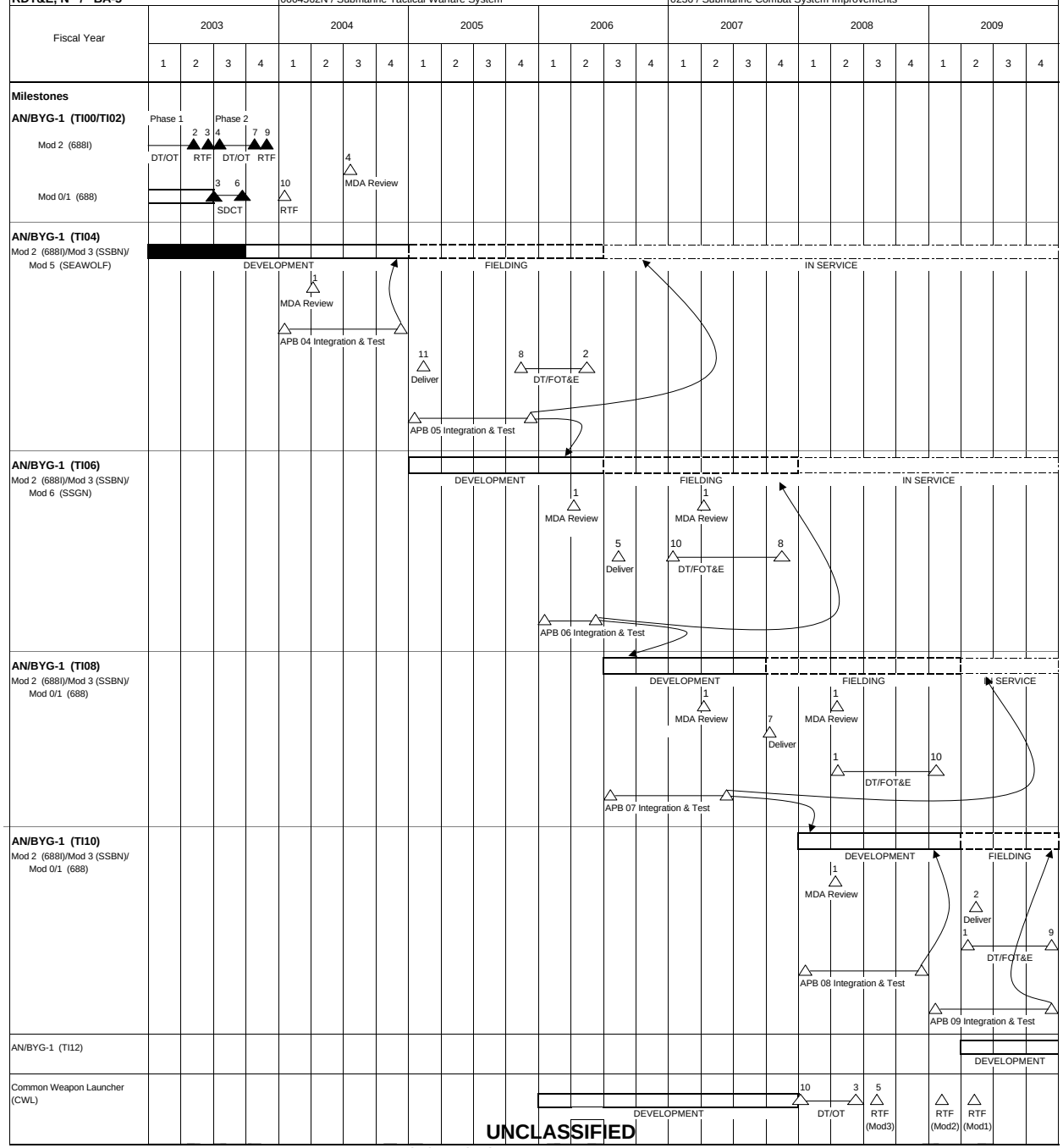
R-1 SHOPPING LIST - Item No. 115

EXHIBIT R4, Schedule Profile | DATE: FEBRUARY 2004

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

PROGRAM ELEMENT NUMBER AND NAME: 0604562N / Submarine Tactical Warfare System

PROJECT NUMBER AND NAME: 0236 / Submarine Combat System Improvements



CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **FEBRUARY 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT 0604562N / Submarine Tactical Warfare System				PROJECT NUMBER AND NAME 0236 / Submarine Combat System Improvements		
Schedule Profile	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
AN/BYG-1 (TI00/TI02), Mod 0/1 - Development	1Q - 2Q						
AN/BYG-1 (TI00/TI02), Mod 2 - Phase 1 DT/OT	1Q - 2Q						
AN/BYG-1 (TI04) - Development	1Q - 4Q	1Q - 4Q					
AN/BYG-1 (TI00/TI02), Mod 2 - Phase 1 RTF	2Q						
AN/BYG-1 (TI00/TI02), Mod 0/1 - SDCT	2Q - 3Q						
AN/BYG-1 (TI00/TI02), Mod 2 - Phase 2 DT/OT	3Q - 4Q						
AN/BYG-1 (TI00/TI02), Mod 2 - Phase 2 RTF	4Q						
CCS MK2 Block 1C ECP 4, Mod 0/1 - RTF		1Q					
AN/BYG-1 (TI04) - APB 04 Integration & Test		1Q - 4Q					
AN/BYG-1 (TI04) - MDA Review		1Q					
AN/BYG-1 (TI00/TI02) - MDA Review		3Q					
AN/BYG-1 (TI04) - APB 05 Integration & Test			1Q - 4Q				
AN/BYG-1 (TI06) - Development			1Q - 4Q	1Q - 2Q			
AN/BYG-1 (TI04) - Deliver			1Q				
AN/BYG-1 (TI04) - DT/FOT&E			4Q	1Q - 2Q			
AN/BYG-1 (TI06) - APB 06 Integration & Test				1Q - 2Q			
Common Weapon Launcher - Development				1Q - 4Q	1Q - 4Q		
AN/BYG-1 (TI06) - MDA Review				2Q			
AN/BYG-1 (TI06) - Deliver				3Q			
AN/BYG-1 (TI08) - Development				3Q - 4Q	1Q - 3Q		
AN/BYG-1 (TI08) - APB 07 Integration & Test				3Q - 4Q	1Q - 2Q		
AN/BYG-1 (TI06) - DT/FOT&E					1Q - 4Q		
AN/BYG-1 (TI06) - MDA Review					2Q		
AN/BYG-1 (TI08) - MDA Review					2Q		
AN/BYG-1 (TI08) - Deliver					4Q		
AN/BYG-1 (TI10) - Development						1Q - 4Q	1Q
AN/BYG-1 (TI10) - APB 08 Integration & Test						1Q - 4Q	
Common Weapon Launcher - DT/OT						1Q - 2Q	
AN/BYG-1 (TI08) - MDA Review						2Q	
AN/BYG-1 (TI08) - DT/FOT&E						2Q - 4Q	1Q
AN/BYG-1 (TI10) - MDA Review						2Q	
Common Weapon Launcher - Mod3 RTF						3Q	
AN/BYG-1 (TI10) - APB 09 Integration & Test							1Q - 4Q
Common Weapon Launcher - Mod2 RTF							1Q
AN/BYG-1 (TI10) - DT/FOT&E							2Q - 4Q
AN/BYG-1 (TI10) - Deliver							2Q
AN/BYG-1 (TI12) - Development							2Q - 4Q
Common Weapon Launcher - Mod1 RTF							2Q

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 Ship Contract Design/Live Fire T&E PE 0604567N			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost		**196.697**	**134.061**	**130.908**	**110.862**	**97.160**	**51.263**	**22.961**
2301 / CVN-77 Design		**68.363**	**28.320**	**25.495**	**5.858**	**0.733**	**0.000**	**0.000**
4007 / CVN 21 LFT&E		**9.015**	**8.699**	**8.605**	**8.158**	**8.108**	**0.414**	**0.421**
4008 / CVN 21 Total Ship Integration		**66.314**	**23.430**	**37.905**	**35.100**	**21.970**	**6.522**	**0.000**
1803 / Ship Contract Design		**14.928**	**1.768**	**10.249**	**18.792**	**18.813**	**12.230**	**7.332**
2198 / Life Fire Test and Evaluation		**0.000**	**4.345**	**4.474**	**2.722**	**1.545**	**0.000**	**0.000**
2465/9235/9236 / LHA(R)		**38.077**	**64.137**	**44.180**	**40.232**	**45.991**	**32.097**	**15.208**
9389 / LHD-8 Performance Based Logistics		**0.000**	**1.384**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
9390 / UNOLS Research Vessel *		**0.000**	**1.978**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This Program Element (PE) directly supports the Navy's Shipbuilding Plan by providing for the development of engineering, programmatic and acquisition documentation including ship specifications (including performance specifications) and contractual documentation associated with acquisition of Navy ships. This PE also supports the Congressionally mandated Live Fire Test and Evaluation program for new ship designs.

Contract Design has traditionally been the engineering development of the technical and contractual definition of the ship design (including ship specifications and drawings) to a level of detail sufficient for shipbuilders to make a sound estimate of the construction cost and schedule. Additionally, the contract design package developed under this PE has provided the technical baseline from which the Navy selects the shipbuilder who then develops the detail design package required to support the construction and eventual delivery of the ship. This PE also supports the development of design methodologies/tools which facilitate and optimize the transition from ship design documents to efficient production of new ships and ship conversions, and supports engineering planning and ship affordability studies.

Under Acquisition Reform for new design ships, traditional distinct phasing of the design process has been replaced with a continuous concurrent engineering Integrated Product and Process Development (IPPD) process extending through and after contract award. This serves to maintain the focus of multi-discipline teams consisting of the government, shipbuilder, system programs, and suppliers. Government/Industry Integrated Product Team(s) (IPTs) will utilize the IPPD process to develop the design in an Integrated Product and Data Environment (IPDE). The design approach is part of an acquisition strategy that is based on commercial practices and incorporates a phased technical definition. To this end, the costs associated with the construction of CVN(X)1 are now included in RDT&E.

* Funding in Project 9390 applies to Office of Naval Research Program Element 0601153N.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME **Ship Contract Design/LFT&E PE 0604567N**				PROJECT NUMBER AND NAME **CVN 77 Design 2301**			
COST ($ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	
Project Cost	**68.363**	**28.320**	**25.495**	**5.858**	**0.733**	**0.000**	**0.000**	
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This project encompasses CVN 77 design. FY03 and prior years also encompass CVN 21 design. Prior years also encompassed CVN 21 LFT&E. The traditional distinct phasing of the design process for aircraft carriers has been replaced with a continuous concurrent engineering regime incorporating the methodology, measurement, and management elements of the Navy's Integrated Product and Process Development (IPPD) process, extending it beyond contract award. The CVN 77 Warfare Systems Integration (WSI) effort will be managed within a technology change management process at contract award to allow further system development. This will ensure that the latest technologies are properly incorporated during the 8 year construction period for an aircraft carrier, without costly contract changes. The IPPD process serves to maintain the focus of multi-discipline teams consisting of the government, shipbuilder, aviation programs, and suppliers. Government/Industry Integrated Product Teams (IPTs) utilize the IPPD process within an Integrated Data Environment (IDE) to design and develop ship construction Contract Data Packages (CDPs). The CVN 77 design approach is part of an acquisition strategy that is based on incorporating best available commercial practices and a phased technical definition.

The CVN 77 research and development investment identifies and validates transition technologies for incorporation into the CVN 77 design. These technologies will enhance shipboard workload reductions, reduce life cycle costs for CVN 77, provide benefits to the other nine ships of the NIMITZ class, and mitigate future risk for CVN 21. The pivotal investment area is transition technology insertion into, and the functional combining of, traditional combat system, Command, Control, Computers and Communications, Intelligence, Surveillance and Reconnaissance (C4ISR), and aviation functions into a cohesive integrated system.

CVN 21 Total Ship Integration, the integration of major systems into ship design, is a continuation of the effort commenced within PE0603512N, PU 42693. This investment in CVN 21 design started in FY 02 and continues through FY 05. Design efforts for FY04-FY05 have been realigned to PE 0604567N, PU 44008. This design integration effort includes redesign and rearrangement of ship components; redesign of hull, mechanical and electrical (HM&E) and auxiliary systems (air-conditioning and ventilation, power distribution and generation, airborne noise management, reduction of steam, environmental safety and health (ESH) and interface control; redesign of water production and tankage; electric loads analysis; redesign of power distribution; analysis and redesign of structure; analysis, tracking and management of changes in weight distribution and stability; and analysis and redesign of survivability systems.

The CVN 21 contract design effort encompasses those tasks required to develop the contract data package necessary to support CVN 21 procurement. The CVN 21 LFT&E effort consists of vulnerability assessments of the new CVN 21 design and addresses congressionally mandated LFT&E. LFT&E efforts in FY03 and beyond have been realigned to PE 0604567N, PU 44007.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA - 5	**Ship Contract Design/LFT&E PE 0604567N**	**CVN 77 Design 2301**

B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	21.300		
RDT&E Articles Quantity			

CVN 21 Design: Develop CVN 21 MTG technical manual. Continue manufacture and assembly of prototype turbine and generator designs. Upgrade contractor facility in preparation for qualification testing. Continue development of qualification test specifications. CVN 21 Product Development efforts for FY03 and subsequent years are covered under Project 44008.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	47.063	28.320	25.495
RDT&E Articles Quantity			

CVN 77 Design: Complete warfare system re-baseline design and conduct re-baseline review. Develop, review, adjudicate, and approve the warfare system CDP. Monitor PARM improvements targeted at reducing the operational and support costs of the ship's warfare system, specifically for data exchange across operational areas, data fusion, and integrated displays for operators, and consideration for use of the Virginia Advanced Shipbuilding and Carrier Integration Center (VASCIC). Identify Pre-Planned Product Improvement (P3I) candidates and develop warfare system P3I Technical Definition Packages (TDPs), including flexible island design and other distributed system margin modifications. Sustain efforts to insure warfare system interoperability and design consistency in accordance with the Navy's life cycle support strategy.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	**Ship Contract Design/LFT&E PE 0604567N**	**CVN 77 Design 2301**

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 04 Pres Controls)	49.189	28.674	25.648
Current President's Budget: (FY 05 Pres Controls)	68.363	28.320	25.495
Total Adjustments	19.174	-0.354	-0.153
Summary of Adjustments			
Technical Adjustment	21.300		
SBIR reduction	-1.847		
Miscellaneous Adjustments	-0.279		-0.016
SPAWAR Service Cost Adjustment		-0.035	-0.028
Congressional undistributed reduction		-0.319	
NWCF Rate Adjustment			-0.026
Inflation Adjustment			-0.083
Subtotal	19.174	-0.354	-0.153

Schedule:

Not Applicable

Technical:

Not Applicable.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	**Ship Contract Design/LFT&E PE 0604567N**	**CVN 77 Design 2301**

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
BLI 200100 Carrier Replacement Program	484	1,177	626	612	2,970	3,251	1,569	Continuing	Continuing
PE 0603512N Carrier System Development	80	155	157	132	80	288	370	Continuing	Continuing

E. ACQUISITION STRATEGY:

Future Carriers will be acquired/managed using a phased technology insertion strategy. Technologies will reduce total ownership costs on Future Carriers and the previous nine ships of the NIMITZ class. Future Carrier Detail Design and Construction Contracts have historically been awarded on a sole source basis to Northrop Grumman Newport News Shipbuilding (NGNN). NGNN has also been awarded CPAF R&D contracts for the CVN 77 warfare system and CVN 21 IPPD efforts .

F. MAJOR PERFORMERS:

Northrop Grumman Newport News Shipbuilding , Newport News Virginia
SPAWAR, San Diego Ca
NAVSEA, Washington DC

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT **Ship Contract Design/LFT&E PE 0604567N**			PROJECT NUMBER AND NAME **CVN 77 Design 2301**						
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
CVN 77 Product Development	PR,SS	NGNN, Newport News VA	100.880	20.245	12/02-06/03	3.000	12/03	2.000	12/04	Continuing	Continuing	
	SS, CPFF	Bettis Atomic Pwr Labs, Pa	42.691							0.000	42.691	42.691
	WX	NAWCS Lakehurst NJ, Pax Md	5.278	0.360	12/02-06/03	0.450	12/03	0.750	12/04	Continuing	Continuing	Continuing
	WX	NSWC Dahlgren	15.018	7.402	12/02-06/03	2.700	12/03	1.600	12/04	Continuing	Continuing	Continuing
	PD/WX	SPAWAR, San Diego Ca	3.875	6.693	12/02-06/03	7.950	12/03	7.900	12/04	Continuing	Continuing	Continuing
	PD	NAVSEA Wash DC	2.030	4.919	12/02-06/03	6.500	12/03	5.900	12/04	Continuing	Continuing	Continuing
	Various	Miscellaneous	27.281	7.044	12/02-06/03	5.095	12/03	5.400	12/04	Continuing	Continuing	Continuing
	WX	NSWC Carderock	1.559	0.300	12/02-06/03	0.360	12/03	0.300	12/04	Continuing	Continuing	Continuing
CVNX Product Development	PR,SS	NGNN, Newport News VA	11.805	21.300	01/03					0.000	Continuing	
	IPR	Anteon Corp, Arlington Va	1.816							0.000	1.816	
	PD	NAVAIR, Pax River Md	7.091							0.000	7.091	
	Various	Miscellaneous	1.472							0.000	1.472	
Subtotal Product Development			220.796	68.263		26.055		23.850		0.000	Continuing	
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		0.000		

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT **Ship Contract Design/LFT&E PE 0604567N**			PROJECT NUMBER AND NAME **CVN 77 Design 2301**						
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												
Operational Test & Evaluation												
Live Fire Test & Evaluation	WX	NSWC Carderock	8.541								8.541	
	Various	Miscellaneous	0.743								0.743	
Tooling												
GFE												
Award Fees												
Subtotal T&E			9.284	0.000		0.000		0.000		0.000		
Remarks:												
Contractor Engineering Support	MAC											
Government Engineering Support												
Program Management Support	MAC					2.165		1.545				
Travel			0.075	0.100		0.100		0.100				
Labor (Research Personnel)												
SBIR Assessment												
Subtotal Management			0.075	0.100		2.265		1.645		0.000		
Remarks:												
Total Cost			230.155	68.363		28.320		25.495		0.000		
Remarks:												

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																																DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**									PROGRAM ELEMENT NUMBER AND NAME **Ship Contract Design/LFT&E PE 0604567N**														PROJECT NUMBER AND NAME **CVN 77 Design 2301**												
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
Contract Milestones																																
Construction Contract								Keel Laying										Land Island / Launch (Christening)								Delivery / Builder's Trials						OWLD		
Post Shakedown Availability																													PSA Start			
T&E Milestones																						CSTK / DT / BST / AT				PDT&E						
																					Pre-delivery PDT&E											

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**	PROGRAM ELEMENT NAME AND NUMBER **Ship Contract Design/LFT&E PE 0604567N**				PROJECT NAME AND NUMBER **CVN 21 LFT&E 4007**		
COST ($ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost	**9.015**	**8.699**	**8.605**	**8.158**	**8.108**	**0.414**	**0.421**
RDT&E Articles Qty							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This project encompasses CVN 21 LFT&E efforts. Title 10, US Code, Section 2366, CVN 21 Operational Requirements Document (ORD) and the CVN 21 Test and Evaluation Master Plan , prescribe requirements for Live Fire Test and Evaluation (LFT&E). The purpose of LFT&E is to evaluate weapons and weapons systems in a realistic combat environment and to identify any mission threatening vulnerabilities early in the development process when there is time to take corrective action. The CVN 21 LFT&E Management Plan details the efforts, through testing and engineering analyses, to address potential design vulnerabilities.

The high unit cost of CVN 21 and its shipboard systems, and the limited number of ships to be produced, preclude consideration of destructive testing of a full-up CVN 21 with threats of the type that might be expected in combat. Consequently, the Navy must rely on other means to determine that CVN 21 will be able to survive and carry out its missions in the face of the threats identified in the CVN 21 System Threat Assessment Report.

The LFT&E strategy for the CVN 21 class accounts for the uncertainty in its design features. The strategy assumes that as the program progresses through the stages of ship design, prior to the award of the construction contract, descriptive detail of CVN 21 will increase and so will the ability to evaluate its survivability. An initial assessment of CVN 21's vulnerability was completed in FY03. A follow on assessment report will be completed using a higher level of ship details to support the ship construction contract award.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	**Ship Contract Design/LFT&E PE 0604567N**	**CVN 21 LFT&E 4007**

B. Accomplishments/Planned Program

	FY03	FY04	FY 05
Accomplishments/Effort/Subtotal Cost	9.015	8.699	8.605
RDT&E Articles Quantity			

Conduct susceptibility assessment of the CVN 21 design. Resolve low confidence areas in analytical models for LFT&E concerns and continue to conduct LFT&E surrogate test program. This includes continuation of testing Damage Prevention Protection System, DAPS components, underwater protection features (innerbottom structure and Torpedo Side Protection System), dynamic test of hull girder models and conduct of recoverability tests, and initiate vulnerability modeling of the CVN 21 for Vulnerability Assessment Report #3. Initiate survivability modeling improvements. Prepare, construct and test full and scaled surrogate model targets as required by TEMP 1610 and the LFT&E Management Plan. Conduct analyses and tests on ex-SHADWELL to evaluate ordnance in CVN 21 representative locations, to review hangar bay fire spread, to determine desmoking and dewatering capabilities, and to assess fire main vulnerability. Conduct intensive vulnerability modeling of CVN 21 for Vulnerability Assessment Report #3. Continue survivability model improvements to support CVN 21 vulnerability assessment. In support of ORD vulnerability requirements testing, conduct representative CVN 21 fire and smoke spread tests, flight deck fire tests, and main drainage tests; assess designed passive damage control features and conduct recoverability modeling tests. Support Large Test Asset event.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	**Ship Contract Design/LFT&E PE 0604567N**	**CVN 21 LFT&E 4007**

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 04 Pres Controls)	9.147	8.797	8.780
Current President's Budget: (FY05 Pres Controls)	9.015	8.699	8.605
Total Adjustments	-0.132	-0.098	-0.175
Summary of Adjustments			
Congressional Undistributed Reductions		-0.098	
SBIR reduction	-0.041		
Inflation Adjustments			-0.028
NWCF Adjustments			-0.142
Miscellaneous Adjustments	-0.091		-0.005
Subtotal	-0.132	-0.098	-0.175

Schedule:

Not Applicable

Technical:

Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	**Ship Contract Design/LFT&E PE 0604567N**	**CVN 21 LFT&E 4007**

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
BLI 200100 Carrier Replacement Program	484	1,177	626	612	2,970	3,251	1,569	Continuing	Continuing
PE 0603512N Carrier System Development	80	155	157	132	80	288	370	Continuing	Continuing

E. ACQUISITION STRATEGY:

The CVN 21 will be the first ship of the new class of aircraft carriers consisting of 12 ships. Due to the length and cost of construction, each carrier will be contracted for separately. The CVN 21 will feature a new nuclear propulsion and electrical generation/distribution system, new electromagnetic aircraft launching system, advanced arresting gear system, all electric auxiliaries, warfare system improvements, survivability enhancements, improved weapons handling, and improved aircraft servicing. These design features will result in lower manpower and total ownership costs as compared to the Nimitz Class. Additionally, the following warfighting benefits will be realized: increased sortie generation rate, improved ship self defense capability, increase launch and recovery capability/flexibility, increased operational availability, and increased flexibility to support future upgrades.

F. MAJOR PERFORMERS:

NSWC Carderock Maryland

CLASSIFICATION:

Exhibit R-3 Cost Analysis										DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT **Ship Contract Design/LFT&E PE 0604567N**			PROJECT NUMBER AND NAME **CVN 21 LFT&E 4007**						
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
Live Fire Test & Evaluation	WX	NSWC Carderock, MD	0.000	7.780	12/02-6/03	7.433	12/03	7.554	12/04	Continuing	Continuing	
	Various	Miscellaneous	0.000	1.235	12/02-6/03	1.266	12/03	1.051	12/04	Continuing	Continuing	
Subtotal T&E			0.000	9.015		8.699		8.605		Continuing	Continuing	
Remarks:												
Contractor Engineering Support												
Government Engineering Support												
Program Management Support												
Travel												
Labor (Research Personnel)												
SBIR Assessment												
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			0.000	9.015		8.699		8.605		Continuing	Continuing	
Remarks:												

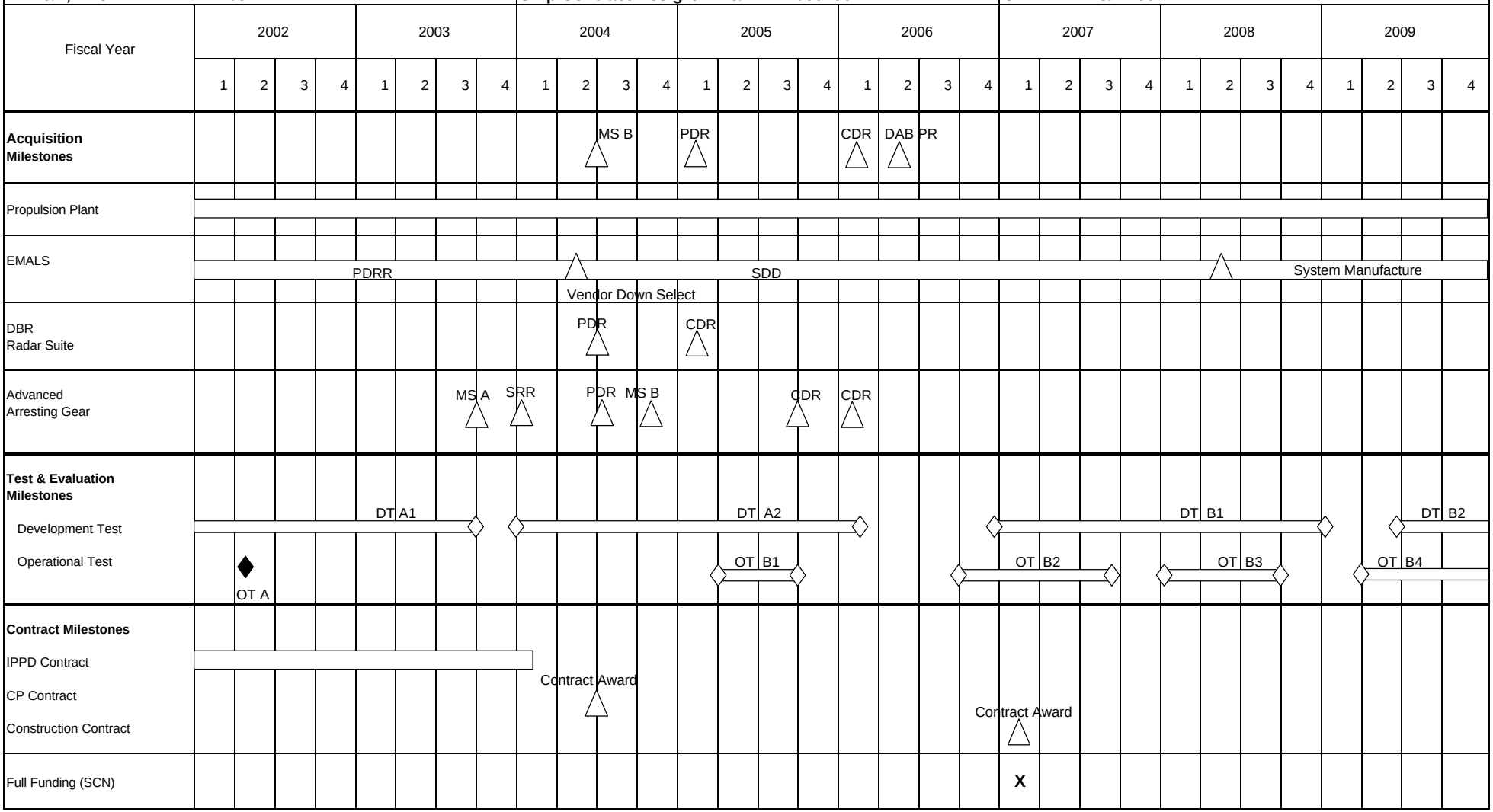
CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **February 2004**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA-05**

PROGRAM ELEMENT NUMBER AND NAME: **Ship Contract Design/LFT&E PE 0604567N**

PROJECT NUMBER AND NAME: **CVN 21 LFT&E 4007**



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

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**	PROGRAM ELEMENT NAME AND NUMBER **Ship Contract Design/LFT&E PE 0604567N**				PROJECT NAME AND NUMBER **CVN 21 Total Ship Integration 4008**		
COST ($ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost	**66.314**	**23.430**	**37.905**	**35.100**	**21.970**	**6.522**	**0.000**
RDT&E Articles Qty							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This project encompasses CVN 21 total ship integration efforts. The traditional distinct phasing of the design process for aircraft carriers has been replaced with a continuous concurrent engineering regime incorporating the methodology, measurement, and management elements of the Navy's Integrated Product and Process Development (IPPD) process, extending it beyond contract award. The CVN 21 total ship integration effort will be managed within a technology change management process at contract award to allow further system development. This will ensure that the latest technologies are properly incorporated during the 8 year construction period for an aircraft carrier, without costly contract changes. The IPPD process serves to maintain the focus of multi-discipline teams consisting of the government, shipbuilder, aviation programs, and suppliers. Government/Industry Integrated Product Teams (IPTs) utilize the IPPD process within an Integrated Data Environment (IDE) to design and develop ship construction Contract Data Packages (CDPs). The Future Carrier CVN 21 design approach is part of an acquisition strategy that is based on incorporating best available commercial practices and a phased technical definition.

CVN 21Total Ship Integration, the integration of major systems into ship design, includes redesign and rearrangement of ship components; redesign of hull, mechanical and electrical (HM&E) and auxiliary systems (air-conditioning and ventilation, power distribution and generation, airborne noise management, reduction of steam, environmental safety and health (ESH) and interface control; redesign of water production and tankage; electric loads analysis; redesign of power distribution; analysis and redesign of structure; analysis, tracking and management of changes in weight distribution and stability; and analysis and redesign of survivability systems. This project also encompasses those tasks required to develop the contract data package necessary to support CVN 21 procurement.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	**Ship Contract Design/LFT&E PE 0604567N**	**CVN 21 Total Ship Integration 4008**

B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	66.314	23.430	37.905
RDT&E Articles Quantity			

Resolve CVN 21 design issues and update the contract data package, including design drawings and specifications in areas where near-term LLTM advanced purchase and early fabrication work may be impacted. The update accommodates changes to the ship, its systems and equipment necessitated by equipment obsolescence, operational need, and incorporation of newer systems/technology. Accomplish Total Ship Integration through the IPPD process to incorporate the design changes required to the legacy baseline design for definition at the total system level.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	**Ship Contract Design/LFT&E PE 0604567N**	**CVN 21 Total Ship Integration 4008**

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 04 Pres Controls)	68.123	23.730	38.213
Current President's Budget: (FY 05 Pres Controls)	66.314	23.430	37.905
Total Adjustments	-1.809	-0.300	-0.308
Summary of Adjustments			
Congressional undistributed reductions		-0.300	
NWCF Rate Adjustments			
Inflation Adjustments			-0.123
SBIR reductions	-1.037		-0.162
Miscellaneous Adjustments	-0.772		-0.023
Subtotal	-1.809	-0.300	-0.308

Schedule:

Not Applicable

Technical:

Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	**Ship Contract Design/LFT&E PE 0604567N**	**CVN 21 Total Ship Integration 4008**

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
BLI 200100 Carrier Replacement Program	484	1,177	626	612	2,970	3,251	1,569	Continuing	Continuing
PE 0603512N Carrier System Development	80	155	157	132	80	288	370	Continuing	Continuing

E. ACQUISITION STRATEGY:

The CVN 21 will be the first ship of the new class of aircraft carriers consisting of 12 ships. Due to the length and cost of construction, each carrier will be contracted for separately. The CVN 21 will feature a new nuclear propulsion and electrical generation/distribution system, new electromagnetic aircraft launching system, advanced arresting gear system, all electric auxiliaries, warfare system improvements, survivability enhancements, improved weapons handling, and improved aircraft servicing. These design features will result in lower manpower and total ownership costs as compared to the Nimitz Class. Additionally, the following warfighting benefits will be realized: increased sortie generation rate, improved ship self defense capability, increase launch and recovery capability/flexibility, increased operational availability, and increased flexibility to support future upgrades.

F. MAJOR PERFORMERS:

Northrop Grumman Newport News
NSWC Carderock
NAWC Lakehurst
NAVSEA

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT **Ship Contract Design/LFT&E PE 0604567N**			PROJECT NUMBER AND NAME **CVN 21 Total Ship Integration 4008**						
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
Total Ship Integration	WX	NSWC Carderock	0.000	10.480	12/02-6/03	1.214	12/03	1.650	12/04	Continuing	Continuing	
	SS, CPAF	NGNN, Newport News Va	0.000	33.043	12/02-6/03	5.900	12/03	14.100	12/04	Continuing	Continuing	
	IPR	GSA	0.000	5.550	12/02-6/03					Continuing	Continuing	
	WX	NAWC, Lakehurst	0.000	3.855	12/02-6/03	2.853	12/03	2.921	12/04	Continuing	Continuing	
	WX	NSWC, Port Hueneme	0.000	4.000	05/03					Continuing	Continuing	
	PR	NAVSEA MAC				7.829	12/03	8.445	12/04	Continuing	Continuing	
	Various	Miscellaneous	0.000	9.236	12/02-6/03	5.484	12/03	10.639	12/04	Continuing	Continuing	
Subtotal Product Development			0.000	66.164		23.280		37.755			Continuing	
Remarks: For FY02 and prior this effort was accomplished under PE 0603512N, projects 42208 and 42693												
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 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT **Ship Contract Design/LFT&E PE 0604567N**			PROJECT NUMBER AND NAME **CVN 21 Total Ship Integration 4008**						
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												
Operational Test & Evaluation												
Live Fire Test & Evaluation												
Test Assets												
Tooling												
GFE												
Award Fees												
Subtotal T&E				0.000		0.000						
Remarks:												
Contractor Engineering Support												
Government Engineering Support												
Program Management Support												
Travel				0.150		0.150		0.150				
Labor (Research Personnel)												
SBIR Assessment												
Subtotal Management				0.150		0.150		0.150				
Remarks:												
Total Cost			0.000	66.314		23.430		37.905				
Remarks:												

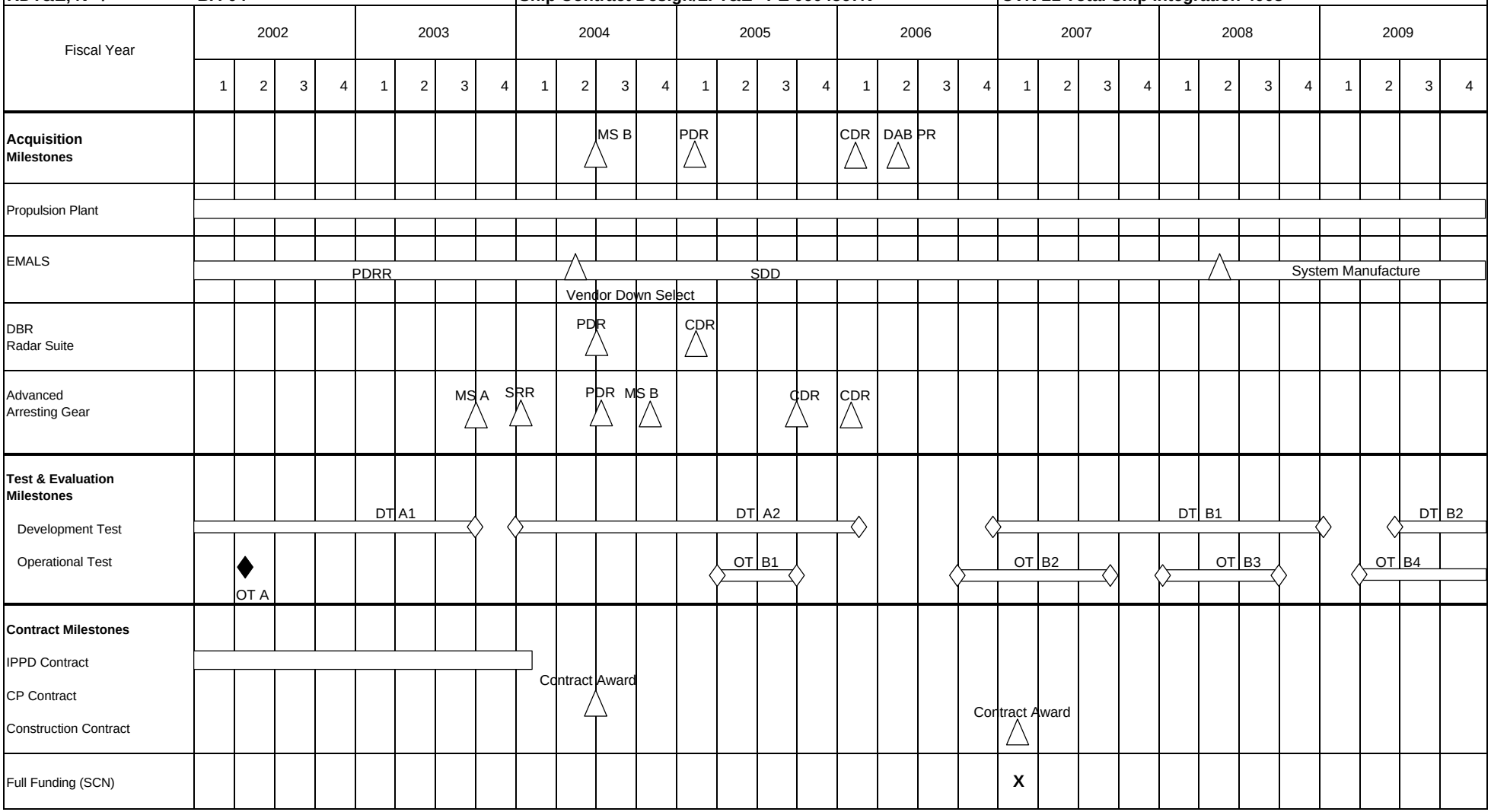
CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **February 2004**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA-04**

PROGRAM ELEMENT NUMBER AND NAME: **Ship Contract Design/LFT&E PE 0604567N**

PROJECT NUMBER AND NAME: **CVN 21 Total Ship Integration 4008**



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

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME Ship Contract Design/LFT&E 0604567N				PROJECT NUMBER AND NAME 1803 Ship Contract Design			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**14.928**	**1.768**	**10.249**	**18.792**	**18.813**	**12.230**	**7.332**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Mission Description and Budget Item Justification: This project supports development of all technical, programmatic and contractual documentation required for the acquisition of various ships in the Navy's Shipbuilding Program. The major effort is the engineering development of the technical and contractual definition of the ship's design (e.g. ship specifications and drawings), with sufficient details for the prospective shipbuilder to make a sound estimate of construction cost and schedule. It also serves as the technical definition from which the shipbuilder develops the shipbuilding detailed design and testing package required to build and test the ship. This funding also provides for Navy retention of unique ship design knowledge. It provides the Navy with a digital, ship design knowledge base, including lessons learned, required to ensure that a proper development, analysis and evaluation can be conducted of any current or future planned Navy ship. This data base will serve as the basis to evaluate and qualify any future ship design. Another area this project funds is the development of specific Navy ship criteria and standards for newly developed technologies. Additionally, as new laws are passed, new safety regulations and environmental criteria are developed and other legal/Congressional requirements identified, this project funds the translation into Navy ship design criteria and standards. This project also funds the translation of the traditional Ship Specifications into performance-based criteria, which will serve for the future acquisition of Navy Ship and supports the development of design methodologies/tools which facilitate and optimize the transition from ship design documents to efficient production of new ships and ship conversions.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA5	Ship Contract Design/LFT&E 0604567N	1803 Ship Contract Design

B. Accomplishments/Planned Program

Cruiser Modernizaation Program	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	14.928	1.768	8.569
RDT&E Articles Quantity			

Continued CG Planning Yard modernization design and engineering efforts; continued government efforts for design products, data base development, specifications development, and program planning; and continued system integration efforts for shipboard systems leading to Baseline 4 lead ship procurement award in FY04. Initiate CG Planning Yard modernization design and engineering efforts; government efforts for design products, data base development, specifications development, and program planning; and system integration efforts for shipboard systems leading to Baseline 2 lead ship procurement award.

Heavy Lift LCAC Program	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	0.000	1.680
RDT&E Articles Quantity			

Resolution of technical design issues to support the development of a Heavy Lift LCAC variant resulting in a 50% increase in craft length over the standard LCAC to a LOA of 112 feet. Development of propellers, shrouds, gearboxes and lift fans to support the additional craft propulsion requirements will be required. Commonality with LCAC components will be maximized consistent with maintaining acceptable design margins given the additional requirements.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA-5	Ship Contract Design/LFT&E 0604567N	1803 Ship Contract Design	

C. PROGRAM CHANGE SUMMARY:

	FY 2003	FY 2004	FY 2005
Previous President's Budget:	15.520	7.549	18.316
Current President's Budget:	14.928	1.768	10.249
Total Adjustments	-0.592	-5.781	-8.067
Summary of Adjustments			
Congressional undistributed reductions		-0.031	-0.004
SBIR reductions	-0.831		
Inflation Adjustments			-0.059
Miscellaneous Adjustments	0.239		-0.006
Deferred Start of Heavy Lift LCAC Program		-5.750	-8.000
NSWC Rate Adjustments			0.002
Subtotal	-0.592	-5.781	-8.067

Schedule:

CG Modernization procurement contract awards reflect the Baseline 4 lead ship funded for long lead equipment procurement in FY04 and conversion availability in FY06. Baseline 2 and Baseline 3 lead ships are funded for procurement in the outyears. Design efforts funded in RDT&E,N leading to procurement contract awards have been scheduled accordingly. JCC(X) program was terminated. Heavy Lift LCAC development planned for initiation in FY05.

Technical:

Not Applicable.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	Ship Contract Design/LFT&E 0604567N	1803 Ship Contract Design

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
SCN 202000 CG Modernization	65									65
OPN 096000 CG Modernization			79	114	247	223	282	408	1,430	2,783
WPN 422300 CG Modernization			15	9	32	42	34	53	356	541
O&MN 1B5B CG Modernization			8	43	99	146	213	217	1,618	2,344

E. ACQUISITION STRATEGY:

N/A

F. MAJOR PERFORMERS:

N/A

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT Ship Contract Design/LFT&E 0604567N				PROJECT NUMBER AND NAME 1803 Ship Contract Design						
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
CG Mod Class Design/Integration	SS/CPAF	Northrop Grumman, Pascago	CONT.	7.253	10/02	0.768	02/04	5.759	10/04	CONT.	CONT.	CONT.
CG Mod Electronic Systems Eng	C/CPAF	LMGES, Moorestown, NJ	CONT.	1.600	10/02	1.000	02/04	2.810	10/04	CONT.	CONT.	CONT.
CG Mod Electronic Systems Eng	C/CPAF	NAWCAD, Pax River, MD	CONT.	0.335	10/02					CONT.	CONT.	CONT.
CG Mod Ship Integration Eng	C/CPFF	JJMA/CSC/BAE, Arl, VA	CONT.	2.794	10/02					CONT.	CONT.	CONT.
CG Mod Ship Integration Eng	WX	NSWC/DD, Dahlgren, VA	CONT.	1.000	10/02					CONT.	CONT.	CONT.
CG Mod Ship Integration Eng	C/CPFF	NSWC/SSES	CONT.	0.620	10/02					CONT.	CONT.	CONT.
HLCAC Propulsion System Design	C/CPFF	TBD						1.000	03/05	CONT.	CONT.	CONT.
Subtotal Product Development			CONT.	13.602		1.768		9.569		0.000	24.939	
Remarks:												
CG Mod Training System Developme	MISC	ATRC, LMGES, Moorestown	CONT.	0.000	10/02					CONT.	CONT.	CONT.
CG Mod Integrated Logistics Support	MISC	NSWC/PHD, PRC	CONT.	0.968	10/02					CONT.	CONT.	CONT.
HLCAC Government Engineering Spt	MISC	NSWC DD: Panama City						0.653	12/04	CONT.	CONT.	CONT.
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Support			CONT.	0.968		0.000		0.653		0.000	1.621	
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT Ship Contract Design LFT&E 0604567N				PROJECT NUMBER AND NAME 1803 Ship Contract Design						
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
CG Mod Developmental Test & Evalu	C/CPFF	Grayhawk, Comtek, DTI, Log	CONT.	0.358	10/02					CONT.	CONT.	CONT.
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal T&E			CONT.	0.358		0.000		0.000		0.000	0.358	
Remarks:												
HLCACTravel								0.027	12/04	CONT.	CONT.	CONT.
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Management			0.000	0.000		0.000		0.027		0.000	0.027	
Remarks:												
Total Cost			CONT.	14.928		1.768		10.249		0.000	26.945	
Remarks:												

CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **February 2004**

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

PROGRAM ELEMENT NUMBER AND NAME: Ship Contract Design/LFT&E 0604567N

PROJECT NUMBER AND NAME: 1803 Ship Contract Design

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																																
CG Baseline 4 Contract Design	═	═	═	═	═	═	═	═	═	═	═	═	═	═	═	═	═	═	═	═	═	═	═	═	═	═	═	═	═	═	═	═
CG Baseline 2 Contract Design													═	═	═	═	═	═	═	═	═	═	═	═	═	═	═	═	═	═	═	═
CG Baseline 3 Contract Design																									═	═	═	═	═	═	═	═
Heavy Lift LCAC Design Development													═	═	═	═	═	═	═	═	═	═	═	═	═	═	═	═	═	═	═	═
Test & Evaluation Milestones																																
CG Modernization:																																
Susceptibility & Vulnerability Analyses									═	═	═	═	═	═	═	═	═	═	═	═												
Recoverability Analyses									═	═	═	═	═	═	═	═	═	═	═	═												
Total Ship Survivability Trial																					▲											
Vulnerability Analysis Report																						▲										
Production Milestones																																
CG Modernization:																																
Procurement Awards									▲				▲				▲	▲			▲	▲			▲	▲				▲	▲	▲
Deliveries																								1				1				2

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT Ship Contract Design/LFT&E 0604567N				PROJECT NUMBER AND NAME 1803 Ship Contract Design			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Cruiser Moderinization								
Continue CG Baseline 4 Engineering	1Q	1Q	1Q	1Q	1Q	1Q	1Q	1Q
Initiate & Continue CG Baseline 2 Engineering				1Q	1Q	1Q	1Q	1Q
Initiate & Continue CG Baseline 3 Engineering							1Q	1Q
Initiate CG Susceptibility and Vulnerability Analyses			1Q					
Initiate CG Recoverability Analyses			1Q					
CGM Procurement Award			1Q					
CGM Procurement Award				1Q				
CGM Procurement Award					1Q			
CGM Procurement Award					1Q			
CGM Procurement Award						1Q		
CGM Procurement Award						1Q		
CGM Procurement Award							1Q	
CGM Procurement Award							1Q	
CGM Procurement Award								1Q
CGM Procurement Award								1Q
CGM Procurement Award								1Q
Heavy Lift LCAC								
Initiate & Continue Heavy Lift LCAC Design Development				1Q	1Q	1Q	1Q	1Q

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME Ship Contract Design/LFT&E 0604567N				PROJECT NUMBER AND NAME 2198 LFT&E			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**0.000**	**4.345**	**4.474**	**2.722**	**1.545**	**0.000**	**0.000**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This project provides for the development and performance of Live Fire Test and Evaluation analyses, tests, trials, and other engineering inofrmation required to fulfill statutory and programmatic requirements for combat effective naval warfare for the Cruiser Modernization Program.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	Ship Contract Design/LFT&E 0604567N	2198 LFT&E

B. Accomplishments/Planned Program

Cruiser Modernization Program	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	4.345	4.474
RDT&E Articles Quantity			

Perform suseptibility, vulnerability, and recoverability analyses for the Cruiser Modernization Program. Continue planning and preparations for the Total Ship Survivability Trial planned for FY07.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / E BA-5	Ship Contract Design/LFT&E 0604567N	2198 LFT&E

C. PROGRAM CHANGE SUMMARY:

	FY 2003	FY 2004	FY 2005
Previous President's Budget:	0.000	4.394	4.492
Current President's Budget:	0.000	4.345	4.474
Total Adjustments	0.000	-0.049	-0.018
Summary of Adjustments			
Congressional undistributed reductions		-0.049	
SBIR reduction			
Inflation Adjustments			-0.015
Miscellaneous Adjustments			-0.003
Subtotal	0.000	-0.049	-0.018

Schedule:

CG Modernization LFT&E efforts are funded in RDT&E,N and have been scheduled consistent with the lead ship Total Ship Survivability Trial and Vulnerability Analysis Report in FY07.

Technical:

Not Applicable.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	Ship Contract Design/LFT&E 0604567N	2198 LFT&E

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
SCN 202000 CG Modernization	65									65
OPN 096000 CG Modernization			79	114	247	223	282	408	1,430	2,783
WPN 422300 CG Modernization			15	9	32	42	34	53	356	541
O&MN 1B5B CG Modernization			8	43	99	146	213	217	1,618	2,344

E. ACQUISITION STRATEGY:

TBD

F. MAJOR PERFORMERS:

TBD

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT Ship Contract Design/LFT&E 0604567N			PROJECT NUMBER AND NAME 2198 LFT&E							
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
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT Ship Contract Design/LFT&E 0604567N			PROJECT NUMBER AND NAME 2198 LFT&E							
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
CG Modernization LFT&E	MISC	NRL/Greyhawk				4.345	10/03	4.474	10/04	4.267	13.086	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal T&E			0.000	0.000		4.345		4.474		4.267	13.086	
Remarks:												
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			0.000	0.000		4.345		4.474		4.267	13.086	
Remarks:												

CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **February 2004**

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

PROGRAM ELEMENT NUMBER AND NAME: Ship Contract Design/LFT&E 0604567N

PROJECT NUMBER AND NAME: 2198 LFT&E

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																																
Test & Evaluation Milestones Susceptibility & Vulnerability Analyses Recoverability Analyses Total Ship Survivability Trial Vulnerability Analysis Report																																
Production Milestones CG Modernization Procurement Awards																																
Deliveries																								1				1				2

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT Ship Contract Design/LFT&E 0604567N				PROJECT NUMBER AND NAME 2198 LFT&E			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Initiate & Continue CG Susceptibility and Vulnerability Analyses			1Q	1Q	1Q			
Initiate & Continue CG Recoverability Analyses			1Q	1Q	1Q			
CG Total Ship Survivability Trial						2Q		
CG Vulnerability Analysis Report						3Q		

EXHIBIT R-2a, RDTE Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDTE,N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME Ship Contract Design / LFT&E 0604567N				PROJECT NUMBER AND NAME 2465/9235/9236/LHA(R)			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total Project Cost		**38.077**	**64.137**	**44.180**	**40.232**	**45.991**	**32.097**	**15.208**
S2465/LHA Replacement		**0.000**	**64.137**	**44.180**	**40.232**	**45.991**	**32.097**	**15.208**
S9235/LHA(R) Transfer from LHD 1 AP		**9.521**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
S9236/LHA(R) Design		**28.556**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**

Defense Emergency Response Funds (DEAF) Funds: Not applicable.

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The mission of the LHA Replacement (R) Program is a spiral development ship construction program designed to: provide a functional replacement for the LHA 1 Class ships which will reach the end of their extended service lives in consecutive years beginning in FY 11; ensure that the Amphibious Fleet remains capable of Expeditionary Strike Warfare in support of the Navy and Marine Corps Global CONOPS well into the 21st. Century; and provide for an affordable and sustainable amphibious ship development program. LHA(R) ships will provide forward presence and power projection as an integral part of Joint, interagency, and mult-national maritime expeditionary forces.

The LHA 1 class is a multi purpose amphibious assault ship delivered to the Navy in the 1970's. The design merged the flight deck of an LPH and the vehicle and well deck of an LPD. The design allowed the use of helicopters and landing craft to conduct amphibious assaults. As technology evolved, new amphibious assault systems have been introduced into service (e.g. LCAC) which required the modification of the LHA design, resulting in the LHD 1 Class. The LHA(R) 1 will be a modified LHD 8 Variant (Plug Plus with increased length and beam) and a repeat of the warfare system of LHD 8, with a new MFR/VSR based warfare system targeted for LHA(R) 2. New systems, such as the MV-22, AAAV, and the JSF are currently in development and, in order to fully integrate these systems, a ship with greater flight deck capability and improved stability is required. Future programs such as the CH-53E and AH-1Z replacement aircraft will further stress current ship designs. To facilitate new USMC operational doctrine, such as Operational Maneuver From the Sea, Ship to Objective Maneuver, and Seabased logistics, operational requirements will be modified for these improved capabilities.

FY 2003 ACCOMPLISHMENTS:

(U) ($38.077M) Transitioned from the early design efforts into the efforts leading to shipbuilding contract award of LHA(R) 1. Commenced resolution of system engineering, ship/system integration, design issues, and follow-on test and evaluation requirements definition.

FY 2004 PLAN:

(U) ($64.137M) Continue resolution of engineering/design issues and initiate the contract data package, including design drawings and ship specifications. Commence Total Ship integration through the IPPD process to incorporate design improvements. Continue warfare system design refinement. Commence improvements targeted at reducing operating and life cycle support costs. Continue development of requirements to support DT/OT. Resolve low confidence areas in analytical models for LFT&E concerns and continue LFT&E surrogate test program.

FY 2005 PLAN:

(U) ($36.000M) LHA(R) 1: Continue the integration of design improvements into the Total Ship Design. Continue developing functional and system level design and transitioning these efforts into the total ship engineering package that forms the basis for the solicitation package for the detail design and construction of the ship.

(U) ($8.180M) LHA(R) 2: Commence studies to support the design requirements to meet the operational requirements for LHA(R) 2. Commence identifying impacts and design issues for (1) integration of the MFR/VSR based warfare system targeted for LHA(R) 2, (2) ship system and structure changes required for full integration of new fielded systems such as MV-22 and AAAV and other replacement/new craft to be developed such as JSF and Heavy Lift LCAC, and (3) other changes required for the ship to meet operational requirements.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA5	Ship Contract Design / LFT&E 0604567N	2465 / 9235 / 9236 LHA(R)

B. Accomplishments/Planned Program

LHA(R) 1	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	38.077	64.137	36.000	32.000	0.000	0.000	0.000
RDT&E Articles Quantity							

LHA(R) 2	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.000	0.000	8.180	8.232	45.991	32.097	15.208
RDT&E Articles Quantity							

Initiate design efforts leading to shipbuilding contract award for LHA(R) 2. Resolve design issues and initiate the contract data package, including design drawings and specifications. Continue Total Ship Integration through the IPPD process to incorporate design inmprovements. Initiate design refinement of MFR/VSR based Warfare System. Continue improvements targeted at reducing operating and support costs. Continue development of system decision data packages. Continue development of requirements necessary to support DT/OT. Continue susceptibility assessments. Resolve low confidence areas in analytical models for LFT&E concerns and continue LFT&E surrogate test program.

	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Quantity							

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	Ship Contract Design / LFT&E 0604567N	2465 / 9235 / 9236 LHA(R)

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 04)	39.119	64.873	44.569
Current President's Budget: (FY05)	38.077	64.137	44.180
Total Adjustments	-1.042	-0.736	-0.389
Summary of Adjustments			
SPAWAR Service Cost Center Adjustment		-0.014	-0.013
SBIR reductions	-1.042		
Congressional undistributed reductions		-0.722	
NWCF Rate Adjustments			-0.207
Inflation Adjustments			-0.142
Miscellaneous Adjustments			-0.027
Subtotal	-1.042	-0.736	-0.389

Schedule:

Technical:

Not Applicable.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME Ship Contract Design / LFT&E 0604567N	PROJECT NUMBER AND NAME 2465 / 9235 / 9236 LHA(R)

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
PE 0603563N Ship Concept Advanced Design	25	21	4	2	22	2	2		
PE 0603564N Ship Prelim. Design & Feas. Studies	2	0	0	0	0	100	75		
SCN 304100 LHA Replacement	0	0	0	0	0	3,104	0.000		

E. ACQUISITION STRATEGY:

The acquisition strategy for the contract design and for the detail design and construction of LHA(R)1 is continuing to be addressed within the Navy. One of the strategies being addressed is sole source procurement to Northrop Grumman Ship Systems, who has constructed all ships of the LHA and LHD classes. LHA(R) 1 configuration is Analysis of Alternatives Concept LHD Modified Repeat (Plug Plus), without radar cross section reduction, and with repeat of LHD 8 warfare system with fact of life changes. Resources for comprehensive manpower optimization are not funded within current program requirements as reflected in this project.

F. MAJOR PERFORMERS:

TBD

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT Ship Contract Design / LFT&E 0604567N			PROJECT NUMBER AND NAME 2465 / 9235 / 9236 LHA(R)						
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			Target Value of Contract
Ship Design	TBD	TBD	0.000	29.339	03/03	43.151	10/03	21.545	10/04			CONT.
Systems Engineering	TBD	TBD	0.000	8.738	03/03	20.986	10/03	22.635	10/04			CONT.
Subtotal Product Development			0.000	38.077		64.137		44.180				
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:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2) (continued)								DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT Ship Contract Design / LFT&E 0604567N			PROJECT NUMBER AND NAME 2465/9235/9236 LHA(R)						
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			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		
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support											0.000	
Travel											0.000	
Labor (Research Personnel)											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			0.000	38.077		64.137		44.180			146.394	
Remarks:												

CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **February 2004**

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

PROGRAM ELEMENT NUMBER AND NAME: Ship Contract Design / LFT&E 0604567N

PROJECT NUMBER AND NAME: 2465 / 9235 / 9236 LHA(R)

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																																
Overarching Integrated Product Team Review												△																				
Continue Transitioning Design Efforts for LHA(R) 1								△																								
Begin Design of LHA(R) 2												△																				
Milestone B																							△									
Test & Evaluation Milestones																																
EOA														△				△														
Production Milestones																																
LHA(R) 1 Shipbuilding Contract Award																									△							
Deliveries																																

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT Ship Contract Design / LFT&E 0604567N				PROJECT NUMBER AND NAME 2465 / 9235 / 9236 LHA(R)			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Overarching Integrated Product Team			4Q					
Continue Transitioning Design Efforts for LHA(R) 1			1Q					
Begin Design of LHA(R) 2				1Q				
Milestone B						3Q		
LHA(R) 1 Shipbuilding Contract Award							1Q	
EOA				2Q	1Q			

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 Ship Contract Design/LFT&E 0604567N			
COST ($ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	
Total PE Cost								
9389 LHD 8 Performance Based Logistics (PBL)	**0.000**	**1.384**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	

Defense Emergency Response Funds (DERF) Funds: Not applicable.

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Establish and operate a PBL Working Group to develop and implement the PBL strategy and plan for LHD 8. LHD 8 Propulsion, Power Generation, and Power Management systems are comprised primarily of new development items and Commerical Off The Shelf (COTS) items that are not presently supported in the Navy's existing logistics support system infrastructure. The integrated logistics support requirements for these systems including material, technical documentation, training, maintenance, system engineering and life cycle support processes and deliverables that must be in place at the time of the LHD 8 delivery to ensure adequate post-delivery and life cycle support of the vessel must be adequately defined.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA5	0604567N Ship Contract Design / LFT&E	9389/LHD 8 Performance Based Logisitics (PBL)

B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.000	1.384	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Quantity							

Establish and operate a PBL Working Group to develop and implement the PBL strategy and plan for LHD 8. LHD 8 Propulsion, Power Generation, and Power Management systems are comprised primarily of new development items and Commerical Off The Shelf (COTS) items that are not presently supported in the Navy's existing logistics support system infrastructure. The integrated logistics support requirements for these systems including material, technical documentation, training, maintenance, system engineering and life cycle support processes and deliverables that must be in place at the time of the LHD 8 delivery to ensure adequate post-delivery and life cycle support of the vessel must be adequately defined.

	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Quantity							

	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Quantity							

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604567N Ship Contract Design / LFT&E	9389/LHD 8 Performance Based Logisitics (PBL)

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 04)	0.000	0.000	0.000
Current President's Budget: (FY05)	0.000	1.384	0.000
Total Adjustments	0.000	1.384	0.000
Summary of Adjustments			
Congressional Add		1.384	
Subtotal	0.000	1.384	0.000

Schedule:

Not Applicable

Technical:

Not Applicable.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604567N Ship Contract Design / LFT&E	9389/LHD 8 Performance Based Logisitics (PBL)

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
SCN 303500 LHD 8 *	238.1	352.2	236.0	121.9	0	0	0	0	948.158

*LHD 8 is an incrementally funded program with funding in FY99-06.

E. ACQUISITION STRATEGY:

The acquisition strategy for this effort includes participation from both Government activities and industry (Northrop Grumman Ship Systems (NGSS)).

F. MAJOR PERFORMERS:

Northrop Grumman Ship Systems (NGSS)

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604567N Ship Contract Design / LFT&E			PROJECT NUMBER AND NAME 9389/LHD 8 Performance Based Logisitics (PBL)						
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			
Subtotal Product Development												
Remarks:												
Development Support											0.000	
Software Development											0.000	
Training Development											0.000	
Integrated Logistics Support	Various	NGSS/Gov't Activities				1.384	Various				0.000	
Configuration Management											0.000	
Technical Data											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			0.000	0.000		1.384		0.000		0.000	1.384	
Remarks: *Modification to existing shipbuilding contract to NGSS												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2) (continued)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604567N Ship Contract Design / LFT&E			PROJECT NUMBER AND NAME 9389/LHD 8 Performance Based Logisitics (PBL)						
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			
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				
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support											0.000	
Travel											0.000	
Labor (Research Personnel)											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			0.000	0.000		1.384		0.000		0.000	0.000	1.246
Remarks:												

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																															
																													Date: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**									PROGRAM ELEMENT NUMBER AND NAME 0604567N Ship Contract Design / LFT&E														PROJECT NUMBER AND NAME 9389/LHD 8 Performance Based Logisitics (PBL)							
Fiscal Year	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																												
Production Milestones																												
Establish Working Group					△	△																						
Initiate Plan/Req Determination						△							△															
Final Report													△															
Deliveries																												

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT 0604567N Ship Contract Design / LFT&E				PROJECT NUMBER AND NAME 9389/LHD 8 Performance Based Logisitics (PBL)			
Schedule Profile	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	
Establish Working Group		1Q						
Initiate Planning/Requirements Determination		2Q						
Final Report				1Q				

CLASSIFICATION:

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 0604574N / NAVY TACTICAL COMPUTER RESOURCES			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost		**15.377**	**12.521**	**2.381**	**2.472**	**2.984**	**3.034**	**3.088**
1353 Standard Hardware		**12.545**	**12.521***	**2.381**	**2.472**	**2.984**	**3.034**	**3.088**
9076 Multi-Level Security For Network-Centric AN/UYQ-70		**2.832**						

Defense Emergency Resonpses funds (DERF) : Not applicable.

A. Mission Description and Budget Item Justification: Perform the system engineering necessary to explore, evaluate and verify Commercial-off-the-Shelf/Open System Architecture (COTS/OSA) technologies and products to be introduced into the AN/UYQ-70(V) Advanced Display System product line. Develop small and inexpensive inertial measurement system that will provide precision pointing control and instrumentation for a variety of Acquisition Tracking and Pointing (ATP) system applications with primary emphasis on laser weapons. Systems engineering to develop the requirements and specifications for laser targeting power and timing as part of the laser designation and weapon system. System engineering and analysis for the operational utilization concept and the complementary operational effectiveness of the combined laser system components with the defensive missile system and combat system. Systems engineering and analysis of Laser material interaction and Lethality.

*FY04 includes three Congressional Adds totaling 10.4M

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **FEBRUARY 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604574N / NAVY TACTICAL COMPUTER RESOURCE			PROJECT NUMBER AND NAME; 1353/Standard Hardware 9076/Multi-Level Security				
COST ($ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	
Project Cost	**15.377**	**12.521**	**2.381**	**2.472**	**2.984**	**3.034**	**3.088**	
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

A. Mission Description and Budget Item Justification: Perform the system engineering necessary to explore, evaluate and verify Commercial-off-the-Shelf/Open System Architecture (COTS/OSA) technologies and products to be introduced into the AN/UYQ-70(V) Advanced Display System product line. Develop small and inexpensive inertial measurement system that will provide precision pointing control and instrumentation for a variety of Acquisition Tracking and Pointing (ATP) system applications with primary emphasis on laser weapons. Systems engineering to develop the requirements and specifications for laser targeting power and timing as part of the laser designation and weapon system. System engineering and analysis for the operational utilization concept and the complementary operational effectiveness of the combined laser system components with the defensive missile system and combat system. Systems engineering and analysis of Laser material interaction and Lethality.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME; 1353/Standard Hardware
RDT&E, N / BA-5	0604574N/Navy Tactical Computer	9076/Multi-Level Security

B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	12.545	8.471	2.381	
RDT&E Articles Quantity				

FY 2003 Accomplishments: Continued development and qualifications of two new air-cooled AN/UYQ-70 variants, an auxiliary components enclosure (ACE) and auxiliary components display (ACED). Performed systems integrating activities in support of (ACE) and (ACED).
FY2004 Plan: Develop technical insertion options. FY04 funding includes Congressional Add of $6.350.

	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	0.000	2.550	0.000	
RDT&E Articles Quantity				

FY 2004 Plan: Develop the Secure Voice System (SVS) Advanced Development Models (ADM) and First Production Units (FPU) for the AN/UYQ-70 Program.

	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	2.832	1.500	0.000	
RDT&E Articles Quantity				

FY 2003 Accomplishments: Continued development of a stateless, ultra thin client network solution that provides data separation and privacy over the network via NSA certified solution that supports secure voice, video, and data requirements of the war fighter.
FY 2004 Plan: Continue development of a stateless, ultra thin client network solution that provides data separation and privacy over the network via NSA certified solution that supports secure voice, video, and data requirements of the war fighter.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME; 1353/Standard Hardware,
RDT&E, N / BA-5	0604574N / NAVY TACTICAL COMPUTER RESOURCES	9076/Multi-Level Security

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 04 Pres Controls)	15.803	2.267	2.456
Current BES/President's Budget (FY05 PresBud Controls)	15.377	12.521	2.381
Total Adjustments	-0.426	10.254	-0.075
Summary of Adjustments			
Program Offsets			
SBIR	-0.420		
Miscellaneous Pricing Adjustments		-0.046	
FFRDC Reduction		-0.004	
Manpower			-0.065
Management Imrpovements		-0.023	
NWCF/NSWC Rates			-0.004
BSO Adjustment	-0.006		
AN/UYQ-70(V) System Technology Insertion (C.A)		6.350	
Secure Voice System (C.A.)		2.550	
Secure Rapidly Reconf. Archit. For USS (C.A.)		1.500	
Eddixiwnxiwa/Ewcia		-0.073	
PBD-604 Inflation			-0.006
Subtotal	-0.426	10.254	-0.075

N/A

Technical:

N/A

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME; 1353/Standard Hardware
RDT&E, N / BA-5	0604574N / NAVY TACTICAL COMPUTER RESOURCES	9076/Multi-Level Security

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	To Complete	Total Cost
Other Program Funding Summary					
Related RDT&E					
PE 0603382N (ADV COMBAT SYS TECHNOLOGY)	3.214	3.394	3.346		
PE 0603502N (SHALLOW WATER MCM)	148.356	140.731	101.076		
PE 0603658N (COOPERATIVE ENGAGE)	0	21.244	16.489		
PE 0604307N (AEGIS WEAPON SYS MODS)	340.426	205.733	208.048		
PE 0604366N (STD MSL IMP)	20.819	76.927	100.633		
PE 0604755N (SHIP SELF DEFENSE)	60.598	40.93	25.633		
PE 0604503N SSN-688/TRIDENT MOD	92.153	66.519	31.936		
PE 0604561N SSN-21 DEVELOPMENT	16.353	13.482	3.057		
PE 0604562N SUB TACT WARFARE SYS	25.089	32.238	35.67		
PE 0603502N (SHALLOW WATER MCM)	148.356	140.731	101.076		

F. MAJOR PERFORMERS: **

N/A

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

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **FEBRUARY 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604574N / NAVY TACTICAL COMPUTER RESOURCES			PROJECT NUMBER AND NAME 1353/Standard Hardware 9076/Multi-Level Security						
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	Various	Various	195.5								195.500	
Ancillary Hardware Development	Various	Various	0.65								0.650	
Component Development											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	Various	Various	63.435	13.787	10/03	5.000	TBD	1.525	TBD	continuing	continuing	
Training Development			1.000								1.000	
Licenses			1.000								1.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			261.585	13.787		5.000		1.525		continuing	Continuing	
Remarks:												
Development Support (HIS)	Various	Various				1.100	TBD		TBD	Continuing	Continuing	
Software Development	Various	Various	39.109			1.000	TBD		TBD	Continuing	Continuing	
Training Development	Various	Various	1.375			0.200	TBD		TBD	Continuing	Continuing	
Integrated Logistics Support	Various	Various	2.172			0.300	TBD		TBD	Continuing	Continuing	
Configuration Management	Various	Various	0.700			2.000	TBD		TBD	Continuing	Continuing	
Technical Data	Various	Various	1.138			0.200	TBD		TBD	Continuing	Continuing	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			44.494	0.000		4.800		0.000		Continuing	Continuing	
Remarks:												

Exhibit R-2a, RDTEN Project Justification

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: **FEBRUARY 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604574N / NAVY TACTICAL COMPUTER RESOURCES				PROJECT NUMBER AND NAME 1353/Standard Hardware 9076/Multi-Level Security						
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	Various	Various	24.535	0.950		0.821		0.426		Continuing	Continuing	Continuing
Operational Test & Evaluation	Various	Various	16.888	0.640		0.900		0.430		Continuing	Continuing	Continuing
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			41.423	1.590		1.721		0.856		Continuing	Continuing	
Remarks:												
Contractor Engineering Support	Various	Various				1.000						
Government Engineering Support											0.000	
Program Management Support											0.000	
Travel											0.000	
Labor (Research Personnel)											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	0.000		1.000		0.000		Continuing	Continuing	
Remarks:												
Total Cost			347.502	15.377		12.521		2.381		continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 117

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																															DATE:
																															February 2004
APPROPRIATION/BUDGET ACTIVITY									PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME 1353/Standard Hardware											
RDT&E, N / **BA-5**									0604574N / NAVY TACTICAL COMPUTER RESOURCES												9076/Multi-Level Security											
Fiscal Year	2002				2003				2004				2005																			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4																

R-1 SHOPPING LIST - Item No. 117

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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE:			
	Not Applicable				**February 2004**			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME 1353/Standard Hardware			
RDT&E, N / BA-5	0604574N / NAVY TACTICAL COMPUTER RESOURCES				9076/Multi-Level Security			
Schedule Profile		FY 2003	FY 2004	FY 2005				

R-1 SHOPPING LIST - Item No. 117

CLASSIFICATION:

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 0604601N, Mine Development					
COST ($ in Millions)	Prior Years Cost		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Total Program
Project 0267 Mine Development	**170.698**		**1.455**	**1.480**	**6.123**	**15.455**	**15.675**	**15.940**	**5.470**	**Continuing**	**Continuing**
RDT&E Articles Qty	**N/A**		**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**0**	**0**

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

This project is the only R&D program for mine systems, and is the sole support for the capability to maintain the effectiveness of mines facing new threat targets and increasing emphasis on major regional conflicts and littoral warfare in shallow water. Project tasks are grouped into several areas:

(1a) Threat Modeling/Analysis, which collects, analyzes, and develops digital models of data on current priority threat target characteristics to support computer simulations;

(1b) Target Detection and Response, which uses target models to develop optimal mine designs, settings, and firing algorithms;

(2) Developing and upgrading Tactical Decision Aids (TDAs) to assist the warfighter in planning and placing more effective minefields;

(3) Designing and developing the 2010 Mine, which is a replacement for Underwater Mine MK 56. Mine MK 56 is designated to be removed from service by the year 2010. The 2010 Mine design will include provisions for future capability upgrades. Future upgrades might include: (a) 2-way remote command & control of the minefield, (b) precision standoff delivery from aircraft, (c) an enlarged target detection and damage radius, and (d) advanced power systems for the mine.

R-1 SHOPPING LIST - Item No. 118

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604601N, Mine Development	0267, Mine Development

(U) B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.423	0.455	4.733
RDT&E Articles Quantity				

Product Development:

FY 2003 PLANS
- ($0.423) System Engineering: Conduct Analysis of Alternatives for 2010 Mine Development.

FY 2004 PLANS
- ($0.455) System Engineering: Draft requirements for 2010 Mine.

FY 2005 PLANS
- ($4.210) Hardware Development: Initiate 2010 Mine design and development.
- ($0.523) System Engineering: Initiate development of Concept of Operations and conduct other tactical analysis modeling and simulation in support of 2010 Mine development.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604601N, Mine Development	0267, Mine Development

(U) B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.857	0.877	1.308
RDT&E Articles Quantity				

Development Support:

FY 2003 PLANS
- ($0.807) Software Development: Develop target detection algorithms for diesel-electric mini-subs and MCM ships. Continue development of PC-based, MEDAL-compliant TDA for minefield
- ($0.050) Integrated Logistic Support (ILS)

FY 2004 PLANS
- ($0.827) Software Development: Continue development of target detection algorithms and PC-based, MEDAL-compliant TDA for minefield planning.
- ($0.050) Integrated Logistic Support (ILS)

FY 2005 PLANS
- ($1.158) Software Development: Continue development of target detection algorithms and PC-based, MEDAL-compliant TDA for minefield planning.
- ($0.150) IIntegrated Logistic Support (ILS)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604601N, Mine Development	PROJECT NUMBER AND NAME 0267, Mine Development

(U) B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.175	0.148	0.082
RDT&E Articles Quantity				

Management:

FY 2003 PLANS
- ($0.170) Program Management Support
- ($0.005) Travel

FY 2004 PLANS
- ($0.143) Program Management Support
- ($0.005) Travel

FY 2005 PLANS
- ($.072) Program Management Support
- ($0.010) Travel

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604601N, Mine Development	0267, Mine Development

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
FY04 President's Controls:	1.458	1.497	6.247
FY05 President's Controls:	1.455	1.480	6.123
Total Adjustments	-0.003	-0.017	-0.124
Summary of Adjustments			
Misc. adjustments	-0.003	-0.017	0.124
Subtotal	-0.003	-0.017	0.124

(U) Schedule:

Not Applicable

(U) Technical:

Not Applicable

R-1 SHOPPING LIST - Item No. 118

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604601N, Mine Development	0267, Mine Development

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
Line 323100, WPN									
QS Mod 3	1.976	3.186	2.981	3.015	3.066	3.114	3.387	Continuing	Continuing
2010 Mine Replacement	0	0	0	0	0	0	10.538	Continuing	Continuing
Total	1.976	3.186	2.981	3.015	3.066	3.114	13.925	Continuing	Continuing

(U) E. ACQUISITION STRATEGY:

NSWC CSS Panama City FL is teamed with other Navy activities and various contractors to design and develop the 2010 Mine as a replacement for the Mine MK56. Procurement is scheduled to start in FY09

(U) F. MAJOR PERFORMERS:

- NSWC, CSS, Panama City, FLA: Design and develop the 2010 Mine as a replacement for the Mine MK56.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604601N, Mine Development				PROJECT NUMBER AND NAME 0267, Mine 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
Primary Hardware Development	RCP	NWSC, CSS	106.622					4.210	12/04	Cont.	Cont.	N/A
Ancillary Hardware Development			2.158								2.158	N/A
Ship Suitability	WR	NWSC, CSS	1.057	0.423	12/02	0.455	12/03	0.523	12/04	Cont.	Cont.	N/A
GFE			4.790								4.790	N/A
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			114.627	0.423		0.455		4.733		Cont.	120.238	
Remarks:												
Software Development	WR	Various	3.837	0.807	12/02	0.827	12/03	1.158	12/04	Cont.	Cont.	N/A
Integrated Logistics Support	WR	NWSC, CSS	0.220	0.050	12/02	0.050	12/03	0.150	12/04	Cont.	Cont.	N/A
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Support			4.057	0.857		0.877		1.308		0.000	7.099	
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604601N, Mine Development				PROJECT NUMBER AND NAME 0267, Mine 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	WR	NWSC, CSS	15.833							Cont.	Cont.	N/A
Operational Test & Evaluation	WR	NWSC, CSS, COMOPTEVFOR								Cont.	Cont.	N/A
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal T&E			15.833	0.000		0.000		0.000		0.000	15.833	
Remarks:												
Government Engineering Support			35.599								35.599	N/A
Program Management Support	Various	Various	0.582	0.170	12/02	0.143	12/03	0.072	12/04	Cont.	Cont.	N/A
Travel	PD	NAVSEA		0.005	12/02	0.005	12/03	0.010	12/04	Cont.	Cont.	N/A
											0.000	
											0.000	
											0.000	
Subtotal Management			36.181	0.175		0.148		0.082		0.000	36.586	
Remarks:												
Total Cost			170.698	1.455		1.480		6.123		Cont.	179.756	
Remarks:												

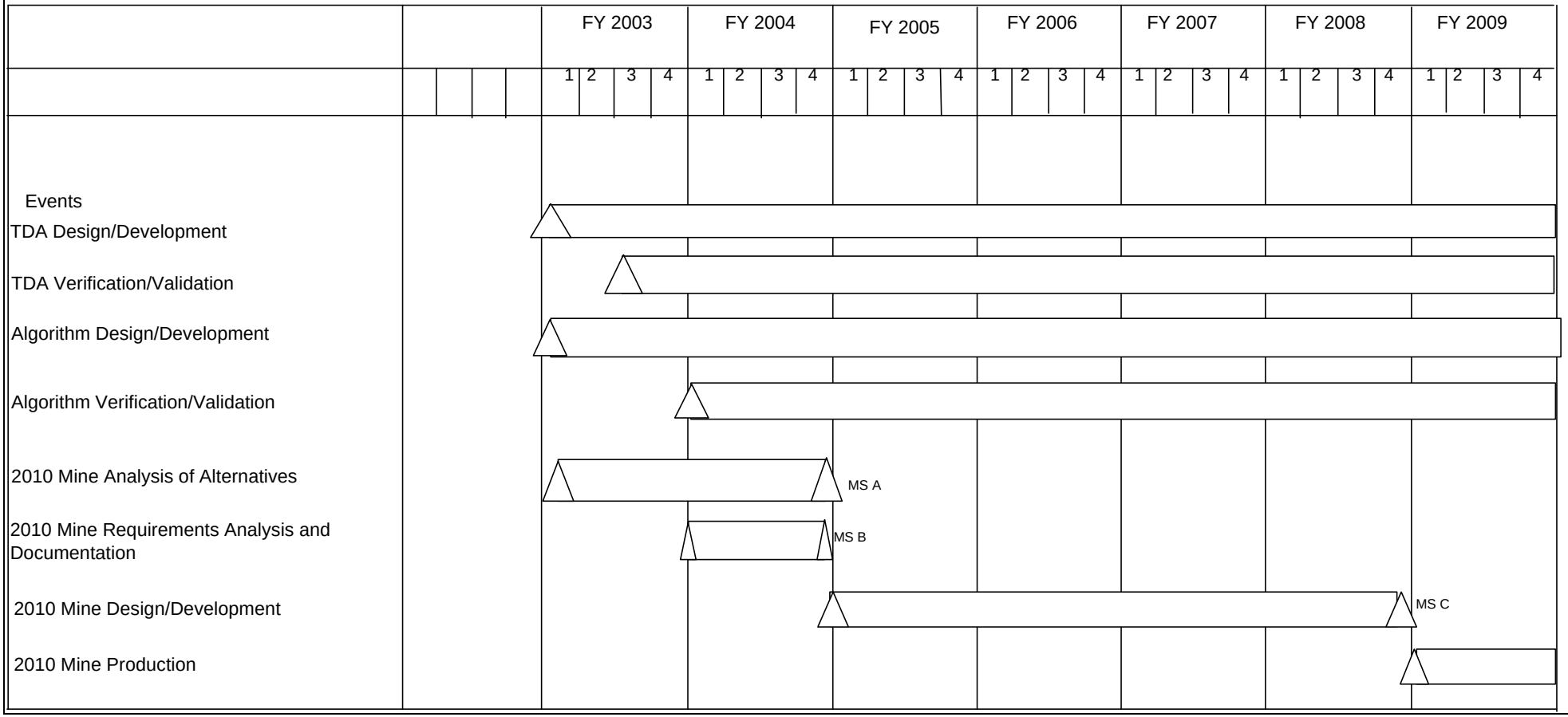
R-1 SHOPPING LIST - Item No. 118

CLASSIFICATION:

EXHIBIT R-4, Schedule Profile		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	R-1 ITEM NOMENCLATURE
RDT& E, N/BA-5	0604601N, Mine Development	0267, Mine Development

E. Schedule Profile

MINE DEVELOPMENTS PROGRAM SCHEDULE



R-1 SHOPPING LIST - Item No. 118

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N/BA-5**	PROGRAM ELEMENT 0604601N, Mine Development				PROJECT NUMBER AND NAME 0267, Mine Development			
Schedule Profile: Mine Development		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
TDA Design/Development		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
TDA Verification/Validation		3Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Algorithm Design/Development		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Algorithm Verification/Validation			1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
2010 Mine Analysis of Alternatives		1Q-4Q	1Q-4Q					
Milestone A			4Q					
2010 Mine Req Analysis and Documentation			1Q-4Q					
Milestone B			4Q					
2010 Design/Development				1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	
Milestone C							4Q	
2010 Mine Production								1Q-4Q

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 0604603N Air to Surface Munitions			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost		**13.415**	**12.065**					
A2183 SLAM-ER		**10.551**	**9.593**					
A9078 LIGHT DEFENDER PRECISION STRIKE MISSILE		**2.864**	**2.472**					

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(U) A2183/STANDOFF LAND ATTACK MISSILE-EXPANDED RESPONSE (SLAM-ER) Description: This program funds the development of SLAM-ER designed to improve performance in the areas of launch and control aircraft survivability, immunity to countermeasures, probability of kill against hardened targets, and improved user interfaces for both missile planning and launch aircraft integration. The SLAM-ER systems consist of hardware and software upgrades to the missile, software upgrades to the F/A-18 aircraft, and software upgrades to the Joint Missile Planning System (JMPS).

(U) A9078/LIGHT DEFENDER PRECISION STRIKE MISSILE Description: This program has been inititated to integrate and adapt the existing Light Defender missile for the MH-60 aircraft for Anti-Surface Warfare mission applications. Initial IOC is anticipated in FY 2007. The funds are a Congressional add to pay for the integration of initial risk reduction efforts to the missile.

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2004	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	0604603N Air to Surface Munitions			PROJECT NUMBER AND NAME A2183 SLAM-ER			
COST ($ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost	**10.551**	**9.593**					
RDT&E Articles Qty							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: A2183/STANDOFF LAND ATTACK MISSILE - EXPANDED RESPONSE (SLAM-ER) Description: This program funds the development of SLAM-ER designed to improve performance in the areas of launch and control aircraft survivability, immunity to countermeasures, probability of kill against hardened targets and improved user interfaces for both missile planning and launch aircraft integration. The SLAM-ER consists of both hardware and software upgrades to the missile. SLAM-ER incorporates many non-development items i.e., the Embedded Global Positioning System/Inertial Navigation System (GPS/INS) (EGI), modified Tomahawk wings and warhead, and the existing advanced mode of the AWW-13 data link pod. The Automatic Target Acquisition (ATA) is being integrated into the SLAM-ER missile to enhance its capability to attack and kill in low thermal contrast, small targets in cluttered urban scenes, and in poor weather. The ATA capability will also reduce the overall number of Standoff Outside Area Defense (SOAD) missiles needed by increasing the probability of kill for part of the target set. In addition, ATA increases pilot and aircraft survivability by minimizing the time that the pilot needs to fly with his head down to control the weapon. SLAM-ER incorporates ATA. To accommodate future U.S. Air Force and Navy aircraft integration, SLAM-ER incorporates a MIL-STD-1760 interface. The SLAM-ER Mission Planning Module (MPM) development and modifications are required to remain compatible with the changes to the Tactical Automated Mission Planning System (TAMPS) and to migrate to the Joint Mission Planning System (JMPS). SLAM-ER aircraft software integration efforts need to remain compatible with ongoing F/A-18 periodic software builds.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /**	0604603N Air to Surface Munitions	PROJECT NUMBER AND NAME A2183 SLAM-ER

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	5.535	5.329	
RDT&E Articles Quantity			

Continue conversion of SLAM/SLAM-ER TAMPS MPM, and F/A-18 MPM into planning components of JMPS.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	5.016	4.264	
RDT&E Articles Quantity			

Continue Missile Flight Test and Evaluation to support JMPS evolutionary acquisition strategy; F/A-18 Software (17C, 19C).

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost			
RDT&E Articles Quantity			

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604603N Air to Surface Munitions	A2183 SLAM-ER

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:	10.764	9.701	0.000
Current BES/President's Budget:	10.551	9.593	0.000
Total Adjustments	-0.213	-0.108	0.000
Summary of Adjustments			
Congressional program reductions			
Congressional undistributed reductions		-0.108	
Congressional rescissions			
SBIR/STTR Tranfer	-0.084		
Economic Assumptions			
Reprogramming	-0.129		
Other Adjustments			
Congressional increases			
Subtotal	-0.213	-0.108	

(U) Schedule: Not applicable

(U) Technical: Not applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604603N Air to Surface Munitions	A2183 SLAM-ER

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
223100 SLAM-ER	82.616	50.765	0	0	0	0	0	0	133.381
WPN SLAM-ER Spares	0.782	0.652	0	0	0	0	0	0	1.434

(U) E. ACQUISITION STRATEGY: *

This is a ACAT II program, post milestone C in full rate production with an approved Acquisition Plan.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604603N Air to Surface Munitions			PROJECT NUMBER AND NAME A2183 SLAM-ER						
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											0.000	
Ancillary Hardware 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			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Development Support											0.000	
Software Development	SS/CPIF	Boeing, Mo	140.488	7.022	11/02	6.592	11/03				154.102	154.102
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses	Various	Various	47.005	0.400	Various	0.441	Various				47.846	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			187.493	7.422		7.033		0.000		0.000	201.948	
Remarks:												

CLASSIFICATION:

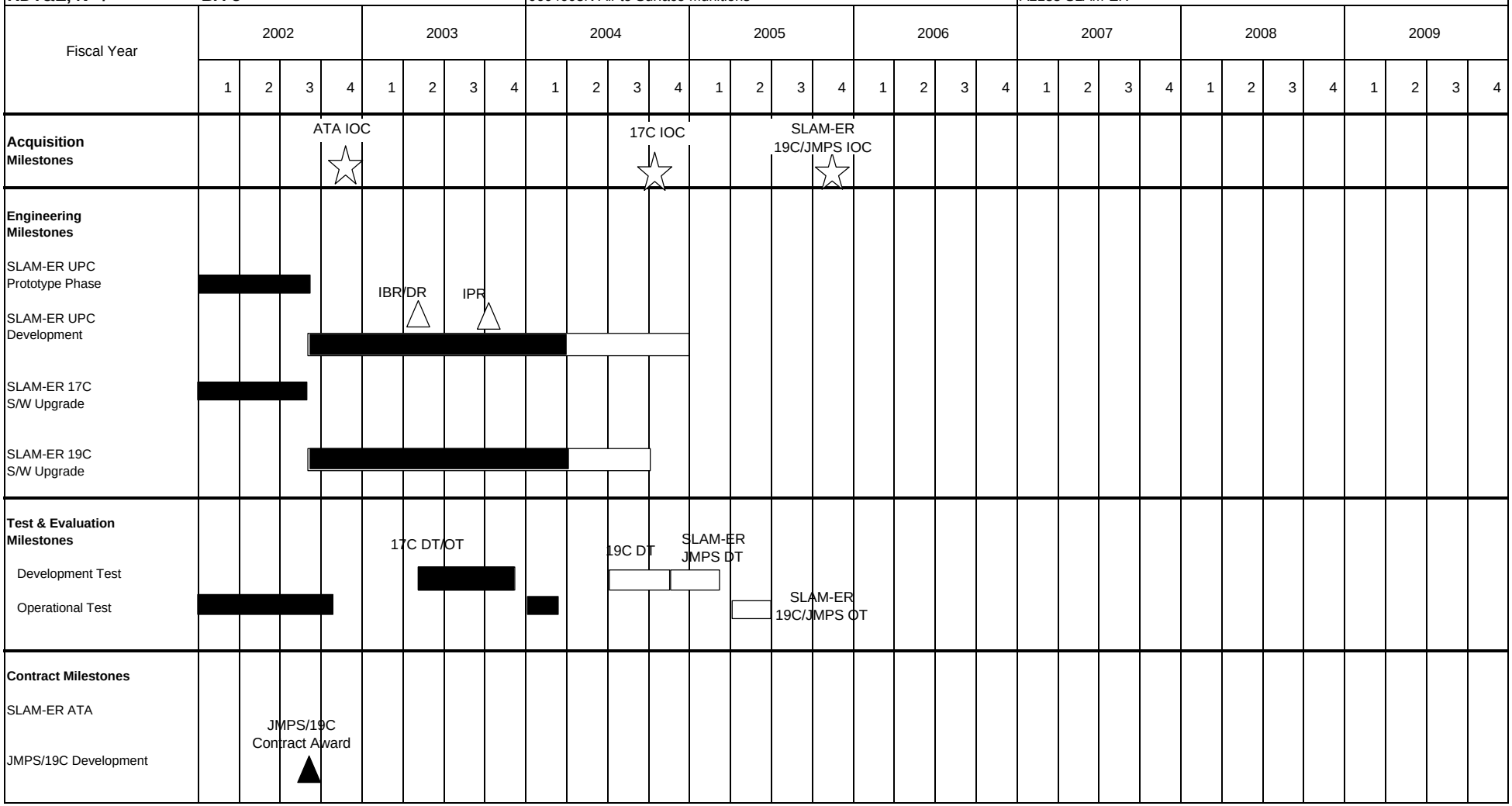
Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604603N Air to Surface Munitions				PROJECT NUMBER AND NAME A2183 SLAM-ER						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	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	WX	NAWC-WD	31.370	2.062	Various	1.500	Various				34.932	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			31.370	2.062		1.500		0.000		0.000	34.932	
Remarks:												
Contractor Engineering Support	C/FFP	Delex Corporation	1.161	0.067	08/03	0.060	08/04				1.288	1.288
Government Engineering Support	WX	TBD	0.400	0.940	Various	0.940	Various				2.280	
Program Management Support											0.000	
Travel	WX	NAWC-AD		0.060		0.060					0.120	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			1.561	1.067		1.060		0.000		0.000	3.688	
Remarks:												
Total Cost			220.424	10.551		9.593		0.000		0.000	240.568	
Remarks:												

R-1 SHOPPING LIST - Item No. 119

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	0604603N Air to Surface Munitions	A2183 SLAM-ER



R-1 SHOPPING LIST - Item No. 119

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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT 0604603N Air to Surface Munitions				PROJECT NUMBER AND NAME A2183 SLAM-ER			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
SLAM-ER UPC Prototype Phase	1Q-3Q							
SLAM-ER 17C S/W Upgrade	1Q-3Q							
SLAM-ER UPC Development Phase	3Q-4Q	1Q-4Q	1Q-4Q					
SLAM-ER 19C S/W Upgrade	3Q-4Q	1Q-4Q	1Q-3Q					
JMPS/19C UCA	3Q							
ATA FOT&E	4Q							
ATA IOC	4Q							
SLAM-ER 17C DT		2Q-4Q						
SLAM-ER UPC IBR/DR		2Q						
SLAM-ER 17C OT			1Q					
SLAM-ER UPC IPR		4Q						
SLAM-ER 17C IOC			4Q					
SLAM-ER 19C DT			3Q-4Q					
SLAM-ER JMPS DT			4Q	1Q				
SLAM-ER JMPS/19C OT				2Q				
SLAM-ER JMPS/19C IOC				4Q				

R-1 SHOPPING LIST - Item No. 119

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2004	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	0604603N Air to Surface Munitions			PROJECT NUMBER AND NAME A9078 Light Defender Precision Strike Missile			
COST ($ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost	**2.864**	**2.472**					
RDT&E Articles Qty							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: A9078/LIGHT DEFENDER PRECISION STRIKE MISSILE Description: This program has been initiated to integrate and adapt the existing Light Defender missile for the MH-60 aircraft for Anti-Surface Warfare mission applications. Initial IOC is anticipated in FY 2007. The funds are a Congressional add to pay for the integration of initial risk reduction efforts to the missile.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY		PROJECT NUMBER AND NAME
RDT&E, N /	0604603N Air to Surface Munitions	A9078 Light Defender Precision Strike Missile

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	2.864	2.472	
RDT&E Articles Quantity			

Integrate booster system onto Light Defender Weapon.

	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			

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604603N Air to Surface Munitions	A9078 Light Defender Precision Strike Missile

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:	0.000	0.000	0.000
Current BES/President's Budget:	2.864	2.472	0.000
Total Adjustments	2.864	2.472	0.000
Summary of Adjustments			
Congressional program reductions		-0.028	
Congressional undistributed reductions			
Congressional rescissions			
SBIR/STTR Tranfer	-0.069		
Economic Assumptions			
Reprogramming	2.933		
Congressional increases		2.500	
Subtotal	2.864	2.472	

(U) Schedule: Not applicable

(U) Technical: Not applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604603N Air to Surface Munitions	A9078 Light Defender Precision Strike Missile

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
Not Applicable									0

Related RDT&E,N: Not Applicable

(U) E. ACQUISITION STRATEGY:

This is a non-ACAT program with no specific acquisition strategies.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604603N Air to Surface Munitions			PROJECT NUMBER AND NAME A90782 Light Defender Precision Strike Missile							
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											0.000	
Ancillary Hardware 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			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Development Support											0.000	
Software Development											0.000	
Integrated Logistics Support	WX	NAWCAD, Pax River		0.300	11/02						0.300	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses	FFP	Lockheed Martin	4.169	2.331	09/03	2.447	09/04				8.947	8.947
GFE											0.000	
Award Fees											0.000	
Subtotal Support			4.169	2.631		2.447		0.000		0.000	9.247	
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604603N Air to Surface Munitions				PROJECT NUMBER AND NAME A90782 Light Defender Precision Strike Missile						
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	0.000
Government Engineering Support	WX	Various		0.183	11/03						0.183	
Program Management Support											0.000	
Travel	WX	NAWCAD, Pax River		0.050	08/03	0.025	Various				0.075	0.075
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	0.233		0.025		0.000		0.000	0.258	
Remarks:												
Total Cost			4.169	2.864		2.472		0.000		0.000	9.505	
Remarks:												

R-1 SHOPPING LIST - Item No. 119

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 **LIGHTWEIGHT TORPEDO DEVELOPMENT / 0604610N**				
COST ($ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost	**18.745**	**6.173**	**9.965**	**32.184**	**28.727**	**8.323**	**8.561**
Lightweight Torpedo 2234	**15.889**	**6.173**	**9.965**	**32.184**	**28.727**	**8.323**	**8.561**
Lightweight/Heavyweight Baseline Commonality 9239	**2.856**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
Quantity of RDT&E Articles			**8**				

A. (U) Mission Description and Budget Item Justification:

Lightweight Torpedo / 2234: The program designs, integrates and tests the Lightweight Torpedo (LWT, MK54). The Lightweight Torpedo provides performance improvements in shallow water, counter-measure environments. The Engineering Development Model (EDM) contract was awarded to Raytheon Systems Company in June 1996. The EDM contract has delivered twenty-one EDM units to support the in-water test program. MK54 Test & Evaluation 2234: FY 2003 Congressional increases of ($4.200M) to support extended TECHEVAL and OPEVAL programs that incorporate additional in water firings and an additional $4.390M ($2.790M BTR and $1.600M Mid-Year Review Adjustment). FY2004: Congressional increase ($2.8M) to support improvement of MK54 array performance and reliability. Starting in FY05, budget increases to support a Pre-Planned Product Improvement program for MK54 using a spiral development acquisition approach. The first spiral will focus on MK48 common hardware and software architecture enhancements and integration with Vertical Launch Anti Submarine Rocket (VLA).

Lightweight/Heavyweight Baseline Commonality 9239: FY 2003 Congressional increase ($3M) to develop and test hardware and software design changes that would realign the lightweight and heavyweight torpedo hardware and software baselines to achieve greater commonality.

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 **LIGHTWEIGHT TORPEDO DEVELOPMENT / 0604610N**

B. Accomplishments/Planned Program

MK54 Baseline Development 2234	FY 03	FY 04	FY 05
TOTAL	15.889	3.373	0.000

FY 2003 ACCOMPLISHMENTS:

Continued Lightweight torpedo system engineering, software, and hardware development efforts.
Completed TECHEVAL and initiated operational in-water test program (OPEVAL).

FY 2004 Plan

Complete OPEVAL and conduct Milestone III review in FY04 to be ready for Full Rate Production contract in FY05.

MK54 Pre-Planned Product Improvement (includes MK54 VLA Integration) 2234	FY 03	FY 04	FY 05
TOTAL	0.000	2.800	9.965
Quantity of RDT&E Articles			8

FY 2003 ACCOMPLISHMENTS:

N/A

FY 2004 Plan:

Initiate Spiral 2 engineering trade-off studies on array concept development.

FY 2005 Plan:

Initiate Spiral 1 to integrate Vertical Launch Anti Submarine Rocket (VLA) with MK54 torpedo. Efforts include hardware design, develop prototypes, hardware/software integration, and launch system integration.
Also, initiate development efforts for hardware and software improvements (single card box, MK103 warhead modification, Torpedo Downloader System (TDS), and Advanced Processor Build (APB) software upgrade).

Lightweight/Heavyweight Baseline Commonality 9239	FY 03	FY 04	FY 05
TOTAL	2.856	0.000	0.000

FY 2003 ACCOMPLISHMENTS:

Congressional funds for this task were received at the beginning of 2Q FY03. Initiated Lightweight/Heavyweight Baseline Commonality initiatives to better align lightweight and heavyweight torpedoes hardware and software baselines. Conducted engineering trade-off studies needed to specify hardware and software design requirements and design approaches. Results of these studies identified priorities and associated risks for P3I.
Complete top level design of a single card box to combine the forward and aft processor assemblies. This effort is a FY03 Congressional Plus-Up and will be completed in FY04.

FY 2004 Plan:

N/A

FY 2005 Plan:

N/A

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 **LIGHTWEIGHT TORPEDO DEVELOPMENT / 0604610N**

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous Presidents Budget' 04: (FY04 PB Controls)	14.638	3.442	10.072
Current BES/President's Budget: (FY05 PB Controls)	18.745	6.173	9.965
Total Adjustments	4.107	2.731	-0.107
Summary of Adjustments			
FY2003 Update MK54 T&E - BTR	2.790		
BTR Adjustment April 03	-0.076		
FY03 Midyear Review Adjustment for MK54 T&E	1.600		
BSO Adjustments	-0.020		
MK54 Torpedo P3I - Array Improvement		2.800	
Economic Assumptions		-0.069	-0.053
NWC Rates - NUWC Rates			-0.053
Rates			0.002
WCF - R&D			-0.003
SBIR/STTR Transfer	-0.187		
Subtotal	4.107	2.731	-0.107

Schedule: Testing schedule slippage of five months caused by unavailabity of target services due to operations in Iraq. Plan developed to mitigate MK54 testing schedule changes to maintain MIII / IOC July 04.

Technical: Not applicable.

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**	R-1 ITEM NOMENCLATURE **LIGHTWEIGHT TORPEDO DEVELOPMENT / 0604610N**

D. OTHER PROGRAM FUNDING SUMMARY:

	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete
Torpedo MK 46 MODS / MK54 MODS 0 (WPN / PE 0204228N / BA3 / BLI 321500)	37.846	42.649	61.503	76.788	96.497	115.686	128.411	CONT.

E. ACQUISITION STRATEGY:

The EDM contract is currently held by Raytheon Systems Company. The contract was awarded as a Cost-Plus-Award Fee in June 1996 and was converted to Cost-Plus-Incentive Fee in December 1998.
Contract award planned in FY 2004 for MK48 ADCAP MODS and Lightweight MK54 torpedoes.

F. MAJOR PERFORMERS:

NUWC, Newport: System Engineering, System Integration, Software development, and Hardware Engineering development.
NUWC, Keyport: MK 54 Torpedo preparation for in-water testing and safety and environmental engineering including Fleet Exercise Section and Automatic Test Equipment.
NSWC Indian Head: Warhead Development for Lightweight/Heavyweight Baseline Commonality.
Raytheon Corporation: Hardware Development, Lightweight/Heavyweight Baseline Commonality.
Material System Incorporated: Hardware Design for array technology.
TBD: Hardware engineering and system engineering for VLA integration.

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N/BA-5**		PROGRAM ELEMENT **0604610N**				PROJECT NAME AND NUMBER **Lightweight Torpedo 2234**						
Cost Categories (Tailor to WBS, or System/Item Requirements)	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
Hardware Development	WR	NUWC Newport/Keyport	CONT.	0.919	10/02	0.160	10/03	0.125	10/04	CONT.	CONT.	N/A
	SS/FP	Material Systems Inc.	N/A	0.000		2.000	04/04	0.000				
	SS/FP	Raytheon Corporation	N/A	0.000		0.400	04/04	0.000				
Systems Engineering	WR	NUWC Newport/Keyport	CONT.	2.681	10/02	0.938	10/03	0.340	10/04	CONT.	CONT.	N/A
Systems Engineering	Various	Various						4.837	10/04	CONT.	CONT.	N/A
Systems Engineering	WR	NSWC Indian Head	0.209	0.000		0.000		0.314	10/03	CONT.	CONT.	N/A
Licenses												
Tooling												
GFE												
Award Fees												
Subtotal Product Development			CONT.	3.600		3.498		5.616		CONT.	CONT.	
Development Support Equipment												
Software Development	WR	NUWC Newport/Keyport	CONT.	1.433	10/02	0.125	10/03	0.743	10/04	CONT.	CONT.	N/A
Training Development												
Integrated Logistics Support												
Configuration Management												
Technical Data												
GFE												
Subtotal Support			CONT.	1.433		0.125		0.743		CONT.	CONT.	

Remarks:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N/BA-5**			PROGRAM ELEMENT **0604610N**			PROJECT NAME AND NUMBER **Lightweight Torpedo 2234**						
Cost Categories (Tailor to WBS, or System/Item Requirements)	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
System Test & Evaluation	WR	COMOPTEVFOR	CONT.	0.780	10/02	0.462	10/03	0.075	10/04	CONT.	CONT.	N/A
	WR	NUWC Newport/Keyport	CONT.	9.078	10/02	1.500	10/03	1.386	10/04	CONT.	CONT.	N/A
	WR	NSWC Dahlgren	0.692					1.420	10/04	CONT.	CONT.	N/A
	WR	NSWC Patuxent River	N/A	0.600	08/03	0.151	10/03	0.000		N/A	0.751	N/A
	WR	ARL/PSU State College, PA	1.707	0.200	12/03	0.000		0.200		N/A	N/A	N/A
Subtotal T&E			CONT.	10.658		2.113		3.081		CONT.	CONT.	
Remarks:												
Contractor Engineering Support												
Government Engineering Support												
Program Management Support	Various	Anteon	CONT.	0.183	MISC.	0.409	MISC.	0.404	MISC.	CONT.	CONT.	N/A
Travel			CONT.	0.015	MISC.	0.010	MISC.	0.040	MISC.	CONT.	CONT.	N/A
Labor (Research Personnel)						0.000						
Overhead			CONT.	0.000	MISC.	0.018	MISC.	0.081	MISC.	CONT.	CONT.	N/A
Subtotal Management			CONT.	0.198		0.437		0.525		CONT.	CONT.	
Remarks:												
Total Cost			CONT.	15.889		6.173		9.965		CONT.	CONT.	
Remarks:												

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N/BA-5**			PROGRAM ELEMENT **0604610N**			PROJECT NAME AND NUMBER **Lightweight/Heavyweight Baseline Commonality 9239**						
Cost Categories (Tailor to WBS, or System/Item Requirements)	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
Hardware Development	SS, FP	Raytheon Corporation	N/A	1.698	MISC.					N/A	N/A	N/A
Systems Engineering	WR	NUWC Newport	N/A	0.516	03/03					N/A	N/A	N/A
Systems Engineering	WR	NSWC Indian Head	N/A	0.642	03/03					N/A	N/A	N/A
Licenses												
Tooling												
GFE												
Award Fees												
Subtotal Product Development			N/A	2.856		0.000		0.000				
Development Support Equipment												
Software Development												
Training Development												
Integrated Logistics Support												
Configuration Management												
Technical Data												
GFE												
Subtotal Support			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

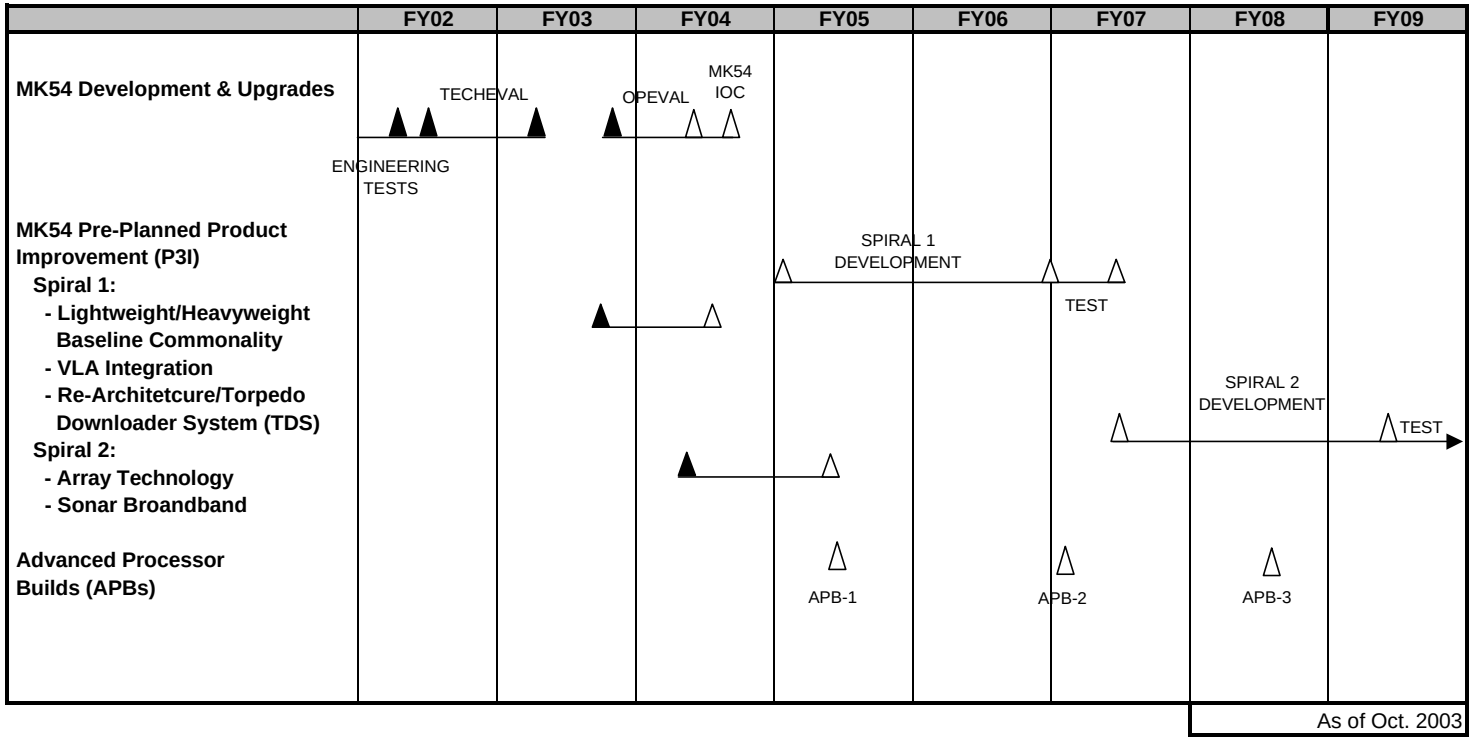
Remarks:

R-1 SHOPPING LIST - Item No. 120

Exhibit R-3 Cost Analysis (page 2)								DATE: February 2004				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N/BA-5**		PROGRAM ELEMENT **0604610N**				PROJECT NAME AND NUMBER **Lightweight Torpedo 9239**						
Cost Categories (Tailor to WBS, or System/Item Requirements)	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
System Test & Evaluation												
Subtotal T&E			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Remarks:												
Contractor Engineering Support												
Government Engineering Support												
Program Management Support												
Travel												
Labor (Research Personnel)												
Overhead												
Subtotal Management			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Remarks:												
Total Cost			N/A	2.856		0.000		0.000				
Remarks:												

R-1 SHOPPING LIST - Item No. 120

EXHIBIT R-4, Schedule Profile	DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-5**	R-1 ITEM NOMENCLATURE **LIGHTWEIGHT TORPEDO DEVELOPMENT / 0604610N**



R-1 SHOPPING LIST - Item No. 120

Exhibit R-2, RDT&E Budget Item Justification
(Exhibit R-2, page 9 of 10)

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E,N/BA-5**	PROGRAM ELEMENT **0604610N**			PROJECT NUMBER AND NAME **LIGHTWEIGHT TORPEDO DEVELOPMENT / 0604610N**				
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
MK54 Development & Upgrades								
Engineering Test	1Q							
TECHEVAL	2Q-4Q	2Q						
OPEVAL		4Q	3Q					
IOC			4Q					
MK54 Pre-Planned Product Improvement (P3I)								
Spiral 1:								
LWT/HWT Baseline Commonality Contract Preparation		4Q						
LWT/HWT Baseline Commonality Architecture Study		4Q	1Q-3Q					
VLA Integration & Test				1Q-4Q	1Q-4Q			
Re-Architecture / Torpedo Downloader System (TDS) Development				2Q-4Q	1Q-2Q			
Re-Architecture / Torpedo Downloader System (TDS) Test					2Q-4Q			
Torpedo Dowloader System (TDS)								
Spiral 2:								
Array Technology			2Q	2Q				
Braodband Sonar Development						2Q-4Q	1Q-4Q	2Q
Braodband Sonar Test								3Q-4Q
Advanced Processor Builds								
APB-1				2Q				
APB-2						1Q		
APB-3							3Q	

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-05**					R-1 ITEM NOMENCLATURE 0604618N JOINT DIRECT ATTACK MUNITION (JDAM)			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost		**46.904**						
A2137 JOINT DIRECT ATTACK MUNITION (JDAM)		**46.904**						

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

JDAM is a joint acquisition program combining Department of Navy and Air Force requirements to upgrade existing General Purpose Bomb capabilities in adverse weather and at medium to high altitude releases. The upgrade is accomplished by the addition of a guidance tail kit to existing General Purpose Bombs (2000 lb, 1000 lb, and 500 lb inventory bombs). The Air Force is the executive service. The Navy's participation in JDAM involves joint development of JDAM components and support of Navy-Marine Corps unique requirements such as aircraft integration on the F/A-18. The program will incorporate commonality with the Joint Standoff Weapon where feasible.

The JDAM Joint Operational Requirements Document (JORD) was updated to include a requirement for a JDAM capability with the 500lb inventory bomb (MK82). The Air Force will continue to be the executive service for this effort. The Navy is participating in the joint development of the JDAM MK82 and support the Navy-Marine Corps unique requirements such as aircraft integration on the F/A-18, utilizing a smart rack for additional weapon carriage.

The Navy JDAM Hornet Autonomous Real-time Targeting (HART), formerly known as Product Improvement Program (PIP) was terminated in FY04, which therefore zeroed out the JDAM RDT&E budget for FY04 and out years.

CLASSIFICATION:

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 0604654N Joint Service EOD Development Engineering						
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Total Program
Total PE Cost		**7.295**	**8.046**	**8.081**	**10.650**	**11.251**	**10.095**	**10.777**	**Continuing**	**Continuing**
EOD Procedures/1829		**7.295**	**8.046**	**8.081**	**10.650**	**11.251**	**10.095**	**10.777**	**Continuing**	**Continuing**
RDT&E Articles Qty		**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**Continuing**	**0**

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

DOD Directive 5160.62 assigned to the Secretary of the Navy (SECNAV) the responsibility of Single Manager for Explosive Ordnance Disposal (EOD) Technology and Training (T&T). It also assigns to the Executive Manager for EODT&T (N85X) the responsibility to provide for technical development, validation, preparation, Joint Service approval, and distribution of all EOD procedures texts, graphic aids, manuals, and bulletins. This program also provides for the implementation of the DOD/DOE/FBI Memorandum of Understanding (MOU) as delineated in DOD Directive 3150.5 for response to Improvised Nuclear Devices (INDs).

This program provides for the development of validated EOD render-safe procedures (RSPs), key identification features, and safety information used by EOD personnel in all four military services when performing their mission of rendering safe and disposing of both domestic and foreign explosive ordnance and improvised explosive devices (IEDs) that pose a threat to military operations, installations, personnel, and materials. In addition, EOD render-safe procedures for foreign ordnance must be developed as soon as possible after gaining knowledge of its existence. This effort requires exploitation and analysis of the foreign ordnance prior to development of the procedures. The program also provides for a DOD Technical Response Group with specialized tools and procedures, which may deploy with the primary EOD response element in response to IND and Weapons of Mass Destruction (WMD) incidents. This effort also provides resources necessary for the foreign threat mine acquisition/exploitation (FTMA/E) program. This effort includes acquisition, inert certification, intelligence and operational exploitation, analysis, procedure development, and disposition of the highest priority foreign threat naval mines.

R-1 SHOPPING LIST - Item No.122

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604654N/Joint Service EOD Development Engineering	1829/EOD Procedures

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	5.508	6.559	6.447	
RDT&E Articles Quantity				

Obtain, analyze and exploit foreign ordnance and develop EOD render-safe procedures for new sophisticated domestic and foreign ordnance.

	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	0.855	0.699	0.770	
RDT&E Articles Quantity				

Develop IND countermeasures procedures and participate in exercises and joint working groups.

	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	0.932	0.788	0.864	
RDT&E Articles Quantity				

Obtain high priority foreign sea mines for analysis and exploitation to provide for the development of MCM procedures.

R-1 SHOPPING LIST - Item No.122

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604654N/Joint Service EOD Development Engineering	1829/EOD Procedures

(U) C. PROGRAM CHANGE SUMMARY:

	FY 2003	FY 2004	FY 2005
Previous President's Budget (FY 04 Pres Controls):	7.609	8.136	8.113
Current BES/President's Budget (FY 05 President Controls):	7.295	8.046	8.081
Total Adjustments	-0.314	-0.090	-0.032
Summary of Adjustments			
Misc Adj	-0.314	-0.090	-0.032
Subtotal	-0.314	-0.090	-0.032

(U) Schedule:

Not Applicable

(U) Technical:

Not Applicable

R-1 SHOPPING LIST - Item No.122

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604654N/Joint Service EOD Development Engineering	1829/EOD Procedures

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
Not applicable									

(U) E. ACQUISITION STRATEGY: *

This is a non-acquisition program.

(U) F. MAJOR PERFORMERS: **

The majority of funding in this line is executed by Naval Explosive Ordnance Disposal Technology Division located in Indian Head, MD in FY02 through FY05. The funding is used to obtain, analyze and exploit foreign ordnance and develop EOD render-safe procedures for new sophisticated domestic and foreign ordnance.

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

R-1 SHOPPING LIST - Item No.122

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604654N/Joint Service EOD Development Engir				PROJECT NUMBER AND NAME 1829/EOD Procedures						
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
RSP Development	WR	EODTD, Indian Head, MD	140.301	4.498	10/02	5.399	10/03	5.428	10/04	Continuing	Continuing	
IND Countermeasures	WR	EODTD, Indian Head, MD	25.060	0.706	10/02	0.584	10/03	0.584	10/04	Continuing	Continuing	
Foreign Mine Acquisition	WR	EODTD, Indian Head, MD	3.493	0.822	10/02	0.657	10/03	0.657	10/04	Continuing	Continuing	
Program Management Personnel	WR	EODTD, Indian Head, MD	1.670	0.175	10/02	0.200	10/03	0.200	10/04	Continuing	Continuing	
Miscellaneous	Various	Various	4.713	1.094	10/02	1.206	10/03	1.212	10/04	Continuing	Continuing	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			175.237	7.295		8.046		8.081		0.000	198.659	

Remarks:

											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	

Remarks:

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604654N/Joint Service EOD Development Engineering			PROJECT NUMBER AND NAME Q1829/EOD Procedures						
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	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			175.237	7.295		8.046		8.081		0.000	198.659	
Remarks:												

R-1 SHOPPING LIST - Item No.122

FY 2005 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 2004

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604703N PROGRAM ELEMENT TITLE: Manpower, Personnel, Training, Simulation, and Human Factors

PROJECT NUMBER: 1822 PROJECT TITLE: Manpower, Personnel, Training, Simulation, and Human Factors

COST: (Dollars in Thousands)

Project Number & Title	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate
Total PE	1,383	1,919	3,005	3,109	4,046	2,883	2,886
1822 Manpower, Personnel, Training, Simulation, and Human Factors	1,383	1,046	1,993	2,012	2,887	2,883	2,886
3089 Training and Educational R&D Transition	0	843	1,012	1,097	1,159	0	0

FY 2005 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 2004

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604703N PROGRAM ELEMENT TITLE: Manpower, Personnel, Training, Simulation, and Human Factors

PROJECT NUMBER: 1822 PROJECT TITLE: Manpower, Personnel, Training, Simulation, and Human Factors

(U) COST: (Dollars in Thousands)

Project Number & Title	FY 2003 Actual	FY 2004 ESTIMATE	FY 2005 ESTIMATE	FY 2006 ESTIMATE	FY 2007 ESTIMATE	FY 2008 ESTIMATE	FY 2009 ESTIMATE	TOTAL PROGRAM
1822 Manpower, Personnel, Training, Simulation, and Human Factors	1,383	1,046	1,993	2,012	2,887	2,883	2,886	CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This non-acquisition category program provides funds for continued (but less risky) R&D for broader application of advanced technologies to transition successful 6.3 research proof-of-concept demonstrations into operational use. Development of prototype systems to support and/or improve operational requirements of manpower and personnel sponsors is the primary goal of this Engineering Development Program. The 6.5 R&D Program features the use of a broad range of technologies from cognitive science and ability testing techniques, mathematical modeling and optimization, statistical and econometric forecasting, intelligent systems, data visualization, data mining, simulation, decision support systems, and new database and communications configuration.

(U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under RDT&E operational systems development because it encompasses engineering and development of new end-items prior to production approval decision.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 2003 PLAN:

- (U) ($187K) Complete testing and development of D2K database, the web application, D2K model refinements, as well as prototype development of the Decision Support System (DSS). A report that documents final D2K DSS test results will be written for the distribution community, as well as senior managers/executives.

- (U) ($212K) Continue the STEAR (Skill Assessment, Training, Evaluation, and Assistance for Recruiters) project. Revise the Recruiter Assessment Battery (RAB) based on the results of data validation analyses. Begin pilot testing of web-based RAB by administering the assessment battery to field recruiters.

- (U) ($246K) Continue 6.5 R&D transitioning of the Strength Planning and Budget System Integration (STP/BSI) project. Modify model reports to reflect strength and forecast loss and gain rates by gender. Develop data and forecasts for members of the Individuals Account (IA). Develop strength modeling for a generalized network approach. Develop business objects to provide more intelligent and sophisticated tools for strength planning. Develop computer based training for enlisted strength planners.

- (U) ($161K) Begin development of URL Officer Career Path Simulation prototype model by leveraging the SWO Career Path Simulation Prototype model, which serves as a proof of concept. This effort will result in a URL career path simulation tool that will provide a definitive view of the billet structure in the URL communities so planning and guidance for healthy community management purposes can be attained.

- (U) ($198K) Begin 6.5 R&D transitioning to operational use of Comprehensive Officer Force Management Environment models/system (CHROME) by developing a prototype that supports officer force management decision-making in N13/N1. CHROME will include an automated decision support model that identifies leading indicators of retention and develops a tracking mechanism to predict potential manpower trends. The decision support model will allow manual updates of leading indicators and provides a then current trend analysis for effectively monitoring and managing the well-being of the Officer Force.

- (U) ($163K) Begin 6.5 R&D transitioning to operational use of Models of Navy Compensation and Personnel Behavior (MODCOMP) by developing a prototype that supports N13 Military Compensation decision-making. Develop a number of basic and fundamental models and elements of compensation; models and elements of compensation that consider the behavioral relationship between compensation and retention and attrition.

- (U) ($216K) Begin 6.5 R&D transitioning to operational use of FLEET RIDE for by Career Counselors in the Fleet during conversion or reclassification process to increase manning in critical skills and to improve Fleet Readiness.

2. (U) FY 2004 PLAN:

- (U) ($160K) Complete STEAR (Skill Assessment, Training, Evaluation, and Assistance for Recruiters) project. Produce guidelines to the sponsor for instituting final version of RAB.

- (U) ($247K) Complete 6.5 R&D transitioning of the Strength Planning and Budget System Integration (STP/BSI) project. Complete strength modeling and computer based training for enlisted strength planners. Develop ability to retrieve data from PERSMART.

- (U) ($176K) Continue development of URL Officer Career Path Simulation prototype model. Implement Data Collection Plan for model use. Extend application of the model to Aviator Community. Develop input and output reporting requirements and analyze data for full implementation. Map Submarine and Fleet Support Officer Career Milestones in preparation of extending model application to these communities in FY 2005.

- (U) ($190K) Continue 6.5 R&D transitioning to operational use of Comprehensive Officer Force Management Environment models/system (CHROME). Compare Strength Planner and Officer Community Manager forecasts and actual data. Develop capability to allocate officer accessions within the model platform. Develop capability to plan officer promotions within model platform. Develop capability to predict out-year officer strength losses. Develop capability to account for external variables that influence changes to the officer force. Incorporate pay-grade changes that occur with actual losses and add graphical output.

- (U) ($150K) Continue 6.5 R&D transitioning to operational use of Models of Navy Compensation and Personnel Behavior (MODCOMP).

- (U) ($473K) Begin 6.5 R&D transitioning to operational use of Rating Identification Engine (RIDE). Demonstrate Skill-Job Matching Algorithm known as RIDE; a broad spectrum assignment algorithm that optimally assigns individuals to jobs, increasing job options for recruits while reducing training attrition, increasing first-pass A-school success, and maximizing average school and job performance.
- (U) ($150K) Begin transition of FLEET ARGUS / ARGUS Quesry System.
- (U) ($181K) Begin transition of CNP Quick Polling System.
- (U) ($200K) Begin transition of JOIN / FLEET JOIN System.

3. (U) FY 2005 PLAN:

- (U) ($250K) Complete prototype development of FLEET ARGUS / ARGUS Quesry System.
- (U) ($187K) Complete prototype development of CNP Quick Polling System.
- (U) ($186K) Continue prototype development of URL Officer Career Path Simulation model. Finalize input and output reporting requirements and prepare for full implementation. Extend application of the model to Submarine and Fleet Support Officer Communities. Validate the model across all URL communities.
- (U) ($215K) Continue prototype development of Comprehensive Officer Force Management Environment models/ system (CHROME) that supports N13 officer force management decision-making. Support model implementation and training. Finalize and standardize programs and data generation processes. Develop a Technical Report to report findings and transition into full operation.
- (U) ($200K) Continue prototype development of the Models of Navy Compensation and Personnel Behavior (MODCOMP).
- (U) ($305K) Continue 6.5 R&D transitioning to operational use of Rating Identification Engine (RIDE). Demonstrate Skill-Job Matching Algorithm known as RIDE; a broad spectrum assignment algorithm that optimally assigns individuals to jobs, increasing job options for recruits while reducing training attrition, increasing first-pass A-school success, and maximizing average school and job performance.
- (U) ($400K) Continue transition of Enlisted Manpower and Personnel Integrated Planning System (EMPIPS) to operational use by developing a prototype that supports N13 Officer and Enlisted Strength Planners. Demonstrate the feasibility of a personnel decision support system that exploits advanced technology for intelligent monitoring of personnel data and cross-functional evaluation of alternative policy scenarios. Integrate disparate data into an information conduit that provides timely and accurate officer and

enlisted personnel information to populate current and future manpower and personnel decision support systems. Demonstrate accurate retrieval and integration of data into standardized information windows.

- (U) ($300K) Begin transition of Enterprise Management System.
- (U) ($ 80K) Complete prototype development of the models for the Strength Planning and Budget System Integration (STP/BSI) project and implement system enhancements, as required.
- (U) ($186K) Complete prototype development of URL Officer Career Path Simulation model. Finalize input and output reporting requirements and prepare for full implementation. Extend application of the model to Submarine and Fleet Support Officer Communities. Validate the model across all URL communities.
- (U) ($215K) Complete prototype development of Comprehensive Officer Force Management Environment models/ system (CHROME) that supports N13 officer force management decision-making. Support model implementation and training. Finalize and standardize programs and data generation processes. Develop a Technical Report to report findings and transition into full operation.
- (U) ($200K) Complete prototype development of the Models of Navy Compensation and Personnel Behavior (MODCOMP).
- (U) ($75K) Continue 6.5 R&D transition of Training Continuum and Readiness Modeling (TCARM) system to operational use by developing a prototype that supports N13, NPC-4, and CNET training quota control and personnel management of assignment/reassignment actions involving en-route training.
- (U) ($260K) Continue 6.5 R&D transitioning to operational use of Rating Identification Engine (RIDE). Demonstrate Skill-Job Matching Algorithm known as RIDE; a broad spectrum assignment algorithm that optimally assigns individuals to jobs, increasing job options for recruits while reducing training attrition, increasing first-pass A-school success, and maximizing average school and job performance.
- (U) ($150K) Begin transition of Enlisted Manpower and Personnel Integrated Planning System (EMPIPS) to operational use by developing a prototype that supports N13 Officer and Enlisted Strength Planners. Demonstrate the feasibility of a personnel decision support system that exploits advanced technology for intelligent monitoring of personnel data and cross-functional evaluation of alternative policy scenarios. Integrate disparate data into an information conduit that provides timely and accurate officer and enlisted personnel information to populate current and future manpower and personnel decision support systems. Demonstrate accurate retrieval and integration of data into standardized information windows.

B. (U) PROGRAM CHANGE SUMMARY: FY 2003 FY 2004 FY 2005

FY 2005 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 2004

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604703N PROGRAM ELEMENT TITLE: Manpower, Personnel, Training, Simulation, and Human Factors PROJECT NUMBER: 1822 PROJECT TITLE: Manpower, Personnel, Training, Simulation, and Human Factors

(U) FY 2004 President's Budget:	1,303	1,058	1,166
(U) Adjustments to FY2004 President's Budget:			
Misc. Adjustments	80	-12	827
(U) FY 2005/2006 President's Budget:	1,383	1,046	1,993

(U) Schedule: Not applicable.
(U) Technical: Not applicable.

C. (U) OTHER PROGRAM FUNDING SUMMARY: Not applicable.

(U) RELATED RDT&E:

(U) PE 0601152N, In-House Independent Lab Research
(U) PE 0601153N, Defense Research Sciences
(U) PE 0602233N, Mission Support Technology
(U) PE 0602722A, Personnel and Training
(U) PE 0603707N, Manpower, Personnel and Training Advanced Technology Development
(U) PE 0603731A, Manpower and Personnel
(U) PE 0603704F, Manpower and Personnel Systems Technology

(U) SCHEDULE PROFILE: Not applicable.

FY 2005 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 2004

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604703N PROGRAM ELEMENT TITLE: Manpower, Personnel, Training, Simulation, and Human Factors

PROJECT NUMBER: 1822 PROJECT TITLE: Manpower, Personnel, Training, Simulation, and Human Factors

COST: (Dollars in Thousands)

Project Number & Title	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate
3089--Training and Education R&D Transition	873	1,012	1,097		1,159		

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(U) Every major study on Navy Training (e.g. Zero-based Review (ZBT), Navy Research Advisory Committee (NRAC), Naval Studies Board, Executive Review of Navy Training (ERNT), Strategic Studies Group, Revolution in Training (SSG RIT)) conducted over the past decade has indicated the need for a Development, Test and Evaluation (D, T&E) program for emerging training technologies. This non-acquisition category program provides funds for continued R&D for broader application of advanced training technologies and the science of learning to transition successful 6.3 research proof of concept demonstrations and rapid prototyping of COTS/GOTS technologies into operational use. Development of prototype systems to support and/or improve operational requirements of training sponsors is the primary goal of this Engineering Development Program. Demonstrations of the 6.3 R&D training technologies have significantly reduced knowledge acquisition times and cost to the Navy. For example, intelligent tutoring has been shown to significantly reduce time (up to 30%) to acquire complex knowledge and skills, and accelerate knowledge acquisition (by 1-2 standard deviation) over traditional training methods. Team dimensional training has demonstrated up to a 60% improvement in tactical teamwork skills. 6.3 programs like Interactive Multisensor Analysis Training (IMAT), and visualization technologies have decreased time to qualify and have been documented and endorsed as a fleet requirement. Reduced manning initiatives require training solutions that will accomplish the training in less time and with fewer instructors. Current acquisition initiatives are unable to incorporate many of the technology developments that would reduce training time and trainers due to the lack of funds to support prototype development on specific platforms or at schoolhouses. This 6.3 program features the use of a broad range of maturing technologies from the science of learning and cognitive science, learning object design and development, learning delivery technologies, and human performance technologies and also push the envelope on new technologies. Further Engineering Development and Test/Evaluation is needed in support of the Capable Manpower Future Naval Capability investment strategy to prepare technologies for Fleet/School implementation.

FY 2005 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 2004

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604703N PROGRAM ELEMENT TITLE: Manpower, Personnel, Training, Simulation, and Human Factors

PROJECT NUMBER: 1822 PROJECT TITLE: Manpower, Personnel, Training, Simulation, and Human Factors

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0	0.173	0.254
RDT&E Articles Quantity				

Develop prototype tools and technologies for real-time performance assessment and scenario redesign . The purpose of this program is to leverage work done on intelligent agents and authoring tool projects to produce prototype products that will support a Battle Group or Joint training staff and training audience with electronic performance support for human performance assessment and scenario redesign in the Battle Group or Joint training environment. Prototype capability would support the Fleet in the rapid authoring of various types of human performance metrics to be used in training individuals and teams while deployed. The measurement of human performance is a cornerstone capability to achieve a revolution in training.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0	0.182	0.259
RDT&E Articles Quantity				

Develop prototype low-cost COTS/GOTS simulation systems to improved collective/team training, mission planning and mission rehearsal. The program would leverage work done on micro-simulator systems, interoperability using the high level architecture (HLA), team dimensional training, and human performance measurement to provide very low-cost (<$100K per unit) part-task devices to increase participant access to and training capacity of existing distributed simulation networks. The tradeoffs between physical, functional and environmental fidelity of low-cost systems and training capability have not been well-defined although evidence clearly suggests positive transfer of training from use of low-cost simulation systems for individuals and teams. With reconfigurable low-cost "microsimulator" devices costing less than 5% of a medium fidelity device, many individual and team tasks can be trained earlier, more frequently, and with less skill perishability.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0	0.518	0.499
RDT&E Articles Quantity				

Develop prototype E-learning mentoring, tutoring and performance support design strategies and tools and develop prototype model and capability in E-Learning environments. The strategies used for authoring content for reuse are markedly different than traditional methods for authoring and deploying content. This prototype effort would integrate current E-learning technologies including content packaging best practices for reusable learning content, learning management systems, learning content management systems, authoring tools, knowledge management tools, synchronous and asynchronous communications technology and provide a capability to test alternative curriculum design, development and deployment strategies. The result of this effort would be used to develop future development guidelines and standards so that publications, technical data, training data, and learning assets could be authored once and reused in a variety of delivery modes (hand-held computer, web-based, CD-ROM, print, job performance aids, etc) to support instructor led training in both classroom and web environments, stand-alone web-based or CD-ROM based training, performance support for the Sailor at the deckplate, and integration of mentoring tools and techniques for career develop

FY 2005 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 2004

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604703N PROGRAM ELEMENT TITLE: Manpower, Personnel, Training, Simulation, and Human Factors

PROJECT NUMBER: 1822 PROJECT TITLE: Manpower, Personnel, Training, Simulation, and Human Factors

C. PROGRAM CHANGE SUMMARY:

	FY 2003	FY 2004	FY 2005
Funding:			
Previous President's Budget:	.000	.883	1.017
Current President's Budget:	.000	.873	1.012
Total Adjustments	.000	- .010	- .005
Summary of Adjustments			
Economic Assumptions			- .004
Reprioritization		- .010	- .001
Subtotal	.000	- .010	- .005

Schedule:
Not Applicable

Technical:
Not Applicable

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
BLI 070500 Common Ground Equipment	164.490	165.609	174.886	184.741	139.058	135.109	143.443

E. ACQUISITION STRATEGY:

(U) Acquisition strategy will rely on extensive market surveillance and market research and include a combination of competitive commercial and non-developmental item procurements with competitive integration and support contracts. Most hardware/software system contracts will be firm-fixed price. Integration and support contracts will be a combination of firm-fixed price and cost type contracts. Project will use an integrated project team approach to manage the requirements, development, integration, testing and support of fielded prototypes.

FY 2005 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 2004

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604703N PROGRAM ELEMENT TITLE: Manpower, Personnel, Training, Simulation, and Human Factors

PROJECT NUMBER: 1822 PROJECT TITLE: Manpower, Personnel, Training, Simulation, and Human Factors

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	WR	NAWCTSD, Orlando, FL				0.172	4-Apr	0.221	5-Jan	0.542	0.935	
Ancillary Hardware Development	WR	NAWCTSD, Orlando, FL				0.02	4-Apr	0.021	5-Jan	0.047	0.088	
Aircraft Integration											0	
Ship Integration											0	
Ship Suitability											0	
Systems Engineering	WR	NAWCTSD, Orlando, FL				0.087	4-Apr	0.051	5-Jan	0.106	0.244	
Training Development	WR	NAWCTSD, Orlando, FL				0.069	4-Apr	0.081	5-Jan	0.177	0.327	
Licenses	WR	NAWCTSD, Orlando, FL				0.025	4-Apr	0.027	5-Jan	0.057	0.109	
Tooling											0	
GFE	WR	NAWCTSD, Orlando, FL				0.02	4-Apr	0.021	5-Jan	0.047	0.088	
Award Fees											0	
Subtotal Product Development			0	0		0.393		0.422		0.976	1.791	

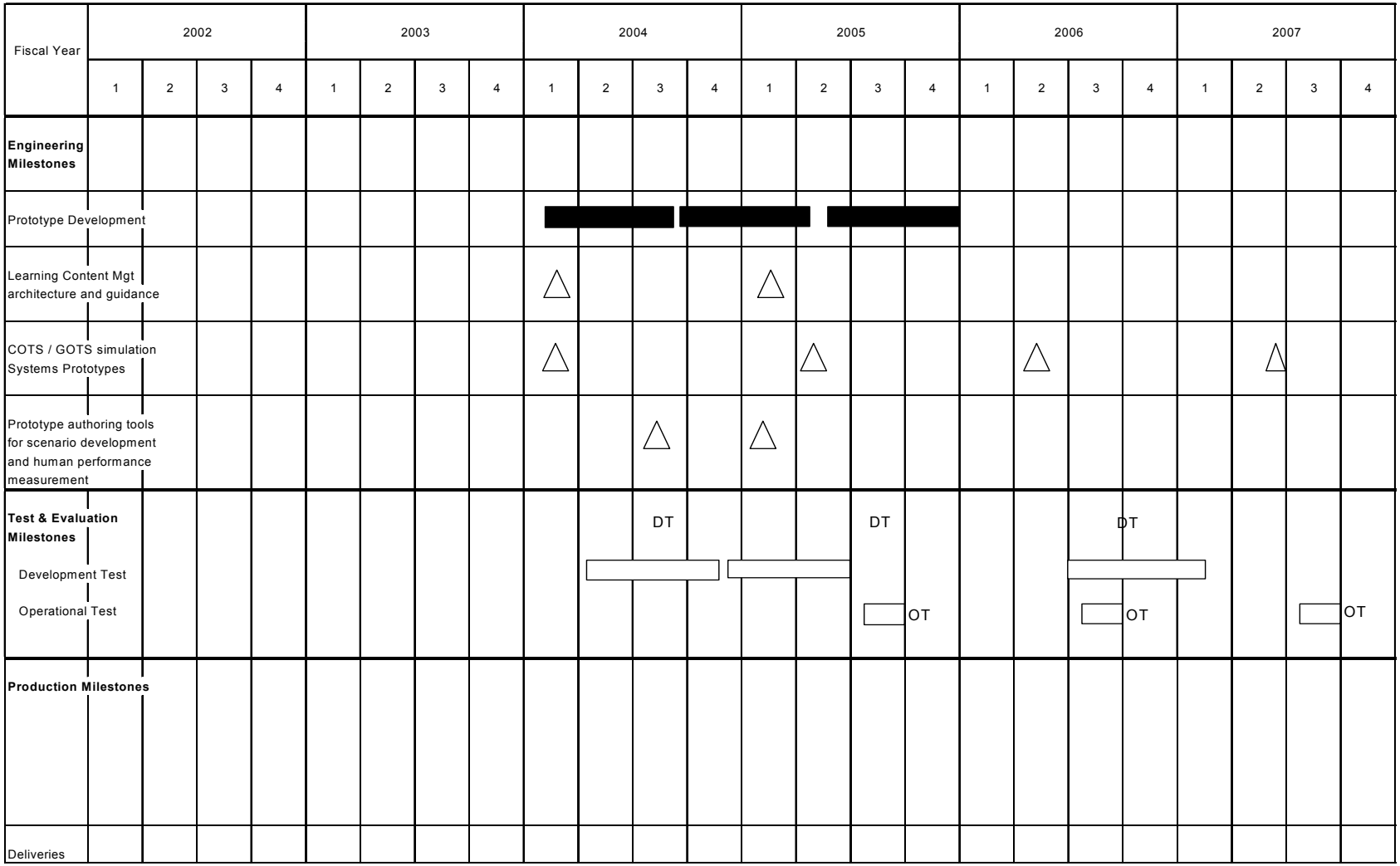
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	NAWCTSD, Orlando, FL				0.05	4-Jan	0.056	5-Jan	0.13	0.236	
Operational Test & Evaluation	C/FFP	TBD						0.051	5-Apr	0.13	0.181	0.181
Live Fire Test & Evaluation											0	
Test Assets											0	
Tooling											0	
GFE											0	
Award Fees											0	
Subtotal T&E			0	0		0.05		0.107		0.26	0.417	

FY 2005 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 2004

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604703N PROGRAM ELEMENT TITLE: Manpower, Personnel, Training, Simulation, and Human Factors

PROJECT NUMBER: 1822 PROJECT TITLE: Manpower, Personnel, Training, Simulation, and Human Factors



CLASSIFICATION:

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 PE 0604721N SHIPBOARD INFORMATION WARFARE EXPLOIT SYSTEM					
COST ($ in Millions)	Prior Years Cost		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Total Program
Total PE Cost	**39.279**	**0.000**	**16.849**	**16.743**	**17.981**	**18.730**	**16.044**	**16.369**	**16.701**	**Continuing**	**Continuing**
2134/SHIPBOARD IW EXPLOIT	**39.279**	**0.000**	**13.611**	**16.743**	**17.981**	**18.730**	**16.044**	**16.369**	**16.701**	**Continuing**	**Continuing**
9242/COBLU DIGITAL UPGRADE	**0.000**	**0.000**	**3.238**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**3.238**
											0.000
											0.000
											0.000
											0.000
Quantity of RDT&E Articles											**0**

Note: Received Congressional Plus Up in FY03 of $3,238K for the COBLU program.

U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Shipboard Information Warfare line includes the following programs: Ships Signal Exploitation Equipment (SSEE), the Program of Record that executes the Maritime Cryptologic Systems for the 21st Century (MCS 21) and Common Data Link – Navy (CDL-N) the Program of Record that implements the DoD mandated use of the Common Data Link waveform to downlink un-processed SIGINT/COMINT and imagery. FY 03 Congressional Plus-up supports the Cooperative Outboard Logistics Update (COBLU) , the Program of Record provides Comprehensive Surface Tactical (CESM) capability. These systems provide the Battle Group with real time Indications and Warnings (I&W) by acquisition and localization of signals of interest (SOI). This program's funding is required to incorporate new commercial off-the-shelf (COTS) based technologies and software into the existing systems. The funding will focus on merging the current IW sensor systems into a scalable sensor package that can be tailored to different ship types and be compliant with the Maritime Cryptologic Architecture.

(U) JUSTIFICATION FOR BUDGET ACTIVITY:

This program is funded under BA-5, ENGINEERING & MANUFACTURING DEVELOPMENT because it encompasses engineering and manufacturing development of new end-items prior to production approval decision.

R-1 SHOPPING LIST - Item No. 125

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2004			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604721N/ SHIPBOARD IW EXPLOIT SYSTEM					PROJECT NUMBER AND NAME 2134 / SHIPBOARD IW EXPLOIT					
COST ($ in Millions)	Prior Years Cost		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Total Program
Project Cost	**39.279**	**0.000**	**13.611**	**16.743**	**17.981**	**18.730**	**16.044**	**16.369**	**16.701**	**Continuing**	**Continuing**
RDT&E Articles Qty											**0**

Note: Received Congressional Plus Up in FY02 of $2,478K for the CDL-N program. Project X2135 has been incorporated into Project X2134 beginning in FY 02.

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

The Shipboard Information Warfare line includes the following programs: Ships Signal Exploitation Equipment (SSEE), the Program of Record that executes the Maritime Cryptologic Systems for the 21st Century (MCS 21) and Common Data Link – Navy (CDL-N) the Program of Record that implements the DoD mandated use of the Common Data Link waveform to downlink un-processed SIGINT/COMINT and imagery. FY 03 Congressional Plus-up supports the Cooperative Outboard Logistics Update (COBLU) , the Program of Record provides Comprehensive Surface Tactical (CESM) capability. These systems provide the Battle Group with real time Indications and Warnings (I & W) by acquisition and localization of signals of interest (SOI). This program's funding is required to incorporate new commercial off-the-shelf (COTS) based technologies and software into the existing systems. The funding will focus on merging the current IW sensor systems into a scalable sensor package that can be tailored to different ship types and be compliant with the Maritime Cryptologic Architecture.

R-1 SHOPPING LIST - Item No. 125

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**	PROGRAM ELEMENT NUMBER AND NAME 0604721N / SHIPBOARD IW EXPLOIT SYSTEM	PROJECT NUMBER AND NAME 2134 / SHIPBOARD IW EXPLOIT

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	2.472	4.000	4.000
RDT&E Articles Quantity			

Common Data Link- Navy (CDL-N)
FY03 - Continued development and integration of advanced technology CDL modem, design and development of CDL-N Block 1 integrated operator station and development efforts for interoperability and integration with emerging Navy sensor systems such as VTUAV, F/A-18 SHARP and EP-3E Multi-int systems.
FY04 - Integrate advanced technology CDL modem. Continue design and development of CDL-N Block 1 integrated operator station, development efforts for interoperability and integration with emerging Navy sensor systems such as BAMS, F/A-18 SHARP and EP-3E Multi-int systems.
FY05 - Integrate and Test Cooperative Antenna Program EDM Panels. Design and development of CDL-N Block 2 Advanced Technology Insertion and development efforts for interoperability and integration with emerging Navy sensor systems such as BAMS, F/A-18 SHARP and EP-3E Multi-int systems.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**	PROGRAM ELEMENT NUMBER AND NAME 0604721N / SHIPBOARD IW EXPLOIT SYSTEM	PROJECT NUMBER AND NAME 2134 / SHIPBOARD IW EXPLOIT

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.500	1.500	1.500
RDT&E Articles Quantity			

Cryptologic On-Line Trainer (COLT)

FY03 - Continued to expand and modify the COLT server for Shipboard IW programs and integration with CUB 4.X software releases. Upgraded COLT client application functionality (SSEE Inc E, COBLU Phase 1, and CDF) to include additional SOI's and other emergent requirements.

FY04 - Modify COLT server in support of integration with CUB 5.X software releases. Upgrade COLT client application functionality (SSEE Inc E, COBLU Phase 1, and CDF) to include additional SOI's and other emergent requirements. Begin COLT integration with Battle Force Tactical Training (BFTT) system.

FY05 - Continue modifications and improvements to COLT server in support of CUB 5.X integration. Upgrade existing COLT client applications (SSEE Inc E, COBLU Phase 1, and CDF). Continue COLT BFTT integration development. Begin COLT automated performance monitoring/assessment functionality development.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	1.750	1.000	1.000
RDT&E Articles Quantity			

Cryptologic Unified Build (CUB)

FY03 - Continued development of CUB software to incorporate latest DII COE releases/updates for interoperability of Shipboard IW programs. CUB software is utilized on all Shipboard IW programs and is the DII COE 4.X baseline effort. Continued development of CUB on-line tutorial software, CUBOLT, software. Initiated development of Blue Forces IW database.

FY04 - Initiate development of CUB software to incorporate latest DII COE. CUB ensures interoperability between Sensor Systems and C4I systems. This development effort targets the DII COE 5.X baseline.

FY05 - Continue development and integration of CUB software to incorporate DII COE 5.X baseline. This development effort completes the DII COE 5.X baseline. Continue development of CUB On-Line Tutorial, CUBOLT, software.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**	PROGRAM ELEMENT NUMBER AND NAME 0604721N / SHIPBOARD IW EXPLOIT SYSTEM	PROJECT NUMBER AND NAME 2134 / SHIPBOARD IW EXPLOIT

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	5.000	3.063
RDT&E Articles Quantity			

Multi-Mission Payload (MMP)

FY04 - Initiate System Development Phase of the remotely controlled platform independent MMP, intended for use as a pod on ship based aircraft. Award contracts for research and development of Engineering Development Models, EDMs. Conduct design review and perform end-to-end system engineering analysis. Perform aircraft data analysis and perform integration planning to develop the appropriate engineering design of the payload and its mechanical, electrical and environmental interface components. Determine design and interfaces of the data link equipment, which will be part of or co-located with the MMP to carry the command, control, and data exchange signals.

FY05 - Complete development of the EDMs pod and conduct laboratory acceptance tests. Develop Test Plan. Perform planning for, and make arrangements for, flight certification tests and evaluations. Plan for and obtain the Office of Naval Intelligence, ONI, certification and accreditation for Interim Authority To Operate, IATO.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	5.050	2.000	5.300
RDT&E Articles Quantity			

Ship Signal Exploitation Equipment

FY03 - Initiated P3I development and testing of SSEE Increment E upgrades. Upgrade includes incorporation of latest CUB release and expansion of Signal of Interest, SOI, database. Initiated special/modern signal collection and processing development.

FY04 - Initiate P3I development of Command and Control software portion of the Hostile force Integrated Targeting Sub-system, HITS, and Time/Frequency Difference of Arrival functions into SSEE Incr E.

FY05 - Continue with effort to improve Command and Control software portion of the HITS in SSEE Incre E. Continue to expand SOI processing capability to priority signal sets. Fully test improved software. Initiate acquisition development for follow-on increments.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**	PROGRAM ELEMENT NUMBER AND NAME 0604721N / SHIPBOARD IW EXPLOIT SYSTEM	PROJECT NUMBER AND NAME 2134/SHIPBOARD IW EXPLOIT

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	1.980	1.792	1.618
RDT&E Articles Quantity			

Specific Emitter Identification (SEI)

FY03 - Initiated development of improved Specific Emitter Identification, SEI, software by independent test and evaluation, and begin retooling existing prototypes into a single platform. Conducted testing with SEI collection hardware and software. Initiated expansion of Navy's SEI data dissemination and management architecture. Facilitated the tactical employment of Navy SEI by addressing various operational issues. Continued development, testing, and documentation of SEI software enhancements in GCCS-M (CORRUS), GALE-LITE (SEI-GALE), and other fielded systems.

FY04 - Conduct independent test and evaluation and compatibility testing of SEI software and begin retooling existing prototypes into a single platform, Phase II. Formalize Navy SEI data standards for improved collection and dissemination. Begin integration of SEI capabilities into the Naval single platform distributed surface EW system. Continue to expand SEI database access, dissemination, and integration within the Theater Correlation Functions, TCFs, and tactical users. Continue to address SEI software operational issues to facilitate SEI tactical employment. Continue SEI software enhancements in GCCS-M (CORRUS), GALE-LITE, and other fielded systems.

FY05 - Continue to improve SEI software Phase III to support additional tactical installations, surface combatants, and airborne platforms. Enhance the exchange of Navy SEI data. Begin incorporation of future SEI algorithms corresponding to the next generation of multi-mission combatants and changing target sets. Continue incorporation of SEI into the overall Navy EW architecture for enhanced correlation and integration into Navy single platform distributed EW systems, to include surface, subsurface, and airborne.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	2.000	1.650	1.500
RDT&E Articles Quantity			

Antenna & RF Distribution

FY03 - Completed development of the High Frequency Non-Line-of-Sight capability. Initiated development of low signature Direction Finding, DF, and Acquisition antenna sub-system. Initiated development of improved Radio Frequency, RF, distribution sub-system. Both antenna and distribution systems will support existing and future ship classes for Shipboard IW programs, handle modern Signals of Interest, SOI, and increase both shipboard and operational environment interference.

FY04 - Implement design goals and objectives for existing antenna and future antenna efforts via requirements analysis. Complete development of existing antenna upgrades for enhanced capability. Initiate prototype demonstration effort for future antenna design for low signature DF and acquisition/enhanced capability and initiation of shipboard EDM plans.

FY05 - Update requirements analysis to maintain growing Signals of Interest, SOI, threat capability support via system RFD unit and future antenna upgrades. Continue development of future antenna for low signature DF and acquisition/enhanced performance.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604721N / SHIPBOARD IW EXPLOIT SYSTEM	2134 / SHIPBOARD IW EXPLOIT

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
President's Budget:	14.070	16.942	18.078
Current BES/President's Budget	13.752	16.743	17.981
Total Adjustments	-0.318	-0.199	-0.097
Summary of Adjustments			
Management Improvements (Sec. 8094)		-0.045	
Efficiencies/Revised Econ. Assumptions (Sec. 8126)		-0.144	
Economic Assumptions (Sec. 8135)	-0.079		
Busniess Process Reform (Sec. 8100)	-0.056		
WCF R&D SPAWAR PBD 430			-0.005
IT Growth (Sec. 8109)	-0.026		
FFRDC Reduction (Sec. 8029)	-0.008		
Inflatin Savings	-0.149		
PBD 604 Inflation			-0.058
PBD 426 Rates SSC			0.012
Misc. Navy Adjustments		-0.010	-0.046
Subtotal	-0.318	-0.199	-0.097

(U) Schedule:

Not Applicable

(U) Technical:

Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604721N / SHIPBOARD IW EXPLOIT SYSTEM	PROJECT NUMBER AND NAME 2134 / SHIPBOARD IW EXPLOIT

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	To Cost	Total
OPN Line 2360	82.147	122.206	69.194	35.930	112.948	78.100	79.691	Continuing	Continuing	
OMN 1C2C PE 0702827N	9.567	10.609	12.127	13.737	15.085	15.463	15.865	Continuing	Continuing	

(U) E. ACQUISITION STRATEGY:

Acquisition, management and contracting strategies are to support engineering and manufacturing development by providing funds to SSC-Charleston, SSC-San Diego and miscellaneous contractors, with management oversight by SPAWAR.

R-1 SHOPPING LIST - Item No. 125

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA5**		PROGRAM ELEMENT 0604721N / Shipboard IW Exploit System				PROJECT NUMBER AND NAME 2134 / Shipboard IW Exploit						
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	Various	Various	35.726	1.912	12/02	2.356	12/03	2.514	12/04	Continuing	Continuing	Continuing
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	Various	Various		2.988		3.681		3.927		Continuing	Continuing	Continuing
Training Development	Various	Various		0.075		0.093		0.100		Continuing	Continuing	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			35.726	4.975		6.130		6.541		Continuing	Continuing	Continuing

Remarks:
1. "Total PYs Cost" is shown as Primary Hardware Development was taken from the previous budget submit which combined Hardware, Software development and integration into one number.

Development Support											0.000	
Software Development	Various	Various		4.738		5.811		6.316		Continuing	Continuing	Continuing
Integrated Logistics Support	Various	Various	0.254	0.104		0.127		0.136		Continuing	Continuing	
Configuration Management	Various	Various		0.089		0.110		0.117		Continuing	Continuing	
Technical Data											0.000	
Studies & Analyses											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			0.254	4.931		6.048		6.569		Continuing	Continuing	Continuing

Remarks:

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA5**		PROGRAM ELEMENT 0604721N / Shipboard IW Exploit System			PROJECT NUMBER AND NAME 2134 / Shipboard IW Expoit							
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	Various	Various	2.354	0.705	12/02	0.868	12/03	0.927	12/04	Continuing	Continuing	Cont.
Operational Test & Evaluation	Various	Various		0.321		0.395		0.421		Continuing	Continuing	
Live Fire Test & Evaluation											0.000	
Test Assets	Various	Various		0.334		0.412		0.439		Continuing	Continuing	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			2.354	1.360		1.675		1.787		Continuing	Continuing	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support	Various	Various	0.945	2.230		2.748		2.932		Continuing	Continuing	Continuing
Travel	Various	Various		0.115		0.142		0.152		Continuing	Continuing	Continuing
Transportation											0.000	
											0.000	
Subtotal Management			0.945	2.345		2.890		3.084		Continuing	Continuing	
Remarks:												
Total Cost			39.279	13.611		16.743		17.981		Continuing	Continuing	
Remarks:												

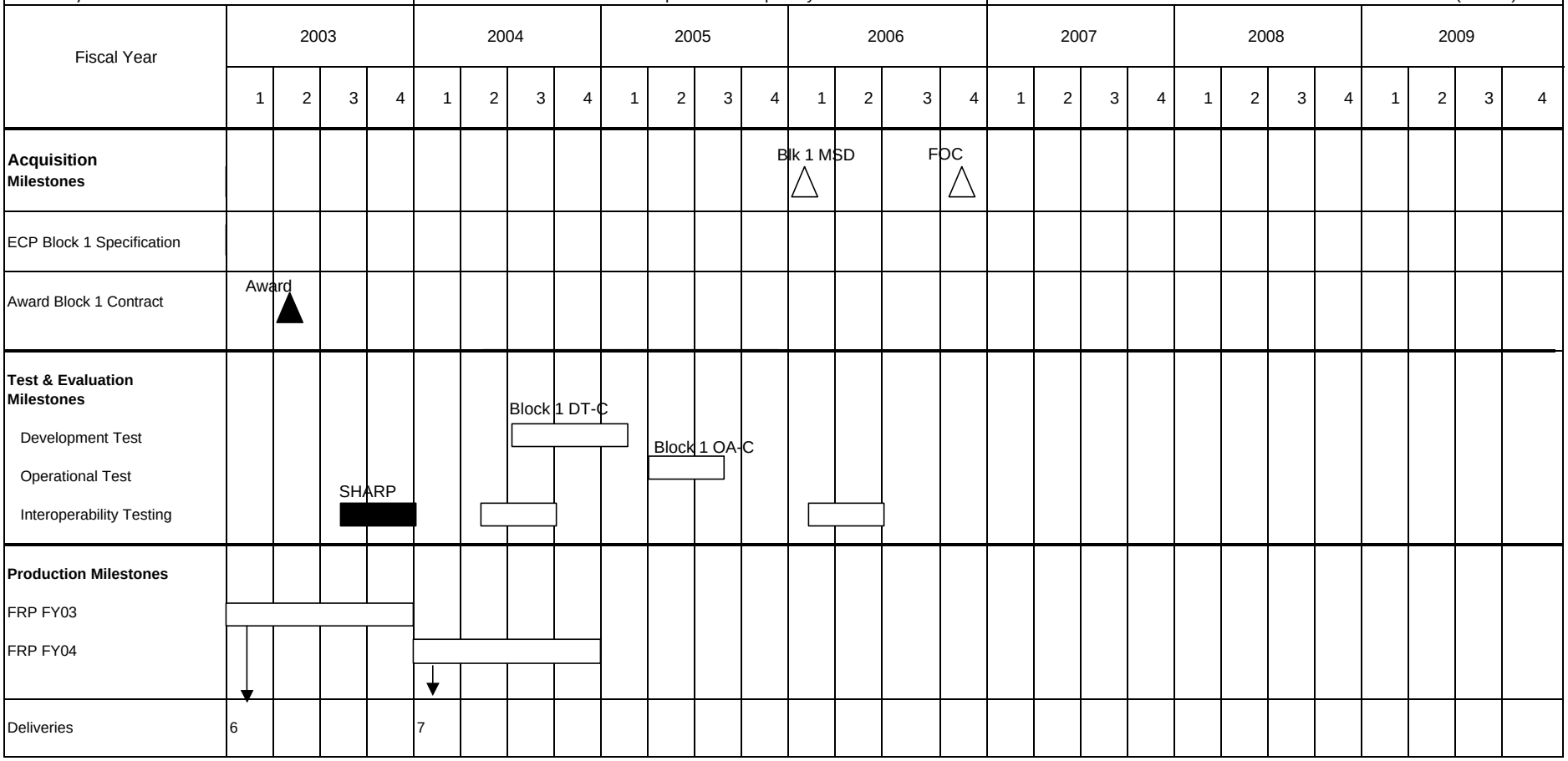
R-1 SHOPPING LIST - Item No. 125

CLASSIFICATION:

EXHIBIT R4, Schedule Profile

DATE: **February 2004**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA5	0604721N / Shipboard IW Expoit System	2134 SHIPBOARD IW EXPLOIT/COMMON DATA LINK-NAVY (CDL-N)



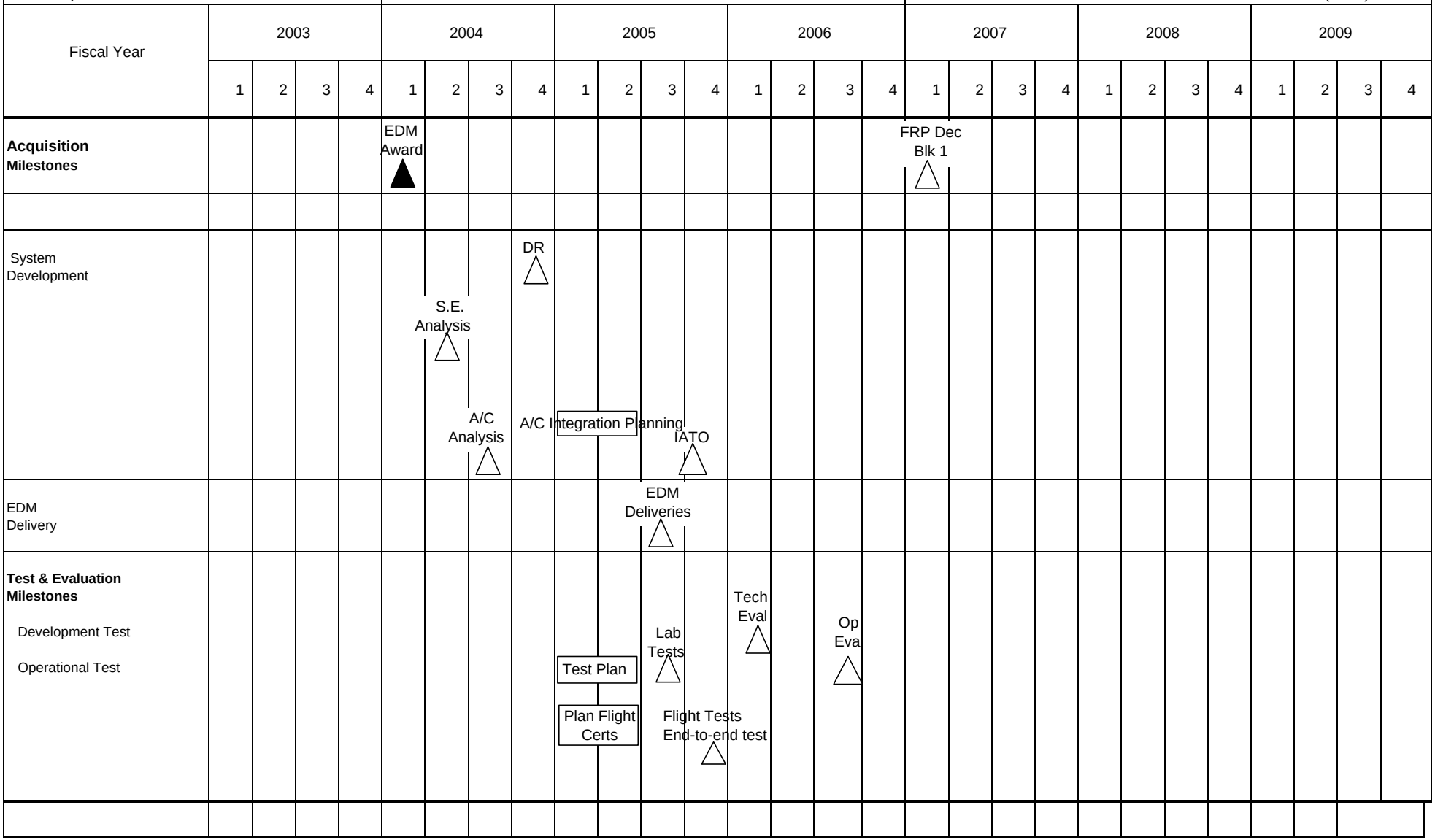
R-1 SHOPPING LIST - Item No. 125

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

CLASSIFICATION:

EXHIBIT R4, Schedule Profile — **Multi-Mission Payload (MMP)** — DATE: **February 2004**

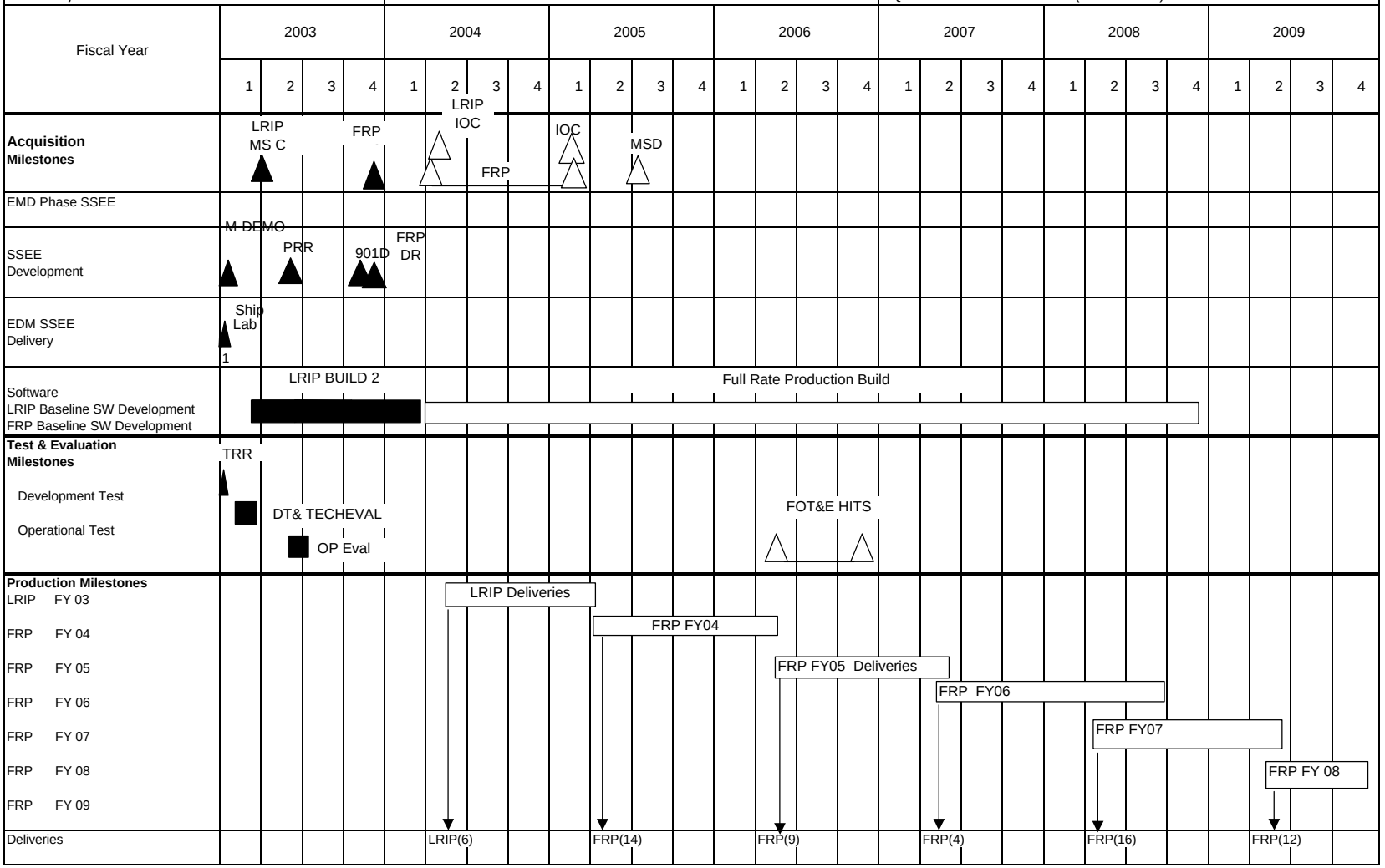
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /	0604721N / SHIPBOARD IW EXPLOIT SYSTEM	2134 SHIPBOARD IW EXPLOIT/MULTI-MISSION PAYLOAD (MMP)



CLASSIFICATION:

EXHIBIT R4, Schedule Profile — DATE: **February 2004**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /	0604721N/ SHIPBOARD IW EXPLOIT SYSTEM	2134 SHIPBOARD IW EXPLOIT/SHIPS SIGNAL EXPLOITATION EQUIPMENT INCREMENT E (SSEE Incr E)



R-1 SHOPPING LIST - Item No. 125

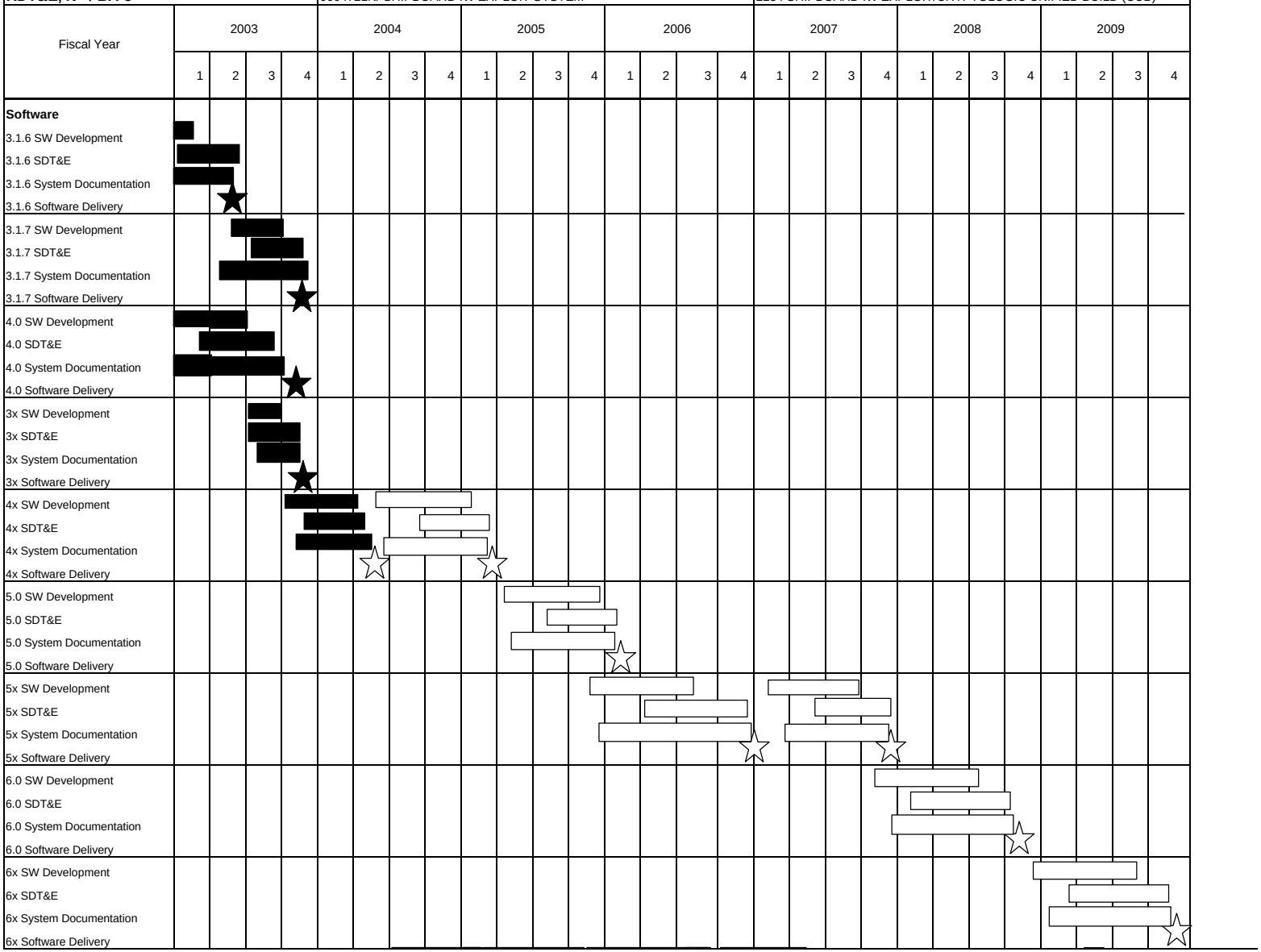
* Not required for Budget Activities 1, 2, 3, and 6

SSEE Inc X is a spiral development program. Current migration plan for Increment E includes Cryptologic Unified Build (CUB) and Cyrptologic On-Line Trainer (COLT) as shown in succeeding pages. FY08 will introduce Increment F with new antenna design and P3I.

EXHIBIT R4, Schedule Profile

DATE: **February 2004**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604721N/ SHIPBOARD IW EXPLOIT SYSTEM	2134 SHIPBOARD IW EXPLOIT/CRYPTOLOGIC UNIFIED BUILD (CUB)



R-1 SHOPPING LIST - Item No. 125

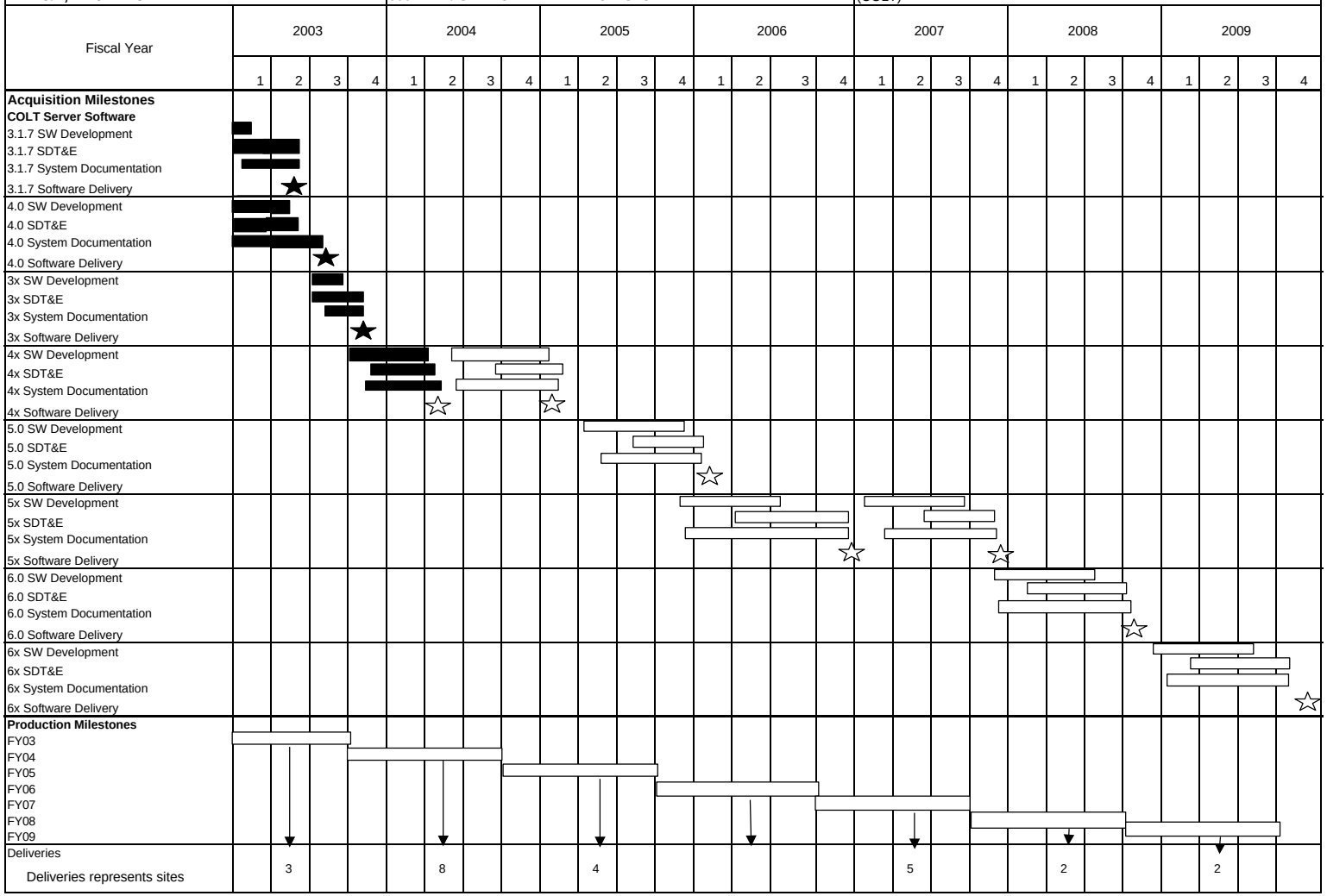
* Not required for Budget Activities 1, 2, 3, and 6

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	0604721N/ SHIPBOARD IW EXPLOIT SYSTEM	2134 SHIPBOARD IW EXPLOIT/CRYPTOLOGIC ON-LINE TRAINER (COLT)



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

R-1 SHOPPING LIST - Item No. 125

EXHIBIT R4, Schedule Profile | DATE: **February 2004**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA5	0604721N/ SHIPBOARD IW EXPLOIT SYSTEM	2134 SHIPBOARD IW EXPLOIT/ANTENNA RF DISTRIBUTION (ARFD)

Fiscal Year	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	Award Contract							Award Contract																				
Prototype Phase	■	■	■	■	■	■	■																					
System Development												SDR				FDR												
EDM Delivery							EDM											EDM										
Software 1XXSW Delivery 2XXSW Delivery																												
Test & Evaluation Milestones FAT LBTF																												
Production Milestones FRP FY07																					Production Rolled into SSEE							
Deliveries																												

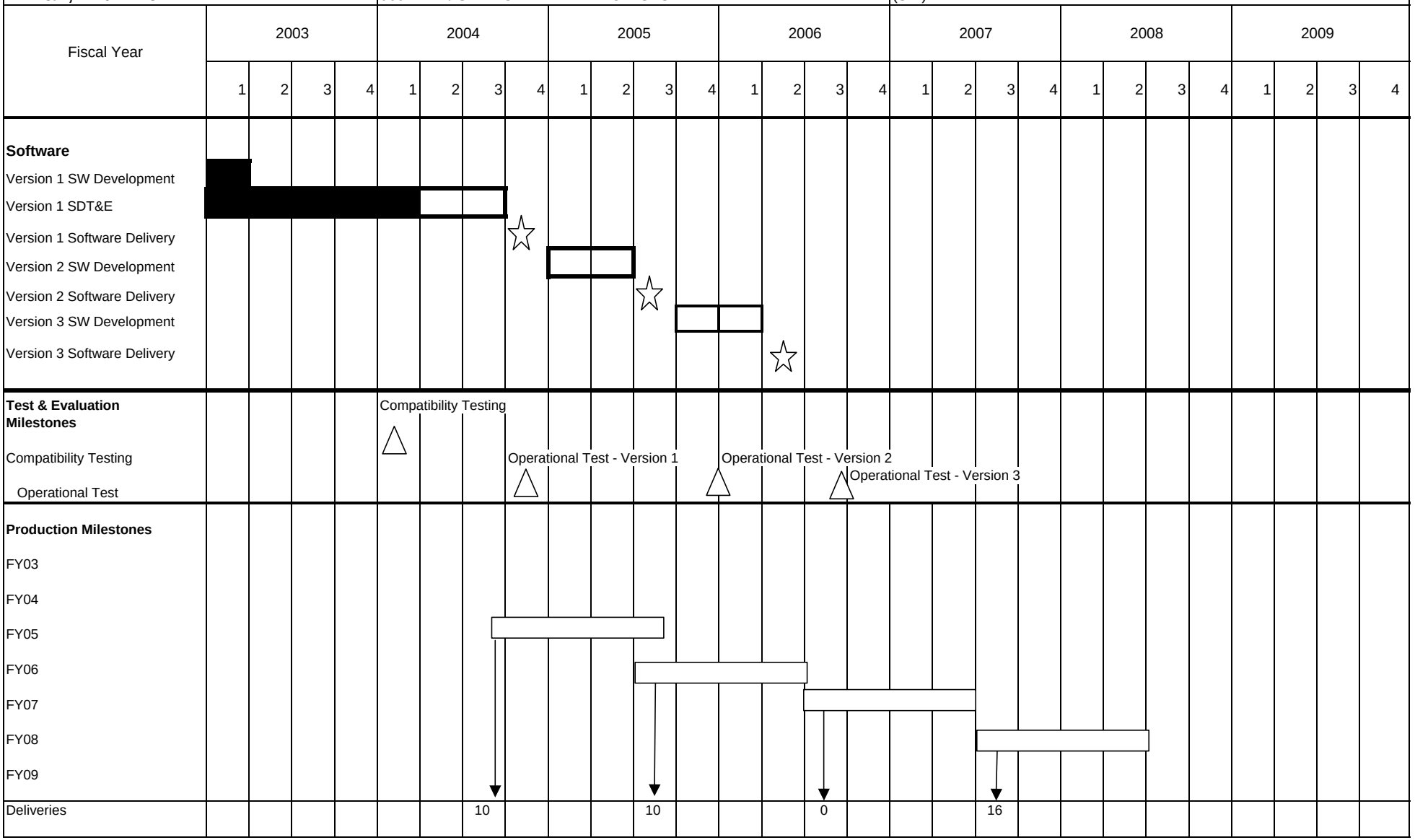
R-1 SHOPPING LIST - Item No. 125

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

Prototype Phase consist of antenna performance/probability studies.

EXHIBIT R4, Schedule Profile | DATE: **February 2004**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604721N/ SHIPBOARD IW EXPLOIT SYSTEM	2134 SHIPBOARD IW EXPLOIT/SPECIFIC EMITTER IDENTIFICATION (SEI)



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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT 0604721N / Shipboard IW Exploit System				PROJECT NUMBER AND NAME 2134 SHIPBOARD IW EXPLOIT/COMMON DATA LINK-NAVY (CDL-N)			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Contract Award		Q2						
Developmental Testing (DT)			Q3-Q4					
Operational Analysis				Q2-Q3				
Interoperability Testing		Q3-Q4	Q2-Q3		Q1-Q2			
FOC					Q4			

R-1 SHOPPING LIST - Item No. 125

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**	PROGRAM ELEMENT 0604721N / Shipboard IW Exploit System				PROJECT NUMBER AND NAME 2134 SHIPBOARD IW EXPLOIT/MULTI-MISSION PAYLOAD (MMP)			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
EDM Award			Q1					
System Engineering Analysis			Q2					
Aircraft Data Analysis			Q3					
Design Review (DR)			Q4					
Aircraft Integration Planning				Q1-Q2				
Develop Test Plan				Q1-Q2				
Arrange/Plan for Flight Certifications				Q1-Q2				
Laboratory Acceptance Tests				Q3				
Eng Dev Model (EDM) Deliveries - Lab				Q3				
Plan & Obtain Interim Authority to Operate (IATO)				Q4				
Flight Certification Tests				Q4				
TECHEVAL					Q1			
OPEVAL					Q3			
Full Rate Production (FRP) Decision Block One						Q1		

R-1 SHOPPING LIST - Item No. 125

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**	PROGRAM ELEMENT 0604721N/ SHIPBOARD IW EXPLOIT SYSTEM				PROJECT NUMBER AND NAME 2134 SHIPBOARD IW EXPLOIT/SHIPS SIGNAL EXPLOITATION EQUIPMENT INCR E (SSEE Incr E)			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Software Specification Review (SSR)		Q1-Q4						
Preliminary Design Review (PDR)		Q4						
System Development		Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4
Critical Design Review (CDR)			Q2					
Test Readiness Review (TRR)		Q2						
Developmental Testing		Q1						
Eng Dev Model (EDM) SSEE Delivery - Lab								
Software Delivery - System LRIP Config S/W			Q2					
Preproduction Readiness Review (PRR)		Q2						
EDM SSEE Delivery - Ship		Q1						
Operational Testing		Q2						
Milestone III (MS C)		Q2						
Start Low-Rate Initial Production (LRIP)		Q2						
Low-Rate Initial Production Delivery			Q2					
Technical Evaluation (TECHEVAL)		Q1						
M-DEMO		Q1						
Operational Evaluation (OPEVAL)		Q2-Q3						
FOLLOW-ON Operational Evaluation (FOTE)					Q2-Q4			
IOC			Q2	Q1				
Full Rate Production (FRP) Decision		Q4						
Full Rate Production Start			Q1-Q4					
First Deployment FRP Config				Q4				
Pre-Planned Improvements (P3I)		Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4
Material Support Date				Q3				

R-1 SHOPPING LIST - Item No. 125

SSEE Inc X is a spiral development program. Current migration plan for Increment E includes Cryptologic Unified Build (CUB) and Cyrptologic On-Line Trainer (COLT) as shown in succeeding pages.

FY07 will introduce Increment F with new antenna design and P3I.

Exhibit R-4a, Schedule Detail					DATE: February 2004			
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT 0604721N/ SHIPBOARD IW EXPLOIT SYSTEM				PROJECT NUMBER AND NAME 2134 SHIPBOARD IW EXPLOIT/CRYTOLOGIC UNIFIED BUILD (CUB)			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Software Development v 3.1.6		Q1						
System Developmental Test & Eval v 3.1.6		Q1-Q2						
System Documentation v 3.1.6		Q1-Q2						
Software Delivery v 3.1.6		Q2						
Software Development v 3.1.7		Q2-Q3						
System Developmental Test & Eval v 3.1.7		Q3-Q4						
System Documentation v 3.1.7		Q1-Q3						
Software Delivery v 3.1.7		Q4						
Software Development v 4.0		Q1-Q2						
System Developmental Test & Eval v 4.0		Q1-Q3						
System Documentation v 4.0		Q1-Q3						
Software Delivery v 4.0		Q4						
Software Development v 3x		Q3						
System Developmental Test & Eval v 3x		Q3-Q4						
System Documentation v 3x		Q3-Q4						
Software Delivery v 3x		Q4						
Software Development v 4x		Q4	Q1-Q4	Q1				
System Developmental Test & Eval v 4x		Q4	Q1-Q4	Q1				
System Documentation v 4x		Q4	Q1-Q4	Q1				
Software Delivery v 4x			Q2	Q1				
Software Development v 5.0				Q2-Q4				
System Developmental Test & Eval v 5.0				Q3-Q4	Q1			
System Documentation v 5.0				Q2-Q4	Q1			
Software Delivery v 5.0					Q1			
Software Development v 5x				Q4	Q1-Q3	Q1-Q3		
System Developmental Test & Eval v 5x					Q2-Q4	Q2-Q4		
System Documentation v 5x				Q4	Q1-Q4	Q1-Q4		
Software Delivery v 5x					Q4	Q4		
Software Development v 6.0						Q4	Q1-Q3	
System Developmental Test & Eval v 6.0							Q1-Q4	
System Documentation v 6.0						Q4	Q1-Q4	
Software Delivery v 6.0							Q4	
Software Development v 6x							Q4	Q1-Q3
System Developmental Test & Eval v 6x								Q1-Q4
System Documentation v 6x								Q1-Q4
Software Delivery v 6x								Q4

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**	PROGRAM ELEMENT 0604721N/ SHIPBOARD IW EXPLOIT SYSTEM				PROJECT NUMBER AND NAME 2134 SHIPBOARD IW EXPLOIT/CRYPTOLOGIC ON-LINE TRAINER (COLT)			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
COLT Server Software								
3.1.7 SW Development		Q1						
3.1.7 SDT&E		Q1-Q2						
3.1.7 System Documentation		Q1-Q2						
3.1.7 Software Delivery		Q2						
4.0 SW Development		Q1-Q2						
4.0 SDT&E		Q1-Q3						
4.0 System Documentation		Q1-Q3						
4.0 Software Delivery		Q3						
3x SW Development		Q3						
3x SDT&E		Q3-Q4						
3x System Documentation		Q3-Q4						
3x Software Delivery		Q4						
4x SW Development		Q4	Q1-Q4	Q1				
4x SDT&E		Q4	Q1-Q4	Q1				
4x System Documentation		Q4	Q1-Q4	Q1				
4x Software Delivery			Q2	Q1				
5.0 SW Development				Q2-Q4				
5.0 SDT&E				Q3-Q4	Q1			
5.0 System Documentation				Q2-Q4	Q1			
5.0 Software Delivery					Q1			
5x SW Development				Q4	Q1-Q3	Q1-Q3		
5x SDT&E					Q2-Q4	Q2-Q4		
5x System Documentation				Q4	Q1-Q4	Q1-Q4		
5x Software Delivery					Q4	Q4		
6.0 SW Development						Q4	Q1-Q3	
6.0 SDT&E							Q1-Q4	
6.0 System Documentation						Q4	Q1-Q4	
6.0 Software Delivery							Q4	
6x SW Development							Q4	Q1-Q3
6x SDT&E								Q1-Q4
6x System Documentation								Q1-Q4
6x Software Delivery								Q4

R-1 SHOPPING LIST - Item No. 125

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**	PROGRAM ELEMENT 0604721N/ SHIPBOARD IW EXPLOIT SYSTEM				PROJECT NUMBER AND NAME 2134 SHIPBOARD IW EXPLOIT/ANTENNA RF DISTRIBUTION (ARFD)			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Select HF Acquisition MCCP Contract Award								
Optimize SIGINT RF Performance via CBM			4Q					
Ship Demonstration								
Contract Award		1Q	2Q					
Test & Evaluate HF DF Antennas			4Q					
Test, Evaluate, Certify & Validate HF DF & Reference (EDM)			4Q					
Test, Evaluate, Certify & Validate VHF/UHF DF (EDM)			4Q					
Award Contracts for HF DF& Ref & VHF/UHF DF (EDM)				1Q				
Optimzed IW Antennas RFI		4Q						
Draft Optimized IW Antennas Specification		4Q						
Optimized IW Antennas Final Draft			4Q					
EDM Delivery			4Q					
System Design Review (SDR)				4Q				
Final Design Review (FDR)					4Q			
EDM Delivery						2Q		
Factory Acceptance Testing						2Q		
Land Based Test Facility						4Q		
Deliver capability to SSEE							1Q	

R-1 SHOPPING LIST - Item No. 125

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**	PROGRAM ELEMENT 0604721N/ SHIPBOARD IW EXPLOIT SYSTEM				PROJECT NUMBER AND NAME 2134 SHIPBOARD IW EXPLOIT/SPECIFIC EMITTER IDENTIFICATION (SEI)			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
SPAWAR Pgm Development								
Additional Requirements								
Contract Award		Q2						
System Requirements		Q1						
Systems Requirements Review		Q2						
Technical Information Meeting		Q2						
Architecture Definition		Q2						
Foreign Comparison Test (FCT) Planning		Q1						
FCT Test		Q3						
FCT Test Analysis		Q4						
Preliminary Design Review		Q4						
Critical Design Review		Q4						
Development Lab Set-up		Q4						
Platform Independent Prototype Development		Q4						
Phase 1 - Software Development		Q1-Q4	Q1-Q3					
Phase 2 - Software Delivery			Q2-Q4	Q4	Q1			
Phase 3 - software development				Q1				
Technical Information Meeting		Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4			
Software Delivery			Q3	Q3	Q3	Q3		
Hardware/software compatibility testing			Q1-Q4	Q1-Q4	Q1-Q2			
Test Readiness Review (TRR)			Q1-Q2		Q1-Q2	Q4		
Developmental Testing (DT-IIA)			Q1-Q2		Q1-Q2	Q4		
Logistics			Q4	Q3	Q2	Q1-Q4		
Phase 1/2/3 delivery			Q2-Q4	Q1-Q2	2Q			
Software only configuration Installation			Q2-Q4		Q1-Q2	Q4		
Hardware only configuration Installation			Q2-Q3	Q1-Q2	Q1-Q2			
Hardware/software configuration Installation			Q2-Q4		Q3			
Operational Testing (OT-IIA)			Q4	Q4	Q3			
Start Low-Rate Initial Production I (LRIP I)			Q3		Q3			
IOC			Q4					

R-1 SHOPPING LIST - Item No. 125

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604721N/SHIPBOARD IW EXPLOIT SYSTEM					PROJECT NUMBER AND NAME 9242 / COOPERATIVE OUTBOARD LOGISTICS UPDATE (COBLU)					
COST ($ in Millions)	Prior Years Cost	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Total Program
Project Cost	**0.000**	**0.000**	**3.238**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**3.238**
RDT&E Articles Qty											**0**

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

Cooperative Outboard Logistics Update, COBLU, is a cooperative program between the United States and the United Kingdom. The existing OUTBOARD system (AN/SSQ-108) has been updated to provide comprehensive surface tactical capability. The program maximizes use of already developed military and commercial signal exploitation equipment. The system architecture requires minimal effort to implement future technologies necessary to handle the evolving threat. This effort will develop, integrate and test an engineering prototype of Low Probability of Intercept (LPI) subsystem to detect recognize and process the most current threat signals. Once development effort is completed it will be included as a pre-planned product improvement for COBLU introduced through field change kits.

(U) JUSTIFICATION FOR BUDGET ACTIVITY:

This program is funded under BA-5, ENGINEERING & MANUFACTURING DEVELOPMENT because it encompasses engineering and manufacturing development of new end-items prior to production approval decision.

R-1 SHOPPING LIST - Item No. 125

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604721N/SHIPBOARD IW EXPLOIT SYSTEM	9242 / COOPERATIVE OUTBOARD LOGISTICS UPDATE

(U) B. Accomplishments/Planned Program

		FY 03	FY 04	
Accomplishments/Effort/Subtotal Cost		3.238	0.000	
RDT&E Articles Quantity				

Cooperative Outboard Logistics Update (COBLU)

FY03 - Developed, integrated and tested an engineering prototype of a Low Probability of Intercept (LPI) subsystem.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604721N/SHIPBOARD IW EXPLOIT SYSTEM	9242 / COOPERATIVE OUTBOARD LOGISTICS UPDATE

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2002	FY 2003	FY 2004
Previous President's Budget:	0.000	0.000	0.000
Current BES/President's Budget	0.000	3.238	0.000
Total Adjustments	0.000	3.238	0.000
Summary of Adjustments			
Cong. Add for COBLU Upgrade		3.400	
Business Process Reform (Sec. 8100)		-0.014	
Economic Assumptions (Sec. 8135)		-0.019	
IT Cost Growth (Sec. 8109)		-0.006	
Inflation Savings		-0.036	
SBIR Assessment		-0.087	
Subtotal	0.000	3.238	0.000

(U) Schedule:

Not Applicable

(U) Technical:

Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604721N/SHIPBOARD IW EXPLOIT SYSTEM	9242 / COOPERATIVE OUTBOARD LOGISTICS UPDATE

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost

(U) E. ACQUISITION STRATEGY:

Not Applicable

R-1 SHOPPING LIST - Item No. 125

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604721N/SHIPBOARD IW EXPLOIT SYSTEM			PROJECT NUMBER AND NAME 9242/COOPERATIVE OUTBOARD LOGISTICS UPDATE						
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				0.250	02/03						0.250	
Ancillary Hardware 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			0.000	0.250		0.000		0.000		0.000	0.250	
Remarks:												
Development Support											0.000	
Software Development				2.988	02/03						2.988	
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	2.988		0.000		0.000		0.000	2.988	
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604721N/SHIPBOARD IW EXPLOIT SYSTEM				PROJECT NUMBER AND NAME 9242/COOPERATIVE OUTBOARD LOGISTICS UPDATE						
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											0.000	
Program Management Support											0.000	
Travel											0.000	
Transportation											0.000	
											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			0.000	3.238		0.000		0.000		0.000	3.238	
Remarks:												

R-1 SHOPPING LIST - Item No. 125

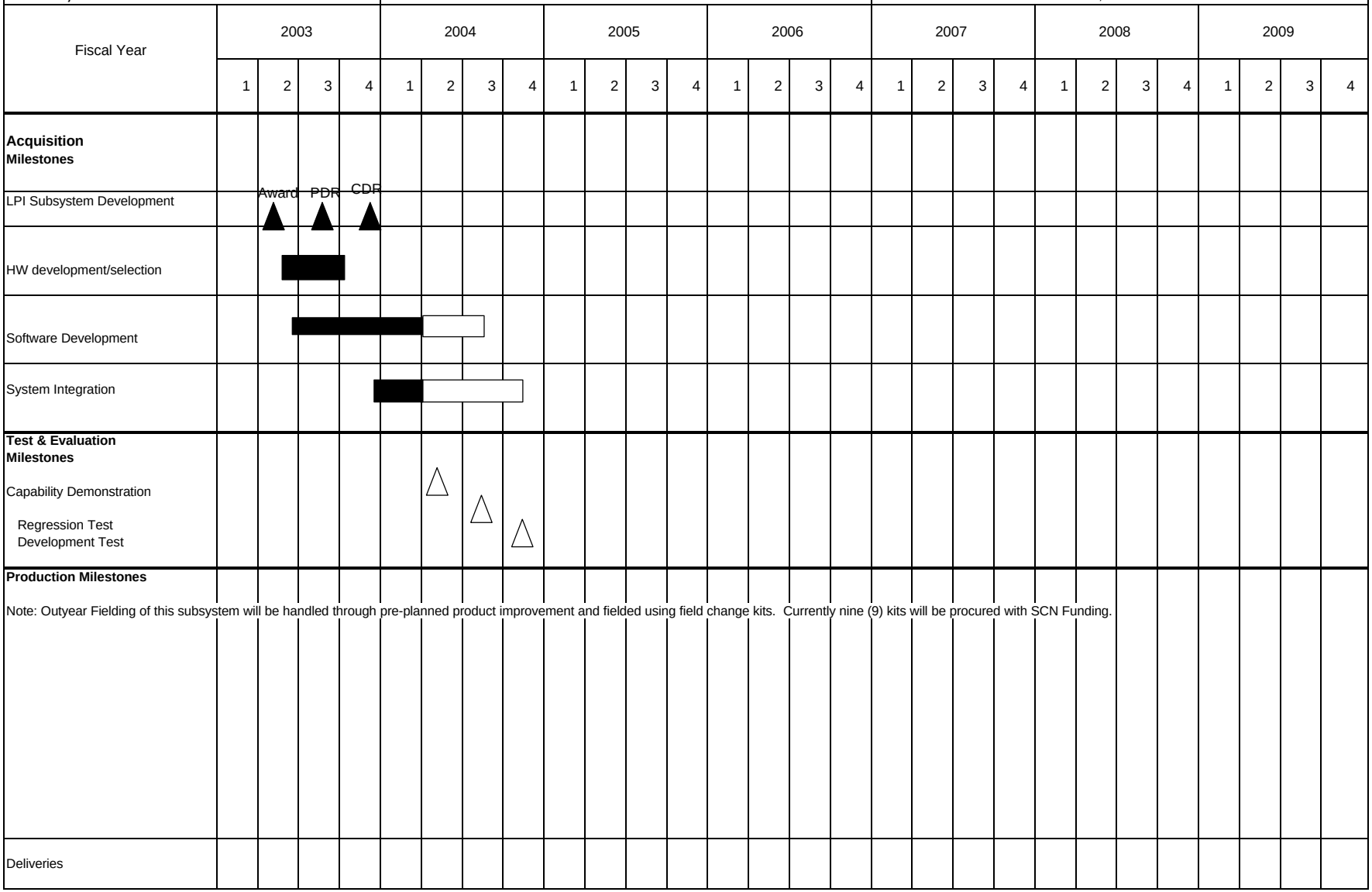
CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **February 2004**

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

PROGRAM ELEMENT NUMBER AND NAME: 0604721N/ SHIPBOARD IW EXPLOIT SYSTEM

PROJECT NUMBER AND NAME: 9242 SHIPBOARD IW EXPLOIT/SHIPS SIGNAL COOPERATIVE OUTBOARD LOGISTICS UPDATE, COBLU



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

R-1 SHOPPING LIST - Item No. 125

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**	PROGRAM ELEMENT 0604721N/ SHIPBOARD IW EXPLOIT SYSTEM				PROJECT NUMBER AND NAME COOPERATIVE OUTBOARD LOGISTICS UPDATE, COBLU			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Contract Award		Q2						
Preliminary Design Review (PDR)		Q3						
System Design Review (SDR)		Q2						
System Development		Q2 -Q4	Q1-Q3					
Critical Design Review (CDR)		Q4						
System Integration			Q1-Q4					
Eng Dev Model (EDM) Delivery - Lab			Q3					
Software Delivery -			Q3					
Test Readiness Review (TRR)			Q4					
Developmental Testing			Q4					
Capability Demo			Q4					
EDM Delivery -			Q4					

R-1 SHOPPING LIST - Item No. 125

CLASSIFICATION:

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 0604727N Joint Standoff Weapon System (JSOW)			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost		**16.685**	**4.969**	**9.531**	**13.271**	**12.811**	**6.241**	**0.351**
A2068 Joint Standoff Weapon (JSOW)		**16.685**	**0.766**	**9.531**	**13.271**	**12.811**	**6.241**	**0.351**
A9393 Electromagnetic Test Devices (HPM)			**4.203**					

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:
The Joint Standoff Weapon (JSOW) is an air-to-ground weapon designed to attack a variety of targets during day, night and adverse weather conditions. JSOW will enhance aircraft survivability as compared to current interdiction weapon systems by providing the capability for launch aircraft to standoff outside the range of most target area surface-to-air threat systems. The JSOW launch-and-leave capability will allow several target kills per aircraft sortie. The JSOW program first developed a baseline weapon for use against fixed area targets. JSOW is a Navy-led joint Navy/Air Force program.

The JSOW Baseline (AGM-154A) variant includes a kinematically efficient airframe, an integrated Inertial/Global Positioning System (INS/GPS) navigation capability, and a BLU-97/B submunition payload. This weapon is designed up front for pre-planned product improvements. The JSOW BLU-108 (AGM-154B) variant incorporates the Sensor Fuze Weapon submunition (BLU-108) into the baseline vehicle. Planned production of the JSOW/BLU-108 is deferred. The JSOW Unitary (AGM-154C) variant has a terminal seeker, Autonomous Target Acquisition (ATA) capability, and a unitary warhead to enable the attack of blast/fragmentation targets. The JSOW Unitary will provide increased accuracy and lethality and the capability for aimpoint selection. Unitary variant entered Operational Evaluation (OPEVAL) in November 2003. The Unitary variant is in Low Rate Initial Production. Full Rate Production is planned for FY 2005.

The FY 2004 budget includes a Congressional add to complete an integration study to assess the feasibility of incorporating High Power Microwave (HPM) bomblets into JSOW or an alternative air vehicle.

The FY 2005-2009 budget includes funding to integrate a Selective Availability Anti-spoofing Module (SAASM) based GPS receiver per the Joint Chiefs of Staff mandate. Concurrent with the SAASM integration, a new computer processor will be integrated to replace the existing obsolete 486 processor. The effort will focus on concurrent cost reduction opportunities.

JSOW utilizes a "common truck" for both AGM-154A and AGM-154C variants. Through adherence to international standards for weapons interfaces and weight and dimension considerations. JSOW will be compatible with Air Force and NATO aircraft.

(U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under SYSTEM DEVELOPMENT AND DEMONSTRATION because it encompasses development and demonstration of new end-items prior to production approval decision.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604727N Joint Standoff Weapon (JSOW)				PROJECT NUMBER AND NAME A2068 Joint Standoff Weapon (JSOW)			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**16.685**	**0.766**	**9.531**	**13.271**	**12.811**	**6.241**	**0.351**
RDT&E Articles Qty								

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:
The Joint Standoff Weapon (JSOW) is an air-to-ground weapon designed to attack a variety of targets during day, night and adverse weather conditions. JSOW will enhance aircraft survivability as compared to current interdiction weapon systems by providing the capability for launch aircraft to standoff outside the range of most target area surface-to-air threat systems. The JSOW launch-and-leave capability will allow several target kills per aircraft sortie. The JSOW program first developed a baseline weapon for use against fixed area targets. JSOW is a Navy-led joint Navy/Air Force program.

The JSOW Baseline (AGM-154A) variant includes a kinematically efficient airframe, an integrated Inertial/Global Positioning System (INS/GPS) navigation capability, and a BLU-97/B submunition payload. This weapon is designed up front for pre-planned product improvements. The JSOW BLU-108 (AGM-154B) variant incorporates the Sensor Fuze Weapon submunition (BLU-108) into the baseline vehicle. Planned production of the JSOW/BLU-108 is deferred. The JSOW Unitary (AGM-154C) variant has a terminal seeker, Autonomous Target Acquisition (ATA) capability, and a unitary warhead to enable the attack of blast/fragmentation targets. The JSOW Unitary will provide increased accuracy and lethality and the capability for aimpoint selection. Unitary variant entered Operational Evaluation (OPEVAL) in November 2003. The Unitary variant is in Low Rate Initial Production. Full Rate Production is planned for FY 2005.

The FY 2005-2009 budget includes funding to integrate a Selective Availability Anti-spoofing Module (SAASM) based GPS receiver per the Joint Chiefs of Staff mandate. Concurrent with the SAASM integration, a new computer processor will be integrated to replace the existing obsolete 486 processor. The effort will focus on concurrent cost reduction opportunities.

JSOW utilizes a "common truck" for both AGM-154A and AGM-154C variants. Through adherence to international standards for weapons interfaces and weight and dimension considerations. JSOW will be compatible with Air Force and NATO aircraft.

(U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under SYSTEM DEVELOPMENT AND DEMONSTRATION because it encompasses development and demonstration of new end-items prior to production approval decision.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA5	0604727N Joint Standoff Weapon (JSOW)	A2068 Joint Standoff Weapon (JSOW)

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		16.685	0.000	0.000
RDT&E Articles Quantity				

Perform Unitary SD&D efforts, configuration audits and environmental testing and perform Broach insertion
Perform Unitary Broach warhead and fuzing development
Perform Unitary combined Development Testing and Operational Testing (DT/OT) on Seeker and Broach warhead
Perform Unitary system engineering technical support; complete insensitive munitions qualifications and safety approvals

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.000	0.766	0.531
RDT&E Articles Quantity				

Perform Baseline JMPS Migration; plan new functions into JSOW Common Unique Planning Component (CUPC) and develop new software releases of CUPC.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.000	0.000	9.000
RDT&E Articles Quantity				

Begin design, development and integration of a Selective Availability Anti-spoofing Module (SAASM) based GPS receiver and new processor into JSOW.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604727N Joint Standoff Weapon (JSOW)	A2068 Joint Standoff Weapon (JSOW)

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:	16.283	0.775	0.526
Current President's Budget	16.685	0.766	9.531
Total Adjustments	0.402	-0.009	9.005
Summary of Adjustments			
Congressional program reductions			
Congressional undistributed reductions		-0.009	
Congressional rescissions			
SBIR/STTR Transfer			
Economic Assumtions			0.011
Reprogrammings	0.402		
Congressional increases			
Reprioritization			8.994
Subtotal	0.402	-0.009	9.005

Schedule:

Schedule has been updated to reflect the program deviation to accommodate OPEVAL start and MS-III decision. Schedule is also updated to include the design, development, integration and test of Selective Availability Anti-Spoofing Module (SAASM) per the Joint Chiefs of Staff mandate.

Technical:

N/A

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604727N Joint Standoff Weapon (JSOW)	A2068 Joint Standoff Weapon (JSOW)

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
USN WP, N; BLI: 223000 JSOW									
$S	159.625	117.570	139.407	143.396	138.162	147.029	155.228	Continuing	Continuing
Qtys	532	328	389	412	380	422	444	7847	11800
USAF WP,F; BLI: 27324f* JSOW									
$S	12.208	79.981							
Qtys	22	307							

E. ACQUISITION STRATEGY: *

The contracting strategy for JSOW is planned to be sole source for the life of the program. Cost type contracts were used for the SD&D program effort. Fixed price type contracts will be used for production.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604727N Joint Standoff Weapon (JSOW)			PROJECT NUMBER AND NAME A2068 Joint Standoff Weapon (JSOW)							
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	C/CPIF	Raytheon Tucson, AZ	272.295								272.295	272.295
Primary Hardware Development	SS/CPIF	Raytheon Tucson, AZ	242.000	5.809	11/02						247.809	247.809
Ancillary Hardware Development	SS/CPIF	Textron	2.923								2.923	2.923
Ancillary Hardware Development	SS/FPFF	BAE Chorley, England	10.000	2.450	11/02						12.450	12.450
Aircraft Integration	SS/CPIF	Mtech/McDonnell Douglas	21.455								21.455	21.455
Aircraft Integration	WX	NAWCWD China Lake	15.058								15.058	
Systems Engineering	WX	NAWCWD China Lake	105.527	2.183	11/02			0.250	11/04	1.200	109.160	
Award Fees	Fee	Textron/Raytheon	7.198								7.198	7.198
SAASM Integration	CPFF	Raytheon Tucson, AZ						8.650	11/04	22.450	31.100	31.100
											0.000	
											0.000	
Subtotal Product Development			676.456	10.442		0.000		8.900		23.650	719.448	
Remarks:												
Software Development	SS/FPFF	Raytheon Tucson, AZ	2.191	0.200	03/03	0.766	02/04	0.531	11/04	1.424	5.112	5.112
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Support			2.191	0.200		0.766		0.531		1.424	5.112	
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604727N Joint Standoff Weapon (JSOW)				PROJECT NUMBER AND NAME A2068 Joint Standoff Weapon (JSOW)						
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	NAWCWD, China Lake	23.920	2.760	11/02					2.800	29.480	
Operational Test & Evaluation	WX	OPTEVFOR, Norfolk	5.097	2.490	01/03					4.500	12.087	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal T&E			29.017	5.250		0.000		0.000		7.300	41.567	
Remarks: Cost to Complete reflects DT/OT-III (FOT&E) scheduled for FY07 and FY08.												
Contractor Engineering Support	Various	Various	17.443	0.693	11/02						18.136	18.136
Travel	Various	Various	6.992	0.100	10/02			0.100	11/04	0.300	7.492	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Management			24.435	0.793		0.000		0.100		0.300	25.628	
Remarks:												
Total Cost			732.099	16.685		0.766		9.531		32.674	791.755	
Remarks:												

R-1 SHOPPING LIST - Item No. 126

UNCLASSIFIED

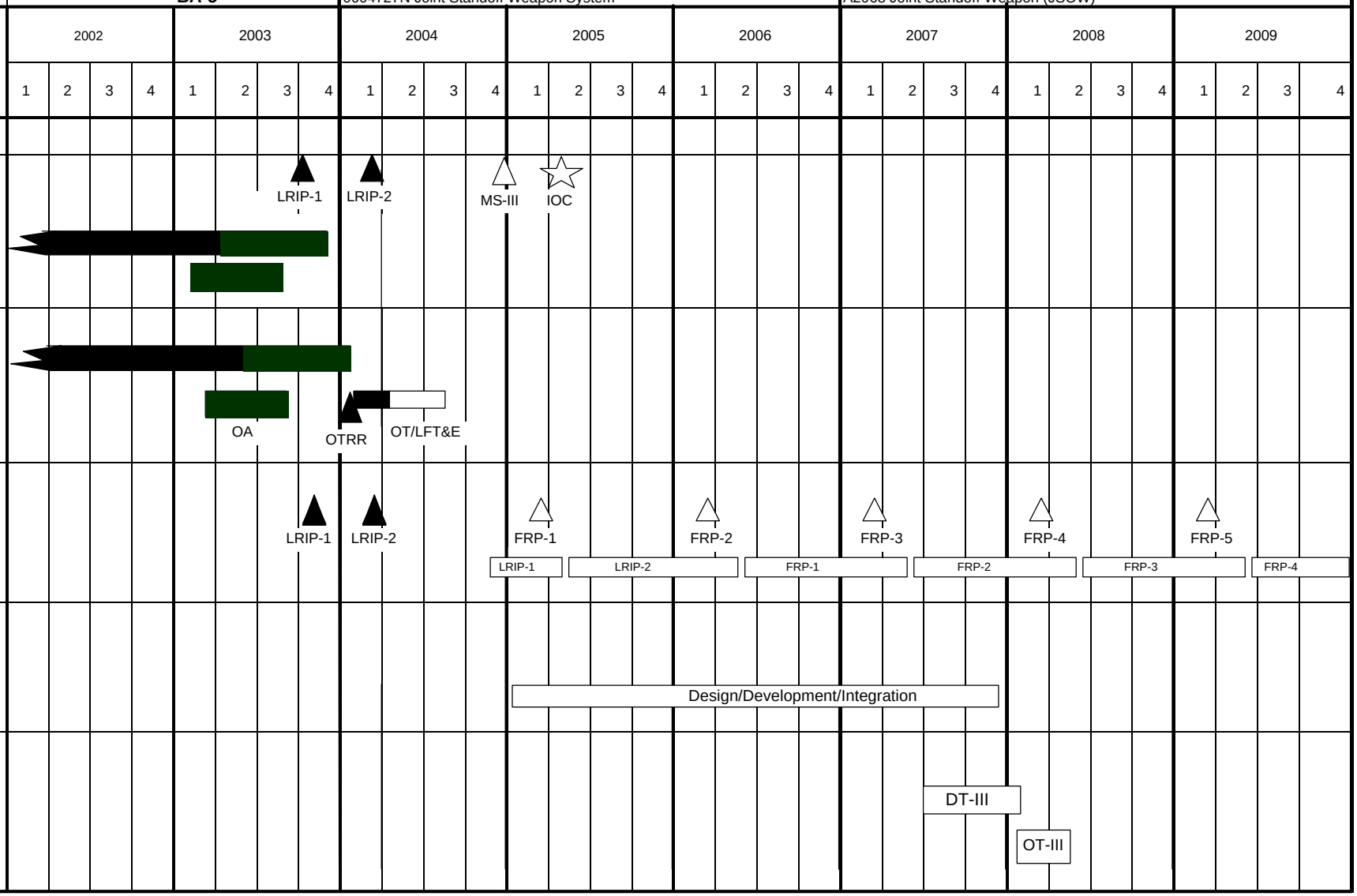
EXHIBIT R4, Schedule Profile

DATE: **February 2004**

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

PROGRAM ELEMENT NUMBER AND NAME: 0604727N Joint Standoff Weapon System

PROJECT NUMBER AND NAME: A2068 Joint Standoff Weapon (JSOW)



R-1 SHOPPING LIST - Item No. 126

UNCLASSIFIED

Exhibit R-4a, Schedule Detail						DATE: February 2004		
APPROPRIATION/BUDGET ACTIVITY **RDT&,N BA-5**	PROGRAM ELEMENT 0604727N Joint Standoff Weapon System				PROJECT NUMBER AND NAME A2068 Joint Standoff Weapon (JSOW)			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
JSOW-C								
Missile Integration	1Q-4Q	1Q-4Q						
Missile Level Qual.		1Q-3Q						
Development Test	1Q-4Q	1Q-4Q	1Q					
Operational Assessment		1Q-3Q						
Low Rate Initial Production (LRIP)		4Q	1Q					
Operational Test Readiness Review (OTRR)			1Q					
Operational Test / Live Fire Test and Evaluation (OT/LFT&E)			1Q-3Q					
Milestone III (MS-III)			4Q					
Initial Operational Capability (IOC)				2Q				
Low Rate Initial Production (LRIP)		4Q	1Q					
Full Rate Production (FRP)				1Q	1Q	1Q	1Q	1Q
LRIP-1 Deliveries			4Q	1Q-2Q				
LRIP-2 Deliveries				2Q-4Q	1Q-2Q			
FRP-1 Deliveries					2Q-4Q	1Q-2Q		
FRP-2 Deliveries						2Q-4Q	1Q-2Q	
FRP-3 Deliveries							2Q-4Q	1Q-2Q
FRP-4 Deliveries								2Q-4Q
SASSM								
Design/Integration				1Q-4Q	1Q-4Q	1Q-4Q		
Development Test (DT)						3Q-4Q	1Q	
Operational Test (OT)							1Q-2Q	

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604727N Joint Standoff Weapon (JSOW)				PROJECT NUMBER AND NAME A9393 Joint Standoff Weapon (JSOW)			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost			**4.203**					
RDT&E Articles Qty								

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

Military commanders need a wide variety of weapons to carry out military and political objectives. Prevalent in today's political environment is a requirement for non-lethal systems to defeat an opposing force while minimizing casualties and collateral damage. One non-lethal approach is to use a High Power Microwave (HPM) device that would destroy electronic components of enemy systems. Technology is available to produce a HPM sub-munitions device that could achieve the desired effect without the use of high explosive weapons. The FY 04 Funded Program would manufacture, and demonstrate HPM sub-munitions at the NAWCWD, China Lake HPM test facility. The demonstration objective is to show significant HPM sub-munitions effectiveness against relevant electronic systems and equipments that would lead to system deployment from a Predator B UAV or other manned aircraft.

(U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is a congressional plus-up funded under PE 0604727N, Joint Standoff Weapons System, for High Power Microwave Submunitions.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604727N Joint Standoff Weapon (JSOW)	A9393 Electromagnetic Test Devices (HPM)

B. Accomplishments/Planned Program (Cont.)

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.000	4.203	0.000
RDT&E Articles Quantity				

Perform design and integration studies to assess feasibility of HPM bomblet integration.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604727N Joint Standoff Weapon (JSOW)	A9393 Electromagnetic Test Devices (HPM)

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:	0.000	0.000	0.000
Current President's Budget	0.000	4.203	0.000
Total Adjustments	0.000	4.203	0.000
Summary of Adjustments			
Congressional program reductions			
Congressional undistributed reductions		-0.047	
Congressional rescissions			
SBIR/STTR Transfer			
OSD			
Navy (FMB/Sponsor/NAVAIR)			
Economic Assumtions			
Reprogrammings			
Congressional increases		4.250	
Subtotal	0.000	4.203	0.000

Schedule:

Schedule has been updated to reflect the Congressional add for Electromagnetic Test Devices (HPM) .

Technical:

N/A

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604727N Joint Standoff Weapon (JSOW)			PROJECT NUMBER AND NAME A9393 Electromagnetic Test Device (HPM)							
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
Studies & Analyses	WX	NAWCWD, China Lake				4.203	01/04				4.203	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
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											0.000	
											0.000	
											0.000	
Subtotal Support			0.000	0.000		4.203		0.000		0.000	4.203	

Remarks:

R-1 SHOPPING LIST - Item No. 126

UNCLASSIFIED

EXHIBIT R4, Schedule Profile																																DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /**					**BA-5**				PROGRAM ELEMENT NUMBER AND NAME 0604727N Joint Standoff Weapon System														PROJECT NUMBER AND NAME A9393 Electromagnetic Test Device (HPM)											
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
HPM																																
Acquisition Milestones Missile Integration Missile Level Qual.																																
Test & Evaluation Milestones Development Test Operational Test																																
Production Milestones																																
Acquisition Milestones Integration Study										Development Integration Study																						
Test & Evaluation Milestones Development Test Operational Test																																

R-1 SHOPPING LIST - Item No. 126

Exhibit R-4a, Schedule Detail						DATE: February 2004		
APPROPRIATION/BUDGET ACTIVITY **RDT&,N BA-5**	PROGRAM ELEMENT 0604727N Joint Standoff Weapon System				PROJECT NUMBER AND NAME A9393 Electromagnetic Test Device (HPM)			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
HPM								
Development Integration Study			2Q-4Q	1Q				

CLASSIFICATION:

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 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost		**60.138**	**42.237**	**48.154**	**12.544**	**0.000**	**0.000**	**0.000**
0166/SPS Improvement		**4.210**	**1.875**	**2.955**	**1.953**	**0.000**	**0.000**	**0.000**
2178/QRCC		**51.480**	**36.162**	**45.199**	**10.591**	**0.000**	**0.000**	**0.000**
9394/Integrated Radar Optical Surveillance (IROS3)*		**0.000**	**4.200**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
2649/IRST		**4.448**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**

*Project Unit 9394 is an FY04 Congressional Add

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This program element consolidates currently ongoing and planned programmatic efforts related to Detect & Control aspects of Ship Self Defense (SSD) to facilitate effective planning and management of these efforts and to exploit the synergistic relationship inherent in each. Analysis and demonstration have established that surface SSD based on single-sensor detection point-to-point control architecture performs marginally against current and projected Anti-Ship Cruise Missile (ASCM) threats. The supersonic seaskimming ASCM reduces the effective battle space to the horizon and the available reaction time-line to less than 30 seconds from first opportunity to detect until the ASCM impacts its target ship. Against such a threat, multi-sensor integration is required for effective detection, and parallel processing is essential to reduce reaction time to acceptable levels and to provide vital coordination/integration of hardkill and softkill assets.

CLASSIFICATION:

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 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)

These SSD projects address and coordinate the detect and control functions necessary to meet the rigorous SSD requirements within a development structure dedicated to systems engineering.

DETECTION: Improved coordinated sensor performance to increase the probability of detecting low altitude, low observable targets is to be achieved through the synergism gained from the integration of dissimilar sensor sources. Multi-sensor integration is being addressed through the efforts of Quick Reaction Combat Capability (QRCC) (2178), while sensor improvements are addressed through the SPS Improvements (0166) and Infrared Search and Track (2649). These provide improvements to both active and passive detection.

CONTROL: Multi-sensor integration, parallel processing and the coordination of hardkill/softkill capabilities in an automated response to the ASCM threat are the cornerstones of Ship Self Defense System (SSDS) being developed through QRCC (2178) efforts. In addition, that project provides for the central system engineering management of SSD developments, including efforts required to integrate SSDS with the Advanced Combat Direction System (CDS) for those ships having a CDS.

R-1 SHOPPING LIST - Item No. 127

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2004	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N/BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)			PROJECT NUMBER AND NAME 0166 SPS Improvement Program			
COST ($ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost	**4.210**	**1.875**	**2.955**	**1.953**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This project provides funding for the SPS Improvement Program:

AN/SPQ-9B: This program develops and tests performance and reliability upgrades for search radar equipment to meet the evolving threat. The AN/SPQ-9 radar supports surface engagement capability to effectively detect and track sea-skimming, low radar cross-section, high-speed targets in heavy clutter environments. The radar interfaces with ship combat systems via either the MK-86 GFCS, Ship Self Defense System (SSDS), or Cooperative Engagement Capability (CEC) on CG47, CV/CVN, LHD, LPD 17 and DDG 51 class ships. The AN/SPQ-9B uses a high resolution, track-while-scan, X-Band, pulse Doppler radar to provide real time acquisition and automatic tracking of multiple targets. A lightweight antenna assembly has also been furnished as an engineering change.

Shipboard Protection System: Shipboard Protection System delivers an integrated, shipboard, family of systems designed to detect, classify, and engage asymmetric threats. Capabilities include: Integrated Radar Optical Sighting and Surveillance System (IROS3). IROS3 integrates EO/IR sensors, radar, and stabilized guns into a common tactical scene. Swimmer Detection Sonar (SDS). SDS will be a COTS system to detect, classify and track swimmers, divers and SDVs. Non-lethal weapons: NLW assist in determining intent and in target discrimination.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA5	0604755N SHIP SELF DEFENSE (DETECT & CONTROL)	0166 SPS Improvement Program

B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	1.426	1.875	0.000
RDT&E Articles Quantity			

AN/SPQ-9B Integration into AEGIS Baseline 7 Phase 1/MK 160 Gun Computer System.
.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	2.784	0.000	0.000
RDT&E Articles Quantity			

AN/SPQ-9B Developmental Testing on Lightweight Antenna configuration changes/Operational Test and Evaluation.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	0.000	2.955
RDT&E Articles Quantity			

Shipboard Protection System - System integration, test and analysis of t est results

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000
RDT&E Articles Quantity			

R-1 SHOPPING LIST - Item No. 127

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604755N SHIP SELF DEFENSE (DETECT & CONTROL)	0166 SPS Improvement Program

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:	3.886	1.944	0.000
President's Budget (PB 05 Controls)	4.210	1.875	2.955
Total Adjustments	0.324	-0.069	2.955
Summary of Adjustments			
SBIR	-0.103		
BSO Adjustment	0.427		
Economic Assumptions		-0.069	-0.002
Ship ARPDD			2.000
Ship ARPDD			-2.000
Inflation			-0.016
NWCF Rates			-0.027
Shipboard Protection System			3.000
Subtotal	0.324	-0.069	2.955

Schedule:

Not Applicable

Technical:

Not Applicable

R-1 SHOPPING LIST-Item No. 127

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA5	0604755N SHIP SELF DEFENSE (DETECT & CONTROL)	0166 SPS Improvement Program

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
OPN LINE 511000 (AN/SPQ-9B)	32.049								
OPN LINE 202600 (AN/SPQ-9B)		19.295	3.584	1.737	0.000	14.495	15.204	CONT.	CONT.
OPN LINE 812800 (Physical Security Equipment)	17.574	0.468	18.685	51.939	53.457	70.219	35.781	CONT.	CONT.

E. ACQUISITION STRATEGY:

AN/SPQ-9B Radar is a directed sole source contract to Northrop Grumman Norden Systems for LRIP, and upon successful completion of TECHEVAL/OPEVAL, entering into Full Rate Production. Lockheed Martin will develop AN/SPQ 9B integration into AEGIS Baseline 7 Phase 1/MK 160 Gun Computer System.

F. MAJOR PERFORMERS:

NORTHROP GRUMMAN CORP.
NORDEN SYSTEMS
MELVILLE, N.Y. 11747
PRIME CONTRACTOR

LOCKHEED MARTIN CORP
NE&SS-SURFACE SYSTEMS
MOORESTOWN, N.J.
SPQ-9B/AEGIS INTEGRATION

R-1 SHOPPING LIST - Item No. 127

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)				PROJECT NUMBER AND NAME 0166 SPS Improvement Program						
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	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	CPAF/DA	NGNS, Melville NY	40.308	1.426	03/02				03/04		41.734	41.734
Ancillary Hardware Development	FFP	*ITT/G Van Nuys, CA	7.000								7.000	7.000
Aircraft Integration												
Ship Integration	CPAF	LM, Moorestown, NJ	2.000	2.784	10/02	1.875	10/03				6.659	6.728
Ship Suitability												
Systems Engineering	FF	SAIC						1.477	12/04	CONT	CONT	N/A
	WR/WX	NSWC						1.478	10/04	CONT	CONT	N/A
Training Development												
Licenses												
Tooling												
GFE												
Award Fees												
Subtotal Product Development			49.308	4.210		1.875		2.955		CONT	CONT	N/A
Remarks: *Development cost of AN/SPS-48 Transmitter.												
Development Support Equipment												
Software Development	WR	PHD, NSWC,CA	5.985								5.985	5.985
Training Development		Various	2.112								2.112	2.112
Integrated Logistics Support	WR	Various	2.112								2.112	2.112
Configuration Management	PD/WR	Various	6.580								6.580	6.580
Technical Data	WR	Various	3.170								3.170	3.170
Design Development	WR	NRL, WASH,DC	0.000									
Subtotal Support			19.959	0.000		0.000		0.000		0.000	19.959	19.959
Remarks: Various Activities includes PHD, NSWC, NRL, NSWC/CD, and APL												

R-1 SHOPPING LIST - Item No. 127

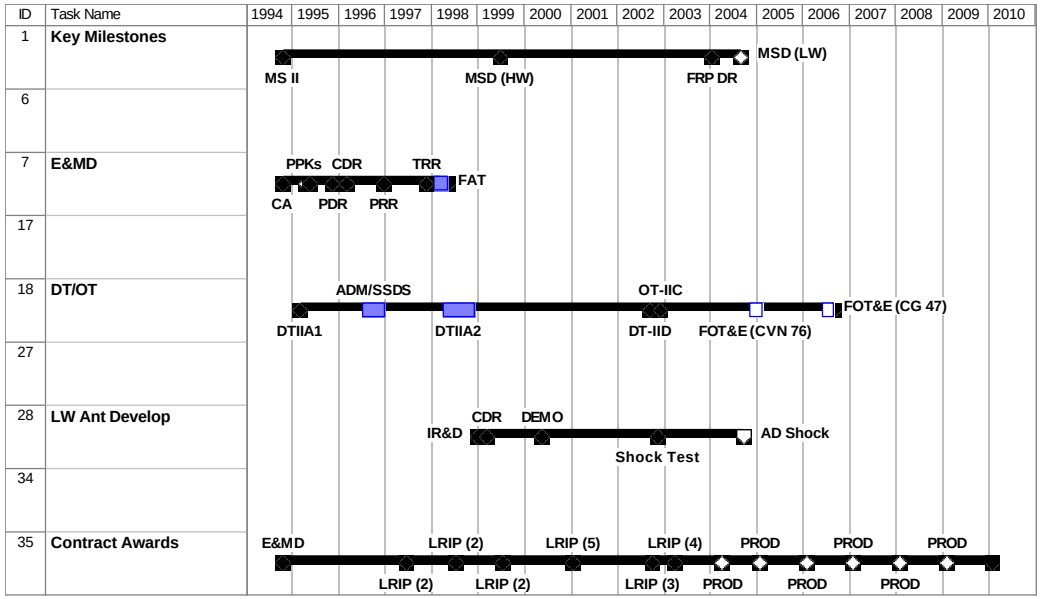
CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)			PROJECT NUMBER AND NAME 0166 SPS Improvement Program						
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
DT&E	WR/RC	PHD NSWC, CA	1.665								1.665	1.665
DT&E	WR	NRL, Washington DC	1.933								1.933	1.933
DT&E	WR	PT. MAGU, CA	0.300								0.300	0.300
OT&E	WR/RC	PHD NSWC, CA	0.560								0.560	0.560
OT&E	WR	NRL, Washington DC	0.410								0.410	0.410
OT&E	WR	OPTEVFOR, NORFOLK	0.792								0.792	0.792
OT&E	IPR	NASA, MOFFET FIELD	0.104								0.104	0.104
Subtotal T&E			5.764	0.000		0.000		0.000		0.000	5.764	5.764
Remarks:												
Cost Categories												
MANAGEMENT												
Miscellaneous	Various	Various	2.559								2.559	2.559
SBIR			0.129								0.129	0.129
Subtotal Management			2.688	0.000		0.000		0.000		0.000	2.688	2.688
Remarks:												
Total Cost			77.719	4.210		1.875		2.955		CONT	CONT	
Remarks:												

R-1 SHOPPING LIST - Item No. 127

CLASSIFICATION:

EXHIBIT R-4, Schedule Profile		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NAME AND NUMBER	PROJECT NAME AND NUMBER
RDT&E, N/BA5	0604755N SHIP SELF DEFENSE (DETECT & CONTROL)	0166 SPS Improvement Program (AN/SPQ-9B)



R-1 SHOPPING LIST - Item No. 127

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)				PROJECT NUMBER AND NAME 0166 SPS Improvement Program (AN/SPQ-9B)			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Developmental Testing								
Operational Testing		1Q						
Technical Evaluation (TECHEVAL)								
Operational Evaluation (OPEVAL)		1Q						
Full Rate Production (FRP) Decision			2Q					
Full Rate Production Start			3Q					

R-1 SHOPPING LIST - Item No. 127

CLASSIFICATION:

EXHIBIT R-4, Schedule Profile		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NAME AND NUMBER 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)	PROJECT NAME AND NUMBER 0166 SPS Improvement Program (Shipboard Protection System)

D. (U) Schedule Profile:

	FY02				FY03				FY04				FY05			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Shipboard Protection System Improvement Program																
Development of Components																
Development of System																
Land Based Testing																
Pier Side Evaluation																
Sea Testing - USS Ramage																
USS Ramage Deploys																
USS Ramage Data Evaluation																
Update Upgrades to SPS Baseline													△			

FY 02 THROUGH FY 04 EFFORTS FUNDED WITH FY 02 DERF FUNDING

R-1 SHOPPING LIST - Item No. 127

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **Feburary 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT& BA-5**	PROGRAM ELEMENT 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)				PROJECT NUMBER AND NAME 0166 SPS Improvement Program (Shipboard Protection System)			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Update Upgrades to SPS Baseline				1Q				

R-1 SHOPPING LIST - Item No. 127

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)			PROJECT NUMBER AND NAME 2178/Quick Reaction Combat Capability			
COST ($ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost	**51.480**	**36.162**	**45.199**	**10.591**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Quick Reaction Combat Capability (QRCC) project implements an evolutionary acquisition of improved ship self defense capabilities against Anti-Ship Cruise Missiles (ASCMs) for selected ships. The Ship Self Defense System (SSDS) is the integrating element of QRCC. The design integrates several existing stand-alone Anti-Air Warfare (AAW) systems that do not individually provide the complete detection, control, and engagement capabilities needed against low flying, high speed ASCMs with low radar cross sections. The SSDS integration concept fulfills the need for an automated detection, quick reaction and multi-target engagement capability emphasizing performance in the littoral environment. SSDS replaces manual control of several self-defense systems with a single integrated capability under the computer-aided control of ship operators. System design emphasizes use of non-developmental items, commercial standards, Next Generation Computer Resources, computer program reuse and open architecture. SSDS is a physically distributed, open architecture computer network consisting of commercially available or previously developed hardware. It includes a command table that uses components of the Navy's AN/UYQ-70 standard display for human-machine interface, commercially available local area network access units and circuit cards, and commercially available fiberoptic cabling.

SSDS MK1 integrates the SPS-49A(V)1 radar, SPS-67(V)1 radar, AN/SLQ-32A electronic countermeasures system, Combat Identification, Friend or Foe-Self Defense (CIFF-SD), Rolling Airframe Missile and Phalanx Close-In Weapon System and is installed on LSD41/49 class ships. SSDS MK1 successfully completed Operational Evaluation in June 1997. SSDS received Milestone III Approval for Full Rate Production (Mar 98) and authority to to integrate with ACDS and Cooperative Engagement Capability (CEC) on CV(N), LPD-17, LHD and LHA ship classes.

SSDS MK2 facilitates the incremental evolution and implementation of follow-on modifications. Development of SSDS MK2 consists of leveraging critical experiments and re-use of technology and software from SSDS MK1. SSDS MK2 is in development and will integrate other ship self defense elements, such as the AN/SPQ-9B radar, and NATO Sea-sparrow missile system with the CEC to improve joint interoperability. SSDS MK2 provides enhanced capabilities for Force Protection against air, and surface threats using both ownship and remote data in support of the AAW Capstone Requirements. SSDS MK2 becomes the integrated, coherent real time Command and Control System for Aircraft Carriers and Amphibious ships. It will increase operational capabilities; improve combat readiness and Battle Group Interoperability; and promote standardization. It will also introduce new shipboard tactical displays and support equipment.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604755N SHIP SELF DEFENSE (DETECT & CONTROL	2178/Quick Reaction Combat Capability

B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	30.394	22.935	30.039
RDT&E Articles Quantity			

Develop and deliver the computer program products for each of the SSDS MK 2 ship class variants (Mod 1 for Carriers and Mod 2 for LPDs). Conduct reviews of computer program systems engineering products to assess the computer program development and integration progress. Code each new or modified unit as specified in the detailed design, revise and compile the code until it compiles without errors. Conduct a unit test for all new and modified software units, identify and document test cases describing their purpose, the functions being tested, the test environment, and the test results. Evaluate the test results and correct the code and retest, if necessary. Conduct a Formal Qualifications Test (FQT) before delivery to test certification facilities and continue to support testing efforts through computer program corrections and retest.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	5.486	2.087	0.000
RDT&E Articles Quantity			

Conduct systems requirements and identify necessary functionality changes to adapt to the LHD class in-service ships.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	15.600	11.140	15.160
RDT&E Articles Quantity			

Conduct comprehensive combat system tests on SSDS MK 2 MOD 1 (CVN 76) at Wallops Island, including development tests, data collection, data extraction, data analysis and identifying computer program corrections. Conduct at-sea DT/OT and FOT&E events onboard USS Reagan in FY03, FY04, and FY05. Complete all test preparations and documentation for LPD 17 configuration testing efforts planned in FY05. Conduct land based and at-sea DT events for SSDS MK2 Mod 2 (LPD 17) in FY04 and FY05.

R-1 SHOPPING LIST - Item No. 127

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604755N SHIP SELF DEFENSE (DETECT & CONTROL)	2178/Quick Reaction Combat Capability

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 04 Pres Controls)	47.597	36.572	25.633
Current President's Budget: (FY05 PB Controls)	51.480	36.162	45.199
Total Adjustments	3.883	-0.410	19.566
Summary of Adjustments			
BSO Adjustments	0.739		
Program Adjustments	0.132	-0.410	21.376
Reprogrammings	3.999		
SBIR/STTR Transfer	-0.987		
NWCF Rates			-0.241
C-3 SIAP	0.000		-1.569
Subtotal	3.883	-0.410	19.566

Schedule:

PB05 FY05/FY06 controls support FOT&E test events.

Increases in FY03 commenced LHD ship class systems engineering and development.
Decrease in FY04 precluded software changes to low priority items found during land based tests.
Increase of $19.6M in FY05 is IAW with SSDS MK 2 DT/OT/FOT&E TEMP requirements. The decrease of $1.6M in FY05 was to realign the SIAP funding into the 0603879N Program

Technical:

R-1 SHOPPING LIST - Item No. 127

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604755N SHIP SELF DEFENSE (DETECT & CONTROL	2178/Quick Reaction Combat Capability

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
Ship Self Defense System OPN / 523900 , 523905 , 523906	45.338	57.658	42.130	15.617	7.362	8.065	23.743	308.840	684.053
SCN CV(N) / CVN 77/70	58.791	50.275	0.000	0.000	0.000	0.000	0.000	0.000	109.066
SCN LPD ship class	20.205	40.410	0.000	0.000	20.205	20.205	20.205	40.410	161.640

Related RDT&E: PE 0603658N (Cooperative Engagement Capability CEC)

E. ACQUISITION STRATEGY:

LSD class procurements and installations are complete. These systems were procured under a Firm Fix Price (FFP) Contract. The FY00 requirements also include CVN 68 and 1 shore based trainer. The first SSDS MK 2 system procurements took place under a Cost Plus Award Fee contract in FY99 for the CVN 76, LPD 17, LPD 18 and CVN 69. Follow-on procurements for additional ships of the CV(N), LPD and LHD classes will be made using FFP contracts with the exception of those ships that would be receiving initial COTS tech Refresh hardware suites; then a CPAF type contract is necessary.
A new development contract is planned in FY 05 to support future SSDS MK 2 modifications.

F. MAJOR PERFORMERS:

R-1 SHOPPING LIST - Item No. 127

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)			PROJECT NUMBER AND NAME 2178/Quick Reaction Combat Capability							
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
Systems Engineering	WR	NAVSEA/DD-Dahlgren, VA	19.983	2.785	10/02	4.210	10/03	2.224	10/04	0.500	29.702	N/A
Systems Engineering	SS/FP	JHU/APL-Laurel, MD	30.045	2.500	11/02	1.280	11/03	2.779	11/04	0.500	37.104	N/A
Systems Engineering	WR	NAVSEA/PHD-Pt Hueneme,CA	9.273	4.760	10/02	1.657	10/03	0.300	10/04	0.000	15.990	N/A
Systems Engineering	WR	NAVSEA/Dam Neck-Dam Neck,	1.940	1.840	10/02	1.225	10/03	0.954	10/04	0.000	5.959	N/A
Systems Engineering	SS/CPAF	RSC(5108)-San Diego, CA	72.788	20.531	10/02	0.000	10/03	0.000	N/A	0.000	93.319	189.400
Systems Engineering	SS/CPAF	RSC(5466)- San Diego, CA	20.353	0.000	N/A	0.000	N/A	0.000	N/A	0.000	20.353	20.353
Systems Engineering	SS/CPFF	RSC(5104)-San Diego, CA	0.800	6.416	10/02	17.511	10/03	23.732	10/04	5.874	54.333	85.000
Systems Engineering	SS/CPAF	RSC (TBD Note (1))-San Diego,	0.000	0.000	N/A	0.000	N/A	0.000	10/04	0.000	0.000	TBD
Award Fees	SS/CPAF	RSC (TBD Note (1))-San Diego,	0.000	0.000	N/A	0.000	N/A	0.000	10/04	0.000	0.000	TBD
Award Fees	SS/CPAF	RSC(5108)-San Diego, CA	7.525	1.886	10/02	0.000	N/A	0.000	N/A	0.000	9.411	12.704
Award Fees	SS/CPAF	RSC(5466)- San Diego, CA	2.163	0.000	N/A	0.000	N/A	0.000	N/A	0.000	2.163	2.163
Risk Reduction / EMD	Various	Various	76.366	0.000	N/A	0.000	N/A	0.000	N/A	0.000	76.366	76.366
Misc.	Various	Various	0.175	0.144	N/A	0.225	N/A	0.225	N/A	0.000	0.769	N/A
Subtotal Product Development			241.411	40.862		26.108		30.214		6.874	345.469	N/A

Remarks:
Note (1) New contract to perform future MK 2 modifications implemented in the Combat System such as ESSM Phase I development, integration, and test of Mod 1. .

QA/RMA	WR	NWAS Corona	8.640	0.000	N/A	0.310	N/A	0.310	N/A	0.150	9.410	
Subtotal Support			8.640	0.000	N/A	0.310	N/A	0.310	N/A	0.150	9.410	

Remarks:

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)			PROJECT NUMBER AND NAME 2178/Quick Reaction Combat Capability							
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	WR	NAVSEA/PHD-Pt Hueneme,CA	23.993	4.912	10/02	4.833	10/03	5.000	10/04	2.000	40.738	N/A
Developmental Test & Evaluation	WR	NAVSEA/DD,Dahlgren, VA	1.105	0.000	10/02	0.340	10/03	0.500	10/04	0.500	2.445	N/A
Developmental Test & Evaluation	WR	NAVSEA DD, Wallops Island	14.836	3.092	10/02	2.260	10/03	5.115	10/04	0.500	25.803	N/A
Developmental Test & Evaluation	SS/FP	JHU/APL- Laurel, MD	3.410	0.973	N/A	0.900	N/A	2.135	N/A	0.492	7.910	N/A
Developmental Test & Evaluation	WR	NAVSEA/CORONA, Corona CA	0.998	0.000	10/02	0.000	10/03	0.000	10/04	0.000	0.998	N/A
Developmental Test & Evaluation	WR	OPTEVFOR	0.863	0.185	10/02	0.265	10/03	0.300	10/04	0.075	1.688	N/A
Misc.	Various	Various	3.314	0.610	N/A	0.385	N/A	0.825	N/A	0.000	5.134	N/A
Subtotal T&E			48.519	9.772		8.983		13.875		3.567	84.716	N/A
Remarks:												
Program Management Support			7.661	0.846	N/A	0.761	N/A	0.800	N/A	0.000	10.068	N/A
											0.000	N/A
Subtotal Management			7.661	0.846		0.761		0.800		0.000	10.068	N/A
Remarks:												
Total Cost			306.231	51.480	N/A	36.162	N/A	45.199	N/A	10.591	449.663	N/A
Remarks:												

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N BA-5**	PROGRAM ELEMENT 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)				PROJECT NUMBER AND NAME 2178/Quick Reaction Combat Capability			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
SSDS MK 2 MOD 0 (CVN 68)								
CSIT TESTING								
DEVELOPMENTAL TESTING AT WALLOPS		1Q						
TEST READINESS REVIEW (TRR)								
CSSQT								
ONBOARD TEST EVENTS		1Q						
SSDS MK 2 MOD 1 (CV/CVNs)								
SYSTEM DEVELOPMENT								
INTEGRATION TESTING		1Q						
FORMAL QUALIFICATION TEST (FQT)		1Q-2Q						
INTEGRATION/DEVELOPMENTAL TESTS / Phase I		2Q-4Q	1Q-2Q					
TEST READINESS REVIEW (TRR)		3Q	2Q/3Q					
CSIT TESTING		3Q-4Q	1Q-3Q					
ONBOARD TEST EVENTS / Phase II			2Q-4Q	1Q				
CSSQT			4Q	1Q				
SSDS MK 2 MOD 2 (LPDs)								
SYSTEM DEVELOPMENT		1Q-3Q						
INTEGRATION TESTING		3Q-4Q	1Q-2Q					
FORMAL QUALIFICATION TEST (FQT)			2Q-3Q					
LPD-17 (SCN) DIT		1Q						
INTEGRATION/DEVELOPMENTAL TESTS / Phase I		2Q-4Q	1Q-2Q					
TEST READINESS REVIEW (TRR)			1Q	2Q				
CSIT TESTING			3Q-4Q	1Q				
ONBOARD TEST EVENTS / Phase II			2Q	1Q-3Q				
CSSQT				3Q				
SSDS MK 2 MOD 3A (LHDs) LHD 8 - Lead Ship (SCN)								
SYS ENGINEERING/SYSTEM DEVELOPMENT		1Q-4Q	1Q-3Q	1Q-4Q	1Q-4Q			
INTEGRATION TESTING			3Q-4Q	2Q-4Q	1Q	1Q-4Q		
FORMAL QUALIFICATION TEST (FQT)				2Q-3Q		1Q-2Q		
INTEGRATION/DEVELOPMENTAL TESTS / Phase I				1Q-4Q		3Q-4Q	1Q-4Q	
TEST READINESS REVIEW (TRR)				2Q		3Q		
CSIT TESTING				3Q-4Q	1Q-3Q	3Q-4Q	1Q-4Q	
ONBOARD TEST EVENTS /Phase II (LHD 8 Unique)					1Q-4Q		1Q-4Q	
CSSQT LHD 8								

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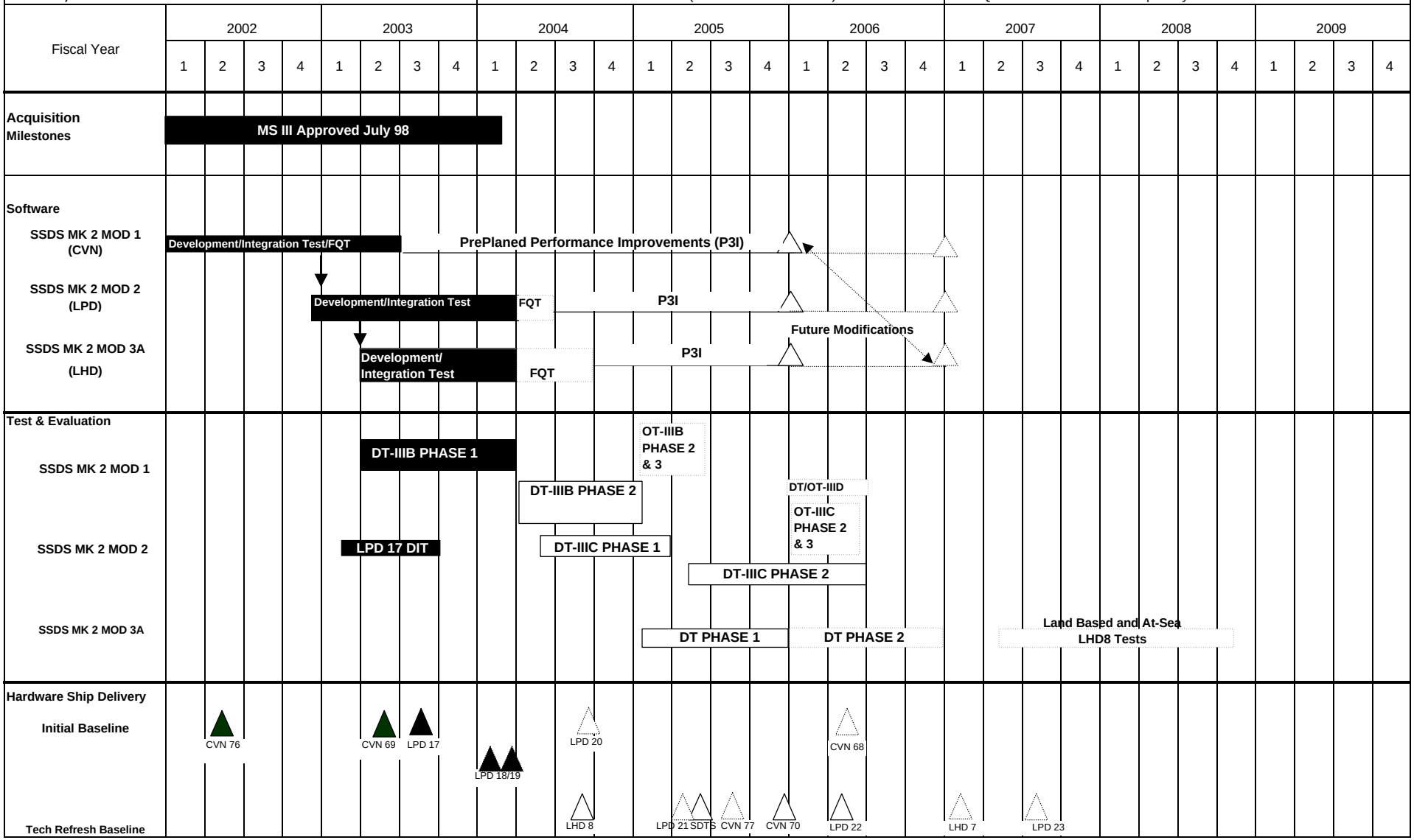
CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **February 2004**

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

PROGRAM ELEMENT NUMBER AND NAME: 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)

PROJECT NUMBER AND NAME: 2178/Quick Reaction Combat Capability



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* Efforts described with dotted lines in FY 06 support the SCN LHD-8 schedule

Exhibit R-4a, Schedule Detail
(Exhibit R4a, page 20 of 20)

CLASSIFICATION:

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 **SHIP SELF DEFENSE(Engage: Hard Kill) 0604756N**			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost		**26.120**	**24.300**	**51.213**	**45.656**	**48.934**	**48.065**	**34.263**
0173 / NATO SEASPARROW		**5.779**	**15.368**	**21.351**	**5.642**	**4.868**	**4.938**	**5.029**
0167 / 5" Rolling Airframe Missile		**10.345**	**4.977**	**11.931**	**30.042**	**44.066**	**43.127**	**29.234**
9081 / PHALANX CIWS SeaRAM		**9.996**	**3.955**	**17.931**	**9.972**			

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This program element provides funding for the development of systems that fulfill a portion of the third phase of the ship self defense: Engage. Development in this line will focus on hard kill capabilities in which missiles are used to intercept incoming ASCMs.

(U) ENGAGEMENT: Missile and system improvements necessary to meet their requirements are being addressed via NATO SEASPARROW Missile System (NSSMS) (0173), 5" Rolling Airframe Missile (RAM) (0167), and Phalanx CIWS SeaRAM (9081). Missile improvements are to include improved kinematic performance plus advanced seeker and low elevation fuzing/warhead capability improvements. System improvements include incorporation of Phalanx detection capability into RAM system (SeaRAM).

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-05**	PROGRAM ELEMENT NUMBER AND NAME 0604756N SHIP SELF DEFENSE			PROJECT NUMBER AND NAME 0167 / ROLLING AIRFRAME MISSILE				
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**10.345**	**4.977**	**11.931**	**30.042**	**44.066**	**43.127**	**29.234**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The purpose of this program is to develop a surface-to-air self-defense system utilizing a dual mode, passive Radio Frequency/Infrared 5" Rolling Airframe Missile. The baseline system (Block 0) provides a self-defense capability against active radar-guided anti-ship missiles and was developed on an equal cost share basis with the Government of the Federal Republic of Germany. The RAM Block 1 provides a capability against passive anti-ship missiles, very low altitude missiles, and maneuvering missiles through the incorporation of an infrared all-the-way mode seeker and improved fuze. The RAM Block 1 MOD 3 upgrade program, which provides an additional capability against helicopters, aircraft and surface craft, is a joint requirement of the U.S. and Federal Republic of Germany agreed to in a Memorandum of Agreement (MOA) signed by both parties. Since PB04, funding has been added (FY05-09) to initiate development and testing of a kinematic upgrade to the RAM missile. This upgrade will allow RAM to regain battlespace lost to emerging, more manueverable ASCM threats. This system is designed to counter anti-ship cruise missile raids and other threats to provide for ship survivability with accurate terminal guidance, proven lethality, and no shipboard post launch dependence.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-05	0604756N SHIP SELF DEFENSE	0167 / ROLLING AIRFRAME MISSILE

B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
RAM Block 1 Testing	5.337	3.028	0.776
RDT&E Articles Quantity			

In FY03-05, this line funds Block 1 FOT&E and government MOD 3 testing and analysis.

	FY 03	FY 04	FY 05
RAM Block 1 Eng//Interface Support	1.311	0.453	0.000
RDT&E Articles Quantity			

This line supports on-going efforts in developing RAM interfaces with External Designation Systems (EDS).

	FY 03	FY 04	FY 05
Improvement for Missile Deficiency	3.544	1.340	0.000
RDT&E Articles Quantity			

FY03-04 funding completes the improvement of missile capability deficiency against emergent threat.

	FY 03	FY 04	FY 05
Pre-Planned Product Improvement (P3I)			11.000
RDT&E Articles Quantity			

FY05 funding initiates development of RAM kinematic upgrade.

	FY 03	FY 04	FY 05
Travel	0.153	0.156	0.155
RDT&E Articles Quantity			

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-05	0604756N SHIP SELF DEFENSE	0167 / ROLLING AIRFRAME MISSILE

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:	10.513	5.033	9.550
Current BES/President's Budget	10.345	4.977	11.931
Total Adjustments	-0.168	-0.056	2.381
Summary of Adjustments			
RAM P3I			11.000
Removal of FFG RAM Wedge			-8.000
Delay RAM Improvements			-0.500
FY03_SBIR_5-May-03	-0.141		
BSO ADJUSTMENTS	-0.027		
NWCF Rates - NSWC Rates			-0.115
Section 8094: Management Impr		-0.013	
Sec. 8126: Efficienicies/Revis		-0.043	
WCF R&D NSWC PBD 430			0.016
PBD 426 Rates NSWC			0.026
PBD-604 Inflation			-0.032
PBD604 non purchase inflation			-0.007
FY05 ITR RDTEN Balancing			-0.007
Subtotal	-0.168	-0.056	2.381

Schedule:

A Pre-Planned Performance Improvement upgrade will be initiated in FY05.

Technical:

Not Applicable.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-05	0604756N SHIP SELF DEFENSE	0167 / ROLLING AIRFRAME MISSILE

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
OPN LINE 523800 (RAM)	$27.115	$31.068	$22.968	$77.972	$69.811	$34.822	$11.045	$63.771	$857.376
WPN LINE 224200 (RAM)	$59.163	$47.956	$47.412	$135.900	$70.311	$99.219	$102.197	$555.700	$1,298.000

E. ACQUISITION STRATEGY: *

RAM Block 1 MOD 3 Development and Testing FY03-05; Improvement of missile capability deficiency against emergent threat FY2003-2004. Kinematic Upgrade (P3I) development FY05-09.

F. MAJOR PERFORMERS: **

Raytheon Systems Company - Tucson, AZ - RAM Prime Contractor for Development and Contractor Test and Evaluation. Award Dates: FY03 - 11/02; FY04 - 11/03; FY05 - 11/04

Naval Air Weapons Center, China Lake - China Lake, CA - Missile ISEA supporting RAM development and testing.
Award dates are N/A, since funding will be provided under NAVSEA Seatask to field activity.
Naval Surface Warfare Center, Port Hueneme - Port Hueneme, CA - Launcher ISEA supporting development, testing, integration and test ranges.
Award dates are N/A, since funding will be provided under NAVSEA Seatask to field activity.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-05**		PROGRAM ELEMENT 0604756N SHIP SELF DEFENSE				PROJECT NUMBER AND NAME 0167 / ROLLING AIRFRAME MISSILE						
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	SS/CPFF	Raytheon Co, Tucson AZ & Louisville, KY		3.544	11/02	1.340	11/03		11/04	Continuing	Continuing	
Block 1 MOD 3 Interface Spt	SS/CPFF	Raytheon Co, San Diego CA										
Block 1 MOD 3 Interface Spt	CPFF	JHU/APL		0.400	11/02	0.408	11/03			Continuing	Continuing	
Block 1 MOD 3 Interface Spt	WX	NSWC/PHD		0.000		0.000				Continuing	Continuing	
Block 1 MOD 3 Eng	WX	NAWC/China Lake		0.911	02/03	0.045	11/03			Continuing	Continuing	
Block 1 MOD 3 IR Spt	WX	NRL								Continuing	Continuing	
Block 1 MOD 3 Sys Safety	WX	NSWC/DD										
Performance Improvement upgrade	SS/CPAF	Raytheon Co, Tucson AZ & Louisville, KY						8.995	11/04	Continuing	Continuing	
Performance Improvement upgrade	WX	CL/NRL/DD						1.705	11/04	Continuing	Continuing	
Performance Improvement upgrade	CPFF	JHU/APL						0.300	11/04	Continuing	Continuing	
Subtotal Product Development			0.000	4.855		1.793		11.000		Continuing	Continuing	
Development Support												
Software Development												
Integrated Logistics Support												
Configuration Management												
Technical Data												
Studies & Analyses												
GFE												
Award Fees												
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	

Remarks:

R-1 SHOPPING LIST - Item No. 128

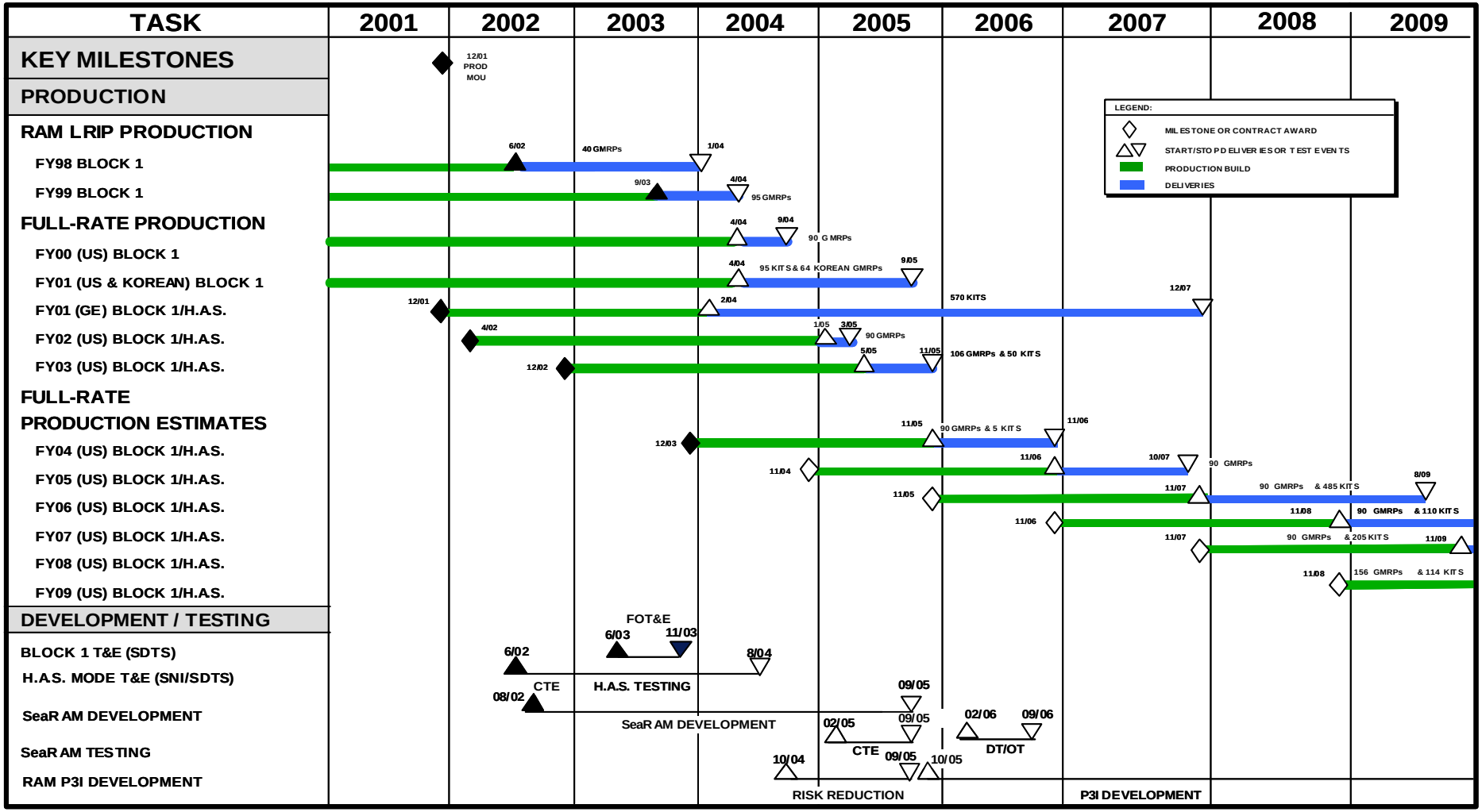
CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)											DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-05**			PROGRAM ELEMENT 0604756N SHIP SELF DEFENSE			PROJECT NUMBER AND NAME 0167 / ROLLING AIRFRAME MISSILE						
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
DT&E/OT&E/FOT&E/CTE	SS/CPAF	Raytheon Co, Tucson AZ & Louisville, KY		1.244	11/02	0.534	11/03	0.000		Continuing	Continuing	
DT&E/OT&E	WX	China Lake CA, PHD CA		0.000		2.073	11/03	0.500	11/04	Continuing	Continuing	
FOT&E	WX	China Lake CA, PHD CA		3.266	02/03	0.000		0.000		Continuing	Continuing	
CTE Support	WX	NSWC/PHD CA		0.000		0.000		0.000		Continuing	Continuing	
Miscellaneous		Various		0.827	11/02	0.421	11/03	0.276	11/04	Continuing	Continuing	
P3I Development and Systems Engineering												
Subtotal T&E			0.000	5.337		3.028		0.776		Continuing	Continuing	
Contractor Engineering Support												
Government Engineering Support												
Program Management Support												
Travel				0.153	10/02	0.156	10/03	0.155	10/04	Continuing	Continuing	
Transportation												
SBIR Assessment												
Subtotal Management			0.000	0.153		0.156		0.155		Continuing	Continuing	
Total Cost			0.000	10.345		4.977		11.931		Continuing	Continuing	

R-1 SHOPPING LIST - Item No. 128

CLASSIFICATION:

EXHIBIT R4, Schedule Profile		DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-05**	PROGRAM ELEMENT 0604756N SHIP SELF DEFENSE	PROJECT NUMBER AND NAME 0167 / ROLLING AIRFRAME MISSILE



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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N BA-05**	PROGRAM ELEMENT 0604756N SHIP SELF DEFENSE				PROJECT NUMBER AND NAME 0167 / ROLLING AIRFRAME MISSILE			
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		
FY98 LRIP Deliveries	1Q-2Q							
FY99 LRIP Deliveries	1Q-3Q							
FY00 Full Rate Production (FRP) Deliveries	3Q-4Q							
FY01 FRP Deliveries	3Q-4Q	1Q-2Q						
FY02 FRP Deliveries		2Q						
FY03 FRP Deliveries		3Q-4Q						
FY04 FRP Contract Award	1Q							
FY04 FRP Deliveries			1Q-4Q					
FY05 FRP Contract Award		1Q						
FY05 FRP Deliveries				1Q-4Q				
FY06 FRP Contract Award			1Q					
FY06 FRP Deliveries					1Q-4Q			
FY07 FRP Contract Award				1Q				
FY07 FRP Deliveries						1Q-4Q		
Block 1 FOT&E	1Q							
Block 1 MOD 3 H.A.S. Testing	1Q-4Q							
P3I Risk Reduction		1Q-4Q						
P3I Development			1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q		

R-1 SHOPPING LIST - Item No. 128

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-05**	PROGRAM ELEMENT NUMBER AND NAME 0604756N SHIP SELF DEFENSE-ENGAGE			PROJECT NUMBER AND NAME 9081 / PHALANX CIWS SEA RAM				
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**9.996**	**3.955**	**17.931**	**9.972**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The purpose of this ECP effort is to combine the PHALANX CIWS radar with the Rolling Airframe Missile (RAM) Block 1 Missile System. The overall SeaRAM strategy is to field a low-risk-development cost system utilizing the proven capabilities and infrastructure of the RAM and PHALANX CIWS systems. This U.S. Navy SeaRAM development leverages the successful demonstration by the United Kingdom of an industry prototype system aboard the HMS York. The SeaRAM ORDALT ECP will provide improved detection and performance capabilities in a stand-alone self-defense system that will defeat the near-term, stressing Anti-Ship Cruise Missile (ASCM) threats. The FY03 and FY04 Congressional Plus-ups continue the U.S. Navy system/software engineering of the SeaRAM ORDALT ECP. FY05-06 Funding completes development and testing of the ECP.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-05	0604756N SHIP SELF DEFENSE-ENGAGE	9081 / PHALANX CIWS SEA RAM

B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
SeaRAM Development	9.996	3.955	11.401
RDT&E Articles Quantity			

FY03 and FY05 funding used to continue development of the SeaRAM ECP for the RAM MK31 Guided Missile Weapon System.

	FY03	FY04	FY05
SeaRAM Testing			6.500
RDT&E Articles Quantity			

Contractor Test and Evaluation, analysis, and planning for DT/OT.

	FY03	FY04	FY05
Travel			0.030
RDT&E Articles Quantity			

R-1 SHOPPING LIST - Item No. 128

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-05	0604756N SHIP SELF DEFENSE (ENGAGE: HARD KILL)	9081 / PHALANX CIWS SEARAM

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget	10.269	0.000	0.000
Current BES/President's Budget Submit	9.996	3.955	17.931
Total Adjustments	-0.273	3.955	17.931
Summary of Adjustments			
SeaRAM R&D	0.000	0.000	18.000
FY03_SBIR_5-May-03	-0.273	0.000	0.000
Section 8094: Management Impr		-0.011	
Sec. 8126: Efficienicies/Revis		-0.034	
Phalanx SeaRAM		4.000	
PBD-604 Inflation			-0.048
PBD604 non purchase inflation			-0.010
FY05 ITR Balancing			-0.011
Subtotal	-0.273	3.955	17.931

Schedule:

FY03 and FY04 Congressional Plus-ups continue development of SeaRAM System for the RAM MK31 Guided Missile Weapons System. FY05 funding is for continued development and testing.

Technical:

Not Applicable.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA-05	0604756N SHIP SELF DEFENSE-ENGAGE	9081 / PHALANX CIWS SEA RAM	

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
OPN LINE 523800 (RAM)	$27.115	$31.068	$22.968	$77.792	$69.811	$34.822	$11.045	$63.771	$857.376
WPN LINE 224200 (RAM)	$59.163	$47.956	$47.412	$135.900	$70.311	$99.219	$102.197	$555.700	$1,298.000

E. ACQUISITION STRATEGY:

SeaRAM Development and Testing

F. MAJOR PERFORMERS:

Raytheon Systems Company - Tucson, AZ - RAM Prime Contractor for Development. Award Date: FY03 - 2/03; FY04 - 02/04; FY05 -11/04.

R-1 SHOPPING LIST - Item No. 128

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-05**		PROGRAM ELEMENT 0604756N SHIP SELF DEFENSE (ENGAGE: HARD KILL				PROJECT NUMBER AND NAME K9081 / PHALANX CIWS SEARAM						
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	SS/CPFF	Raytheon, Tucson AZ & Louisville, KY		9.996	02/03	3.955	02/04	6.901	11/04	Continuing	Continuing	
Ancillary Hardware Development												
Aircraft Integration												
Ship Integration	SS/CPFF	Raytheon, Tucson AZ & Louisville, KY						3.500	11/04	Continuing	Continuing	
Ship Suitability												
Systems Engineering	IPR	TSC Bird						0.500	11/04	Continuing	Continuing	
Training Development												
Studies/Analysis	CPFF	APL						0.500	11/04	Continuing	Continuing	
Tooling												
GFE												
Award Fees												
Subtotal Product Development			0.000	9.996		3.955		11.401		Continuing	Continuing	

Remarks:

Development Support												
Software Development												
Integrated Logistics Support												
Configuration Management												
Technical Data												
Studies & Analyses												
GFE												
Award Fees												
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	

Remarks:

CLASSIFICATION:

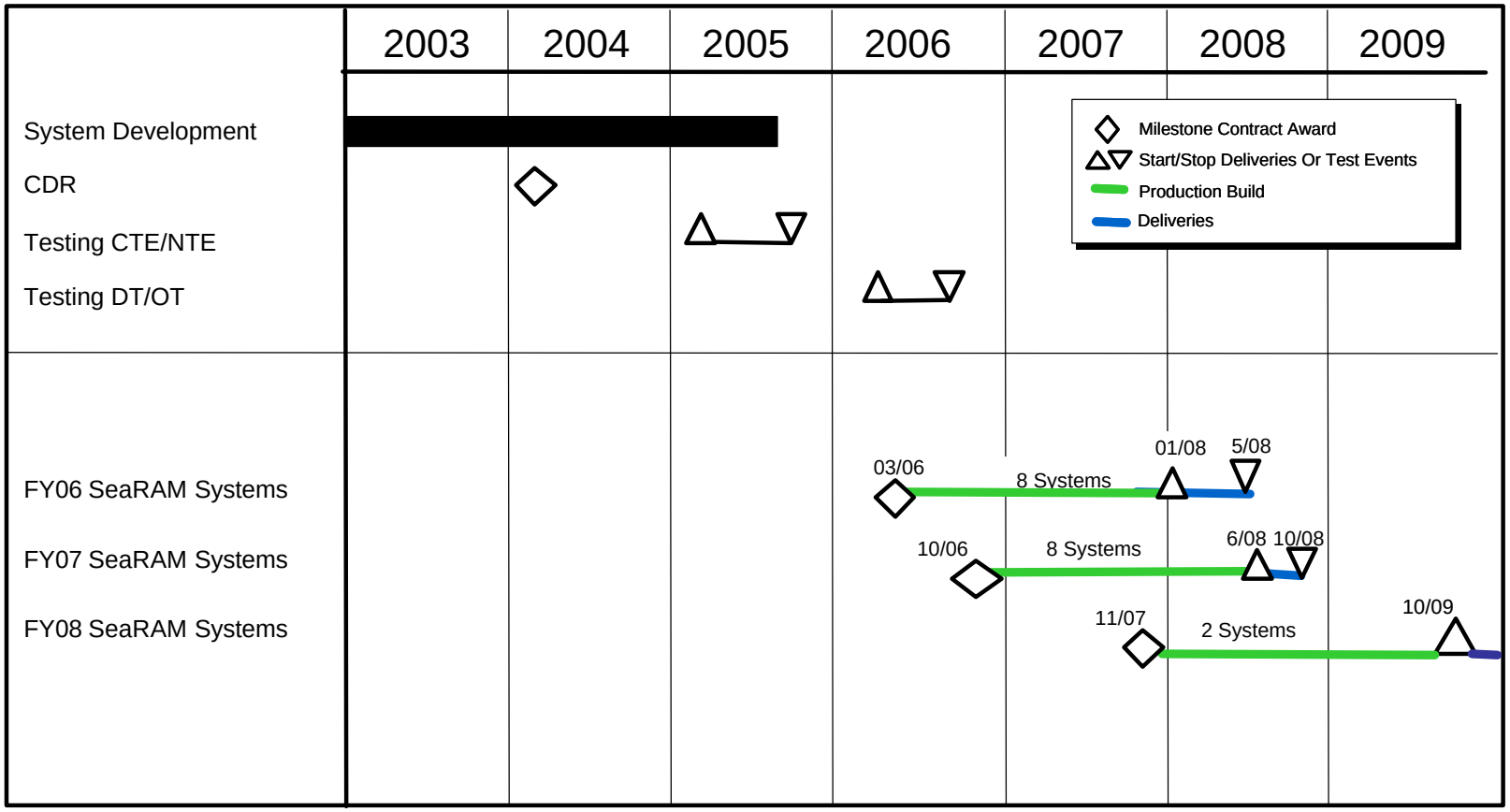
Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-05**		PROGRAM ELEMENT 0604756N SHIP SELF DEFENSE (ENGAGE: HARD KILL			PROJECT NUMBER AND NAME 9081 / PHALANX CIWS SEARAM							
Cost Categories	Contract Method & Type	Performing Activity & 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
Contractor Test & Evaluation	SS/CPAF	Raytheon, Tucson AZ & Louisville, KY		0.000				3.000	11/04	Continuing	Continuing	
CT,DT&E, OT	WX	NSWC/PHD& China Lake						3.500	11/04	Continuing	Continuing	
Live Fire Test & Evaluation												
Test Assets												
Tooling												
GFE												
Award Fees												
Subtotal T&E			0.000	0.000		0.000		6.500		Continuing	Continuing	
Remarks:												
Contractor Engineering Support												
Government Engineering Support												
Program Management Support												
Travel								0.030	10/04	Continuing	Continuing	
Transportation												
SBIR Assessment												
Subtotal Management			0.000	0.000		0.000		0.030		Continuing	Continuing	
Remarks:												
Total Cost			0.000	9.996		3.955		17.931		Continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 128

R-4

CLASSIFICATION:

EXHIBIT R4, Schedule Profile		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-05	0604756N SHIP SELF DEFENSE (ENGAGE: HARD KILL)	9081 / PHALANX CIWS SEARAM



R-1 SHOPPING LIST - Item No. 128

CLASSIFICATION:

Exhibit R-4a, Schedule Detail				DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-05**			PROJECT NUMBER AND NAME 9081 / PHALANX CIWS SEARAM			
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
DEVELOPMENT						
Contract Award/Modification	2Q	1Q	1Q			
Critical Design Review (CDR)	2Q					
System Development	1Q-4Q	1Q-4Q				
System CTE/NTE		2Q-4Q				
DT/OT			2Q-4Q			
PRODUCTION						
FY06 FRP Contract Award			2Q			
FY06 FRP Deliveries					2Q-3Q	
FY07 FRP Contract Award				1Q		
FY07 FRP Deliveries					3Q-4Q	1Q
FY08 FRP Contract Award					1Q	
FY08 FRP Deliveries						

R-1 SHOPPING LIST - Item No. 128

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME **SHIP SELF DEFENSE(Engage: Hard Kill) 0604756N**			PROJECT NUMBER AND NAME **NATO SEASPARROW/0173**				
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**5.779**	**15.368**	**21.351**	**5.642**	**4.868**	**4.938**	**5.029**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This project encompasses two (2) primary efforts to enhance ship self defense:

1. (U) EVOLVED SEASPARROW MISSILE (ESSM): A cooperative effort among 10 NATO SEASPARROW Nations, including the U.S., to improve the capability of the SEASPARROW Missile to counter the low altitude, highly maneuverable Anti-Ship Cruise Missile threat. The program consists of evolving the SEASPARROW Missile through the development of a new rocket motor with tail control; thrust vector control and ordnance (warhead) upgrade; modifications to the MK 41 VLS to fire from a single cell with 4 ESSM (QuadPack); and modifications to the NATO SEASPARROW Missile System (NSSMS) to provide ESSM capability. FY03 introduces the upgrade of the MK 29 GMLS. The MK 29/ESSM Launcher Upgrade will provide the CV/ CVN/ LHD class ships with an affordable light weight means of employing ESSM.

2. (U) NATO SEASPARROW - MK 91 Rearchitecture/SDSMS: The MK 91 Rearchitecture Program integrates NSSMS into the Ship Self Defense System (SSDS) Architecture to provide ship missile defense utilizing an open architected system. This effort consists of combining the Firing Officer Console and Radar Set Console functionality into a single Advanced Display System Console (AN/UYQ-70); modifying the Signal Data Processor and eliminating the MK 157 Computer Signal Data Converter and System Evaluation and Trainer, and redistributing this functionality within SSDS compatible microprocessors. This approach will eliminate the analog, point-to-point architecture, limited input-output channel and computer processing reserve deficiencies resident in the existing MK 57 NSSMS, and is required for ESSM. This modification also allows for full exploitation of the capabilities of the future ESSM and provides significant reductions (over 50%) in NSSMS cost of ownership and manning requirements.

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / 5	**SHIP SELF DEFENSE(Engage: Hard Kill) 0604756N**	**NATO SEASPARROW/0173**

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		2.624	3.187	2.126
RDT&E Articles Quantity				

Continued AEGIS S Band development. Conducted U.S. Unique DT-IIC/OT-IIC firings on SDTS and TECHEVAL/OPEVAL (DT-IIE/OT-IID) on AEGIS platforms.
Correct engineering deficiencies identified as a result of TECHEVAL / OPEVAL. This provides for the U.S. share of Cooperative efforts associated with ESSM engineering studies and other development Initiatives.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.734	7.136	3.891
RDT&E Articles Quantity				

Development:Utilizing existing technology and the Mk 29 Trainable Launcher, develop a program for the adaptation and U.S. certification of the launching system and make available for U.S. Navy deployment. Provide for the development to accommodate Evolved SEASPARROW Missiles which will provide full dimensional protection against the evolutionary threat of ASCMs on non-AEGIS platforms. Conduct restrained firings and DT/OT on the Self Defense Test ship in the third quarter of FY 04. Development completed in FY 05.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.000	1.845	7.553
RDT&E Articles Quantity				

Introduces Test and Evaluation of the ESSM Baseline Missile software for CV/CVNs. The CV/CVN/LHD Classes will see introduction of ESSM in FY 05 with the MK29/ESSM Launcher. RNSSMS/SSDS MK 2. FOT &E will be required to validate Combat system effectiveness.

R-1 SHOPPING LIST - Item No. 128

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / 5	**SHIP SELF DEFENSE(Engage: Hard Kill) 0604756N**	**NATO SEASPARROW/0173**

B. Accomplishments/Planned Program (Cont.)

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		2.421	3.200	7.781
RDT&E Articles Quantity				

FY 03/04/05: SSDS Post Integration: Building upon the current NSSMS MK 57 Mod 4 - 9 upgrade (Re-architectured NSSMS) that provided an initial capability with SSDS MK 2 in support of the Maritime Force Protection (MFP) program, evolve the fire control system component to implement the additional organic capabilities required by the MFP Performance & Compatibility Requirements (P&CR) for CVNs. This effort will maintain compatibility with RNSSMS and evolving Next Generation Ship Defense post SSDS Mk 2, fully exploit RNSSMS performance capabilities, and develop RNSSMS capabilities consistent with the full-approved Integration Specifications. It will also support the evolutionary weapons and control system development to counter future evolving threats. Efforts scheduled for completion in FY 05.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	**SHIP SELF DEFENSE(Engage: Hard Kill) 0604756N**	**NATO SEASPARROW/0173**

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 04 Pres Controls)	8.585	18.043	21.482
FY05 PRES Controls	5.779	15.368	21.351
Total Adjustments	-2.806	-2.675	-0.131
Summary of Adjustments			
MANAGEMENT IMPROVEMENT		-0.043	
Congressional adjustment		-2.500	
Programatic Adjustment	-0.022		
Efficiencies		-0.132	
SBIR	-0.193		
Economic Adjustments			-0.082
NSWC rate change			-0.049
Midyear Adustment	-1.943		
Administrative Adjustment	-0.648		
Subtotal	**-2.806**	**-2.675**	**-0.131**

Schedule:

PBD-604 Nonpay Purchase Inflation

Technical:

"Not Applicable."

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME **SHIP SELF DEFENSE(Engage: Hard Kill) 0604756N**	PROJECT NUMBER AND NAME **NATO SEASPARROW/0173**

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
WPN BA-2 Other Missiles, Evolved SEASPARROW (ESSM) (230700)	42.0	102.0	80.3	99.1	99.1	115.9	98.6	338.4	1092.6
OPN BA-4 NATO SEASPARROW (523700, 523705)	40.5	32.6	25.5	40.7	7.0	30.8	14.5	CONT	CONT

Related RDT&E: PE 0603609N (Conventional Munitions)
PE 0604307N (AEGIS Combat System Engineering)
PE 0604755N (K2178 Quick Reaction Combat Capability (QRCC)

E. ACQUISITION STRATEGY: *

ESSM is a directed sole source contract to Raytheon Missile Systems Company for LRIP, and upon successful completion of TECHEVAL/OPEVAL in FY 03, entering into Full Rate Production FY 04. Multi-year full rate production is the preferred approach for the NATO SEASPARROW Consortium.

F. MAJOR PERFORMERS:

1. Raytheon Missile Co. Tuscon 2/04, 11/04 ESSM Testing/ Engineering support
2. Raytheon Company (IDS) Portsmouth R.I. - MK 29 GMLS/ESSM Dev 2/04
3. Naval Air Weapons Center China Lake, Point Mugu CA - Missile TDA supporting Development/Testing Funding under SEATASKs to field activities 10/03, 10/04
4. Naval Surface Warfare Center - Port Hueneme CA., Dahlgren Va - provide ISEA support to ESSM in development testing. Dahlgren - Performs safety analysis/Development testing. Funding issued under SEATASKs to field activities 10/03, 10/04

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT **SHIP SELF DEFENSE(Engage: Hard Kill) 0604756N**				PROJECT NUMBER AND NAME **NATO SEASPARROW/0173**						
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
ESSM-Primary Hardware Developme	LC/CPAF	RAYTHEON	141.230	0.000				2.126	11/04	Continuing	Continuing	
	RX	TDW	3.746								3.746	3.746
Ancillary Hardware Development	CPAF	LOCKHEED/UDLP	46.706								46.706	46.706
Systems Engineering	VARIOUS	VARIOUS	22.622								22.622	22.622
MK 29/ESSM Launcher Upgrade	LC/CPAF	RAYTHEON SYS	0.000	0.734	01/03	7.136	02/04	3.891	10/04	Continuing	Continuing	
NATO-Primary Hdwe Dev	CPFF	RAYTHEON SYS	30.627							0.000	30.627	30.627
Software development / Test	CPFF	RAYTHEON SYS	2.346			0.985	01/04	1.650	12/04	Continuing	Continuing	
Systems Engineering		VARIOUS	5.306								5.306	
SSDS Integration	CPFF	RAYTHEON SYS	0.000	1.846	01/03	3.200	01/04	7.690	10/04	Continuing	Continuing	
Subtotal Product Development			252.583	2.580		11.321		15.357		Continuing	Continuing	

Remarks: 1l Currently this funding is on FMB HOLD- $343K has been obligated in support of Sourse Selection Process. In the event CNO decision is to go with the MK 29 ORDALT upgrade - funds will go on contract to Raytheon Systems. The $2,591K for the ESSM Launcher was taken by NAVCOMPT as part of mid-year action.

ESSM / NATO												
Integrated Logistics Support	WR	NSWC PHD	3.568							.	3.568	
Engr Support	WX	VARIOUS	3.895			0.300	10/03	0.312	10/04	Continuing	Continuing	
MK 29/ESSM Launcher Upgrade	WX	Dahlgren/PHD	0.000	0.375							0.375	
Integrated Logistics Support	WX	NSWC PHD	0.000			0.385	10/03			Continuing	Continuing	
Engr Support	WX	VARIOUS	0.000			0.195	10/03			Continuing	Continuing	
NATO-MK 91/SDSMS			0.000									
ENGR SUPPORT	WX	VARIOUS	5.617	0.200	10/02	0.300	10/03	0.320	10/04	Continuing	Continuing	
Integrated Logistics Support	WX	NSWC PHD	0.000	0.081	10/02			0.181	10/04	Continuing	Continuing	
Subtotal Support			13.080	0.656		1.180		0.813		Continuing	Continuing	

Remarks:

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT **SHIP SELF DEFENSE(Engage: Hard Kill) 0604756N**				PROJECT NUMBER AND NAME **NATO SEASPARROW/0173**						
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	WR	NAWC CL	12.374	0.600	05/03						12.974	
SDTS/DT OT 11C	WR	PT Mugu	0.000								0.000	
OPEVAL/TECHEVAL	WR	VARIOUS(Corona, IHD,Dalhgren,NSWC PHD)	5.694	0.190	01/03	0.849	01/04	3.005	11/04		9.738	
Developmental Test & Evaluation	CPFF	APL	0.000	0.506	02/03	0.435		0.523		Continuing	Continuing	
Developmental Test & Evaluation	WR	DALHGREN	0.000			0.200		0.218		Continuing	Continuing	
Subtotal T&E			18.068	1.296		1.484		3.746		Continuing	Continuing	
Remarks:												
ESSM-ENGR SPT	WX	VARIOUS	4.258	0.165	11/02	0.240	VARIOUS	0.250	VARIOUS	Continuing	Continuing	
ESSM-PM SPT	WX	VARIOUS	0.498								0.498	
ESSM-LABOR	PD/WX		5.013	0.845	10/02	0.855	10/03	0.860	10/04	Continuing	Continuing	
ESSM - TRAVEL	PD/WX		1.410	0.187	10/02	0.200	10/03	0.225	10/04	Continuing	Continuing	
ESSM- MISC	VARIOUS	VARIOUS	2.035			0.010	10/03	0.020	10/04	Continuing	Continuing	
NATO TRAVEL/MISC	PD/WX	VARIOUS	1.483	0.050	10/02	0.078	10/03	0.080	10/04	Continuing	Continuing	
Subtotal Management			14.697	1.247		1.383		1.435		Continuing	Continuing	
Total Cost			298.428	5.779		15.368		21.351		Continuing	Continuing	
Remarks:												

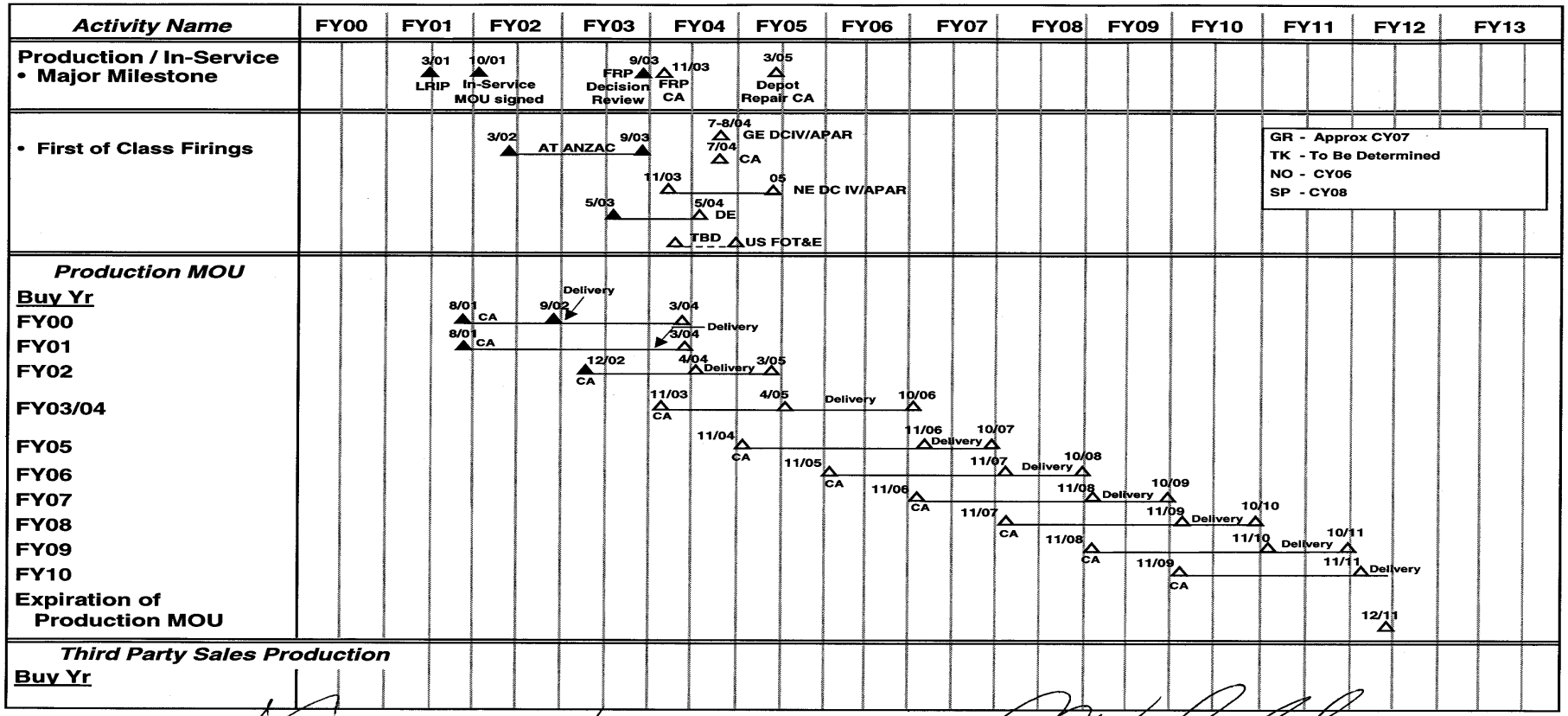
R-1 SHOPPING LIST - Item No. 128 0

CLASSIFICATION:

EXHIBIT R4, Schedule Profile		DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME **SHIP SELF DEFENSE(Engage: Hard Kill) 0604756N**	PROJECT NUMBER AND NAME **NATO SEASPARROW/0173**

Master ESSM Program Schedule

October 2003
REV 13



CAPT B. Cramp, Project Manager

Director, Project Operations Division

Director, ESSM Division

78th Decisions.11/3/2003

R-1 SHOPPING LIST - Item No. 128

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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT **SHIP SELF DEFENSE(Engage: Hard Kill) 0604756N**				PROJECT NUMBER AND NAME **NATO SEASPARROW/0173 (ESSM)**			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Functional Configuration Audit (FCA)		1Q-2Q						
Low-Rate Initial Production I Delivery		3Q						
Technical Evaluation (TECHEVAL)		2Q						
Physical Configuration Audit								
Operational Evaluation (OT-IIC) (OPEVAL)		3Q						
Low-Rate Initail Production II Delivery			3Q					
IOC			2Q					
Full Rate Production (FRP) Decision			2Q					
Full Rate Production Start			3Q					
First Deployment			2Q					
FY05 PROCUREMENT				1Q				
FY06 PROCUREMENT					1Q			
FY 03/04 DELIVERY					1Q			
FY 07 PROCUREMENT						1Q		
FY 05 DELIVERY						1Q		
FY 08 PROCUREMENT							1Q	
FY06 DELIVERY							1Q	
FY 09 PROCUREMENT								1Q
FY07 DELVERY								1Q
FR 08 DELIVERY								
FR 09 DELIVERY								

R-1 SHOPPING LIST - Item No. 128

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 0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL)			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost		**42.818**	**53.506**	**28.233**	**15.518**	**11.558**	**20.435**	**20.170**
0954/Shipboard EW Improvements		**25.750**	**43.637**	**25.784**	**14.526**	**10.554**	**19.415**	**19.129**
2190 NULKA		**0.981**	**2.255**	**2.449**	**0.992**	**1.004**	**1.020**	**1.041**
K2441 Nulka Decoy Improvements		**4.379**	**4.845**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
9243 Radar Tiles*		**0.951**	**2.769**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
9244 Surface Ship EW Improvements**		**2.665**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
9245 Improved Control and Display (ICAD)***		**8.092**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This program element consolidates currently ongoing and planned programmatic efforts related to Engage: Soft Kill Electronic Warfare (EW) aspects of Ship Self Defense (SSD) to facilitate effective planning and management of these efforts and to exploit the synergistic relationship inherent in each. Analysis and demonstration have established that surface SSD based on single-sensor detection point-to-point control architecture performs marginally against current and projected Anti-Ship Cruise Missile (ASCM) threats. The supersonic seaskimming ASCM reduces the effective battle space to the horizon and the available reaction time-line to less than 30 seconds from first opportunity to detect until the ASCM impacts its target ship. Against such a threat, multi-sensor integration is required for effective detection, and parallel processing is essential to reduce reaction time to acceptable levels and to provide vital coordination/integration of hardkill and softkill assets.

These SSD projects address and coordinate the detect and engage functions necessary to meet the rigorous SSD requirements within a development structure dedicated to systems engineering.

*Project Unit 9243 reflects a Congressional Increase for Outlaw Bandit.
**Project Unit 9244 reflects a Congressional Increase for Surface Ship EW Improvements.
***Project Unit 9245 reflects a Congressional Increase for Improved Control and Display.

CLASSIFICATION:

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 0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL)

(**U) DETECTION:** Improved coordinated sensor performance to increase the probability of detecting low altitude, low observable targets is to be achieved through the synergism gained from the integration of dissimilar sensor sources. Sensor improvements are addressed through the Shipboard EW Improvements (0954) project. These improvements to both active and passive detection capabilities are complementary to the ship signature reduction technology also being pursued through Shipboard EW (K0954).

(U) ENGAGEMENT: The offboard Active Decoy (NULKA, 2190) is a joint cooperative program between the United States and Australia to develop and engage an active offboard decoy which utilizes a broadbend radio frequency repeater mounted atop a hovering rocket. The Decoy is designed to counter a wide variety of present and future radar guided Anti-Ship Missile (ASM) threats by radiating a large radar cross section signal while flying trajectory.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL)				PROJECT NUMBER AND NAME 0954/9244/9245 Shipboard EW Improvements			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**36.507**	**43.637**	**25.784**	**14.526**	**10.554**	**19.415**	**19.129**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Surface Electronic Warfare Improvement Program (SEWIP) is an evolutionary acquisition and spiral development program of Block upgrades to the AN/SLQ-32(V) family of passive and active shipboard electronic warfare (EW) systems, which has replaced the AN/SLY-2(V) Advanced Integrated Electronic Warfare System (AIEWS) program. AIEWS was cancelled in April 2002 due to cost growth and development delay issues. SEWIP will provide necessary EW capabilities and will incorporate: technology advances as they become available to provide incremental upgrades in capability and improvements in performance; continuous technology reviews; potential alternate element and component surveys; and ongoing Cost As an Independent Variable (CAIV) efforts will be employed throughout. Threat system technologies will be examined and compared against program planning to achieve best capability within available resources.

The initial SEWIP plan (Block 1, ACAT II) is segmented into 3 sub-blocks: 1A, 1B and 1C. Block 1A is for SLQ-32 sustainment by updating the display console and display/pulse-processing computers, allowing the system to more quickly identify threats and better display the information to the operator. The new display console and processing computers will partially open the system architecture to support subsequent block upgrades. Block 1A is planned to begin at-sea testing in FY04 and to go into production in FY05. Block 1B will add Specific Emitter Identification (SEI) via integration of stand-alone Small Ship Electronic Support Measures (SS ESM), and display of combat systems tracks to the operator to improve threat correlation and situational awareness. Block 1B is planned to begin at-sea testing in FY05. Block 1C will add initial High Gain High Sensitivity (HGHS) capability to SEI, and will allow the operator to launch both Nulka and passive countermeasures on combat systems tracks, thereby improving effectiveness. Block 1C is planned to begin at-sea testing before the end of the FYDP.

The next Block upgrade (Block 2) will lay the groundwork for more significant improvements; including a major receiver upgrade to improve system sensitivity, provide precision measurement of Angle of Arrival, and improve Electromagnetic Interference (EMI) immunity. Block 3 will significantly improve the Electronic Attack (EA) capabilities of the SLQ-32; Block 4 will add an Infrared (IR) jamming capability.

FY04 funding includes 2 Congressional Adds: $2M for Shipboard EW Protect, and $11.9M for Surface Ship EW SBIR Phase III Research and Development improvements.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL)	0954/9244/9245 Shipboard EW Improvements

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		3.170	4.570	2.380
RDT&E Articles Quantity				

The Surface Electronic Warfare Improvement Program (SEWIP) is an evolutionary acquisition and spiral development program of Block upgrades to the AN/SLQ-32(V) family of passive and active shipboard electronic warfare (EW) systems. The program will incorporate technology advances as they become available to provide incremental upgrades in capability and improvements in performance; continuous technology reviews, potential alternate element and component surveys, and ongoing Cost As an Independent Variable (CAIV) efforts. Threat system technologies will be examined and compared against program planning to achieve best capability within available resources to rapidly deliver affordable, sustainable capability to the warfighter that meets the warfighter's needs. FY04 funding includes the Congressional add of $2.0M for Shipboard EW Protect.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		16.204	12.082	1.879
RDT&E Articles Quantity				

Block 1A includes development of Electronic Support Enhancements (ESE) and Improved Control and Display (ICAD). This enhanced functionality increases Anti-Ship Missile Defence (ASMD) capabilities, allowed for proper identification of Anti Ship Missile threats, and increased the system's ability to handle the significantly increased emitter density. ICAD will provide the tools necessary to significantly improve tactical performance and battle readiness by processing information rapidly through predetermined automation routines. Integrate and test. Conduct preliminary and operational assessment at-sea for integrated ESE and ICAD (Block 1A) Transition ESE and ICAD to production. Prepare for a limited rate production decision for ICAD. Lab/Field activity support included. FY04 funding includes the Congressional add of $11.9M for Surface Ship EW SBIR Phase III Research and Development improvements.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		10.372	10.551	6.337
RDT&E Articles Quantity				

The Systems Integrator is the lead activity responsible for the overall technical design, technical coordination, integration,and testing of the SEWIP program. The System Integrator is responsible for developing the technical roadmap for the SEWIP program, including the detailed technical plan for each block upgrade. The System Integrator will perform any required CAIV analysis, develop technical performance requirements, perform system level functional allocations, coordinate the execution of the block upgrades. The System Integrator is responsible for integrating the portions of the system and performing element testing as well as system level performance testing.

R-1 SHOPPING LIST - Item No. 129

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL)	PROJECT NUMBER AND NAME 0954/9244/9245 Shipboard EW Improvements

B. Accomplishments/Planned Program (Cont.)

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		2.867	5.260	3.799
RDT&E Articles Quantity				

Block 1B development includes Specific Emitter Identification (SEI) by federating the Small Ship ESM (SSESM) system with SEWIP. It also includes the transfer of CS tracks to the EW system to enhance the display of combat systems tracks in order to improve classification and situational awareness. Task include the Integration and test Block 1B efforts. Transition Block 1B to production. Lab/Field activity support included. Development for related CS track data usage, RDDL,HGHS, DPU/DTU, ICAD Upgrades and LAMPS Interface Upgrades.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.487	6.530	7.648
RDT&E Articles Quantity				

Block 1C includes the incorporation of High Gain High Sensitivity (HGHS) capability, the ability for the operator to launch Nulka on combat systems tracks, the adaptation of SEWIP to work on carriers, and the modifications of ICAD to operate with on-board active countermeasures. RDDL development, ILS engineering, CONOPS and related engineering development are a party of Block 1C. ICAD Phase II, requirements definition , specifications, and development, DPU/DTU upgrades for V4 ships. These efforts include CONOPS development, specification development, contracts preparation, testing and materials., DDI refresh, PW measurement enhancements. LAMPS interface upgrade concept development will be included. IRS/IDD development, SW development and factory testing are also included. Lab/Field activity support included.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		3.407	4.644	3.741
RDT&E Articles Quantity				

Program and Technical Management of the SEWIP program includes contract management, field activity management, risk management, SBIR employment, M&S, cost estimates, development of program requirements, acquisition, logistics and other documentation (ORD, TEMP, AP, SAMP, CMP, ILSP, NTSP,PLCCE, APB, etc) to meet statutory and regulatory requirements.

R-1 SHOPPING LIST - Item No. 129

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL)	0954/9244/9245 Shipboard EW Improvements

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2002	FY 2003	FY 2004	FY 2005
Previous President's Budget (FY04 PB controls):		37.502	33.228	26.074
Current President's Budget (FY05 PB controls):		36.507	43.637	25.784
Total Adjustments		-0.995	10.409	-0.290
Summary of Adjustments				
SBIR/STTR Transfer		-0.845		
Congressional Increases			13.900	
Congressional Reductions			-3.000	
Program Adjustments				
Inflation				-0.084
Minor Pricing Adjustments		-0.068	-0.491	-0.109
OPNAV BTR Issue 68849		-0.082		
WCF Rates				-0.097
Subtotal	0.000	-0.995	10.409	-0.290

Schedule:

See attached schedule.

Technical:

See attached Schedule

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL	0954/9244/9245 Shipboard EW Improvements

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	To FY 2009	Total Complete	Cost
OPN BA-2 AN/SLQ-32(V) (2312)	1.744	8.054	8.848	12.759	15.6	15.626	14.516	TBD	TBD
O&M,N AN/SLQ-32 (12CR0/1C2C)	1.360	1.433	1.426	1.443	1.473	1.503	1.541	TBD	TBD
O&M,N AN/SLQ-32 (14DG0/1D4D)	8.624	8.196	8.467	8.084	8.021	8.173	8.377	TBD	TBD

E. ACQUISITION STRATEGY:

The Surface EW Improvement Program (SEWIP) will accomplish Block upgrades based on integrating technology advances and adding functional capabilities in an incremental fashion. Each Block and sub-Block will be developed and contracted in an individual yet coordinated and overlapping fashion. Blocks will be fielded on ships to meet battle group schedule requirements and make best use of available improvements and resources.

F. MAJOR PERFORMERS:

Northrop Grumman PRB (Compete) Goleta, CA - ESE development contract
DSR Fairfax, VA - ICAD development contract
Lockheed Martin/Eagan MN - Q-70 console modifications
Naval Research Laboratory DC - Technical support for development and testing efforts
Naval Surface Warfare Center Dahlgren VA - Scenario/Library Testing of ESE, support for all DT/OT events
Naval Surface Warfare Center Crane IN - Lead for HW/SW ESE development, support for all DT/OT events, system engineering support for ESE and ICAD

R-1 SHOPPING LIST - Item No. 129

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL)						PROJECT NUMBER AND NAME 0954/9244/9245 Shipboard EW Improvements				
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
Ancillary Hardware Development			151.420								151.420	
ESE Development	SS / FFP	Northrop Grumman	2.950	2.051	12/02	2.000	03/04			CONT	CONT	TBD
ESE Development	SS / CPFF	Northrop Grumman				0.500	11/03			TBD	TBD	TBD
ICAD Development-SBIR Phase III	SS / CPAF	DSR	0.973	7.226	04/03					TBD	TBD	TBD
System Integrator	SS / CPAF	DSR		8.928	02/03	10.551	02/04	6.337	TBD	TBD	TBD	TBD
SSESM rehost/HGHS	WX	NRL		1.995	01/03					TBD	TBD	N/A
Q-70 Mods	SS / CPFF	LM-EAGAN		1.879	04/03					TBD	TBD	
Blk 1B Develop	SS/CPAF	DSR				3.687	02/04	1.720	TBD	CONT	CONT	
Blk 1C Development	SS/CPAF	DSR				4.070	02/04	6.016	TBD		10.086	
											0.000	
Award Fees											0.000	
Subtotal Product Development			155.343	22.079		20.808		14.073		CONT	CONT	
Remarks:												
Integrated Logistics Support	WX	NSWC Crane, DD, NRL	0.610	0.505		2.135	11/03	1.066	11/04		4.316	
Systems Engineering	WX	NSWC Crane, DD, NRL	1.384	1.143	02/03	2.236	11/03				4.763	
Blk 1B Engr Services	WX	NSWC Crane, DD, NRL		0.678		1.573	11/03	1.976	11/04		4.227	
Tech Engrg Svcs, Studies & Analyses	WX	NSWC Crane, DD, NRL	0.557	1.392	02/03	2.149	11/03	1.670	11/04	CONT	TBD	
Blk1C Engr Services	WX	NSWC Crane, DD, NRL		0.300		2.301	11/03	1.639	11/04		TBD	
Miscellaneous	WX	NSWC Crane, DD, NRL										
Subtotal Support			2.551	4.018		10.394		6.351		CONT	CONT	
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)

DATE: **February 2004**

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

PROGRAM ELEMENT: 0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL)

PROJECT NUMBER AND NAME: 0954/9244/9245 Shipboard EW Improvements

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	Various	Various	8.958								8.958	
Block 1A Test Planning/T&E Events	WX	NSWC Crane, DD, NRL		4.575	various	5.263	11/03	1.867	11/04	CONT	TBD	
Block 1B Test Planning/T&E Events	WX	NSWC Crane, DD, NRL		0.614		0.000		0.025		CONT	TBD	
Block 1C Test Planning/T&E Events										CONT	TBD	
											TBD	
											0.000	
											0.000	
Subtotal T&E			8.958	5.189		5.263		1.892		CONT	CONT	
Remarks:												
Program Management Support	FFP	SEAPORT	21.785	0.641		0.429	02/04	0.300		CONT	CONT	
Government Engineering Support	WX	NSWC/Crane & DD, NRL	0.000	1.716	01/03	4.570	11/03	2.379	11/04	CONT	CONT	
Program Management Support	WX	NSWC/Crane & DD, NRL	0.454	2.764	01/03	2.058	11/03	0.689		CONT	CONT	
Travel			0.005	0.100		0.115		0.100		CONT	CONT	
Subtotal Management			22.244	5.221		7.172		3.468		CONT	CONT	
Remarks:												
Total Cost			189.096	36.507		43.637		25.784		CONT	CONT	
Remarks:												

R-1 SHOPPING LIST - Item No. 129

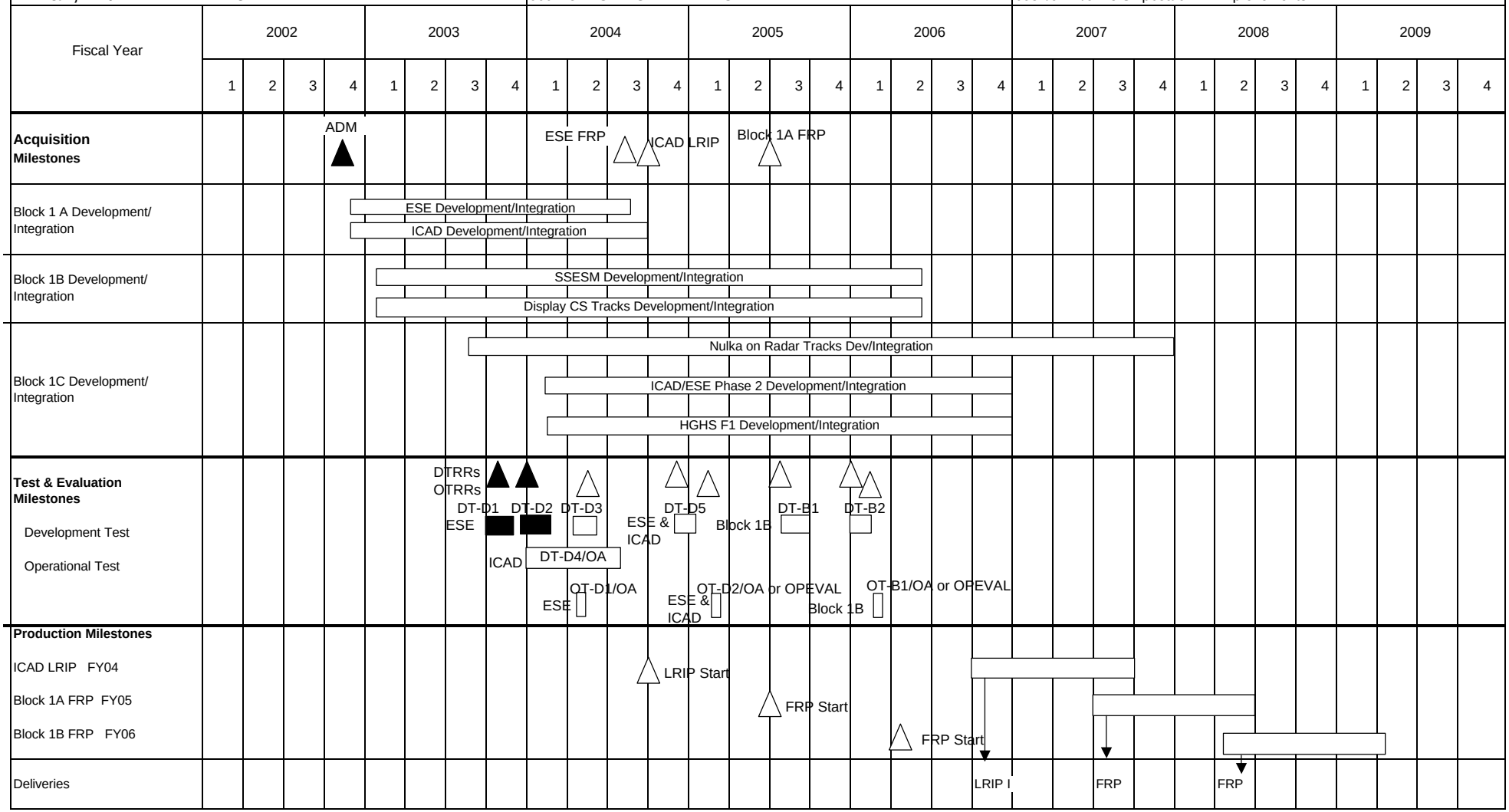
CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **February 2004**

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

PROGRAM ELEMENT NUMBER AND NAME: 0604757N SHIP SELF DEFENSE

PROJECT NUMBER AND NAME: 0954/9244/9245 Shipboard EW Improvements



R-1 SHOPPING LIST - Item N 129

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT 0604757N SHIP SELF DEFENSE				PROJECT NUMBER AND NAME 0954/9244/9245 Shipboard EW Improvements			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
SEWIP Acquisition Decision Memorandum								
ESE Development/Integration		1Q-4Q	1Q-3Q					
ICAD Development/Integration		1Q-4Q	1Q-3Q					
SSESM Development/Integration		1Q-4Q	1Q-4Q	1Q-4Q	1Q-2Q			
Display CS Tracks Development/Integration		1Q-4Q	1Q-4Q	1Q-4Q	1Q-2Q			
Developmental Test Readiness Review (ESE)		4Q						
ESE Developmental Testing (DT-D1)		4Q						
Development Test Readiness Review (ESE)			1Q					
ESE Developmental Testing (DT-D2)			1Q					
Developmental Test Readiness Review (ESE)			2Q					
ESE Developmental Testing (DT-D3)			1Q-2Q					
Developmental Test Readiness Review (ICAD)			2Q					
ICAD/ESE Phase 2 Development/Integration			1Q-4Q	1Q-4Q	1Q-4Q			
HGHS F1 Development/Integration			1Q-4Q	1Q-4Q	1Q-4Q			
Operational Test Readiness Review (ESE)			2Q					
ESE Operational Test (OA) (OT-D1)			2Q					
ICAD LRIP			4Q					
Development Test Readiness Review (ESE & ICAD)			4Q					
ESE & ICAD Developmental Test (DT-D5)			4Q	1Q				
Operational Test Readiness Review (ESE & ICAD)				1Q				
ESE & ICAD Operational Test (OA) (OT-D2)				1Q				
Nulka on Radar Tracks Development/Integration		3Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q		
Block 1A FRP				2Q				
Developmental Test Readiness Review (Block 1B)				3Q				
Block 1B Developmental Test (DT-B1)				3Q				
Developmental Test Readiness Review (Block 1B)				4Q				
Block 1B Developmental Test (DT-B2)					1Q			
Operational Test Readiness Review (Block 1B)					1Q			
Block 1B Operational Test (OA) (OT-B1)					1Q			

R-1 SHOPPING LIST - Item No. 129

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL)				PROJECT NUMBER AND NAME 2190/2441/Nulka Decoy			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**5.360**	**7.100**	**2.449**	**0.992**	**1.004**	**1.020**	**1.041**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Offboard Active Decoy (NULKA) is a joint cooperative program between the United States and Australia that developed an active offboard decoy that utilizes a broadband radio frequency repeater mounted atop a hovering rocket. NULKA is designed to counter a wide variety of present and future radar guided Anti-Ship Missiles by radiating a large radar cross section while flying a ship-like trajectory. The United States developed the electronic payload and fire control system, while Australia developed the hovering rocket. Currently NULKA is undergoing a P3I program to: integrate the Mk 53 Decoy Launching System with Ship Self Defense System (SSDS) and the ship combat systems, maintain electromagnetic compatibility with shipboard emitters, integrate with future electronic warfare system upgrades, and upgrade of the Inertial Measurement Unit (IMU). It is critical to maintain a continuous RDT&E budget for payload and decoy system modifications and testing. This will ensure we provide the fleet with a proven and effective capability that they can have complete confidence in when called on to go in harms way.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KIL	2190/2441/Nulka Decoy

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				

Start development of Radar Designed Decoy Launch (RDDL) capability.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		1.000	2.300	1.500
RDT&E Articles Quantity				

Start and continue development of anti-tampering system for payload.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		1.000	0.980	
RDT&E Articles Quantity				

Intertial Measurement Unit (IMU) flight control unit upgrade.

R-1 SHOPPING LIST - Item No. 129

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KIL	2190/2441/Nulka Decoy

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost				0.949
RDT&E Articles Quantity				

Develop Decoy Launch Processor (DLP)/Decoy Launch System (DLS) technology refresh.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		3.360	3.820	
RDT&E Articles Quantity				

NULKA decoy subsystem/integration and improvements to include the upgrade of MK53 systems integration test facility and continued studies to upgrade the NULKA payload.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL)	2190/2441/Nulka Decoy

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 04 Pres Controls)	5.491	2.280	2.492
Current BES/President's Budget: (FY05 Pres Controls)	5.360	7.100	2.449
Total Adjustments	0.131	4.820	0.043
Summary of Adjustments			
SBIR/Transfers	-0.129		
Minor Pricing Adjustments	-0.002	-0.080	-0.008
Program Adjustments			
Inflation			
Congressional increases		4.900	
Manpower			-0.026
WCF			-0.009
Subtotal	-0.131	4.820	-0.043

Schedule:

Not Applicable

Technical:

Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604757N SHIP SELF DEFENSE	2190/2441 NULKA DECOY

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
OPN: Anti-Ship Missile Decoy System/5530 (In Millions)	32.257	49.884	46.553	41.592	58.073	59.286	60.779	228.9	729.2
Spares	0.200	0.152	0.158	0.180	0.248	0.073	0.000	Continuing	TBD
OMN: 14DRO, 1D4D	1.964	2.186	3.175	2.755	2.833	2.900	2.970	Continuing	TBD*

* Total Cost does not include FY01 and prior program costs of $124,829

E. ACQUISITION STRATEGY:

Not Applicable

F. MAJOR PERFORMERS:

NSWC Crane , IN Product Development
NSWC Dahlgren, VA Product Development
NRL Washington, DC Product Development
Sippican Inc, Marion, MA Product Development
BAeA, Australia Product Development

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2004				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL)				PROJECT NUMBER AND NAME 2190/2441/Nulka Decoy						
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	RC	NSWC Crane, IN	1.000	2.000	07/03	4.606	02/04				7.606	
	RC	Sippican	1.782			0.393	02/04				2.175	
	MIPR	BAES	0.100	0.600	03/03			1.500	11/04	Continuing	Continuing	
Ship Suitability												
Systems Engineering	WX	NSWC Crane	0.223	0.262	10/02	0.075	10/03	0.200	10/04	Continuing	Continuing	
Systems Engineering	WX	NWAD China Lake		0.050	11/02	0.052	02/04			Continuing	Continuing	
Training Development												
Licenses												
Tooling												
GFE												
Award Fees												
Subtotal Product Development			3.105	2.912		5.126		1.700		Continuing	Continuing	
Remarks:												
Development Support	WX	NRL	0.375	0.839	10/02	0.997	10/03	0.251	10/04	Continuing	Continuing	
Software Development	WX	NSWC Dahlgren	0.557	1.262	10/02	0.290	10/03	0.198	10/04	Continuing	Continuing	
Training Development												
Integrated Logistics Support												
Configuration Management												
Technical Data												
GFE												
Award Fees												
Subtotal Support			0.932	2.101		1.287		0.449		Continuing	Continuing	

R-1 SHOPPING LIST - Item No. 129

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2004		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL)				PROJECT NUMBER AND NAME 2190/2441/Nulka Decoy						
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												
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 Engineering Support												
Government Engineering Support												
Program Management Support	cc/cpff	Anteon, Arlington, VA	0.076	0.218	11/02	0.111	11/03	0.193	11/04	Continuing	Continuing	
Travel			0.104	0.129	various	0.086	various	0.107	various	Continuing	Continuing	
Labor (Research Personnel)												
SBIR Assessment						0.490						
Subtotal Management			0.180	0.347		0.687		0.300		Continuing	Continuing	
Remarks:												
Total Cost			4.217	5.360		7.100		2.449		Continuing	Continuing	
Remarks:												

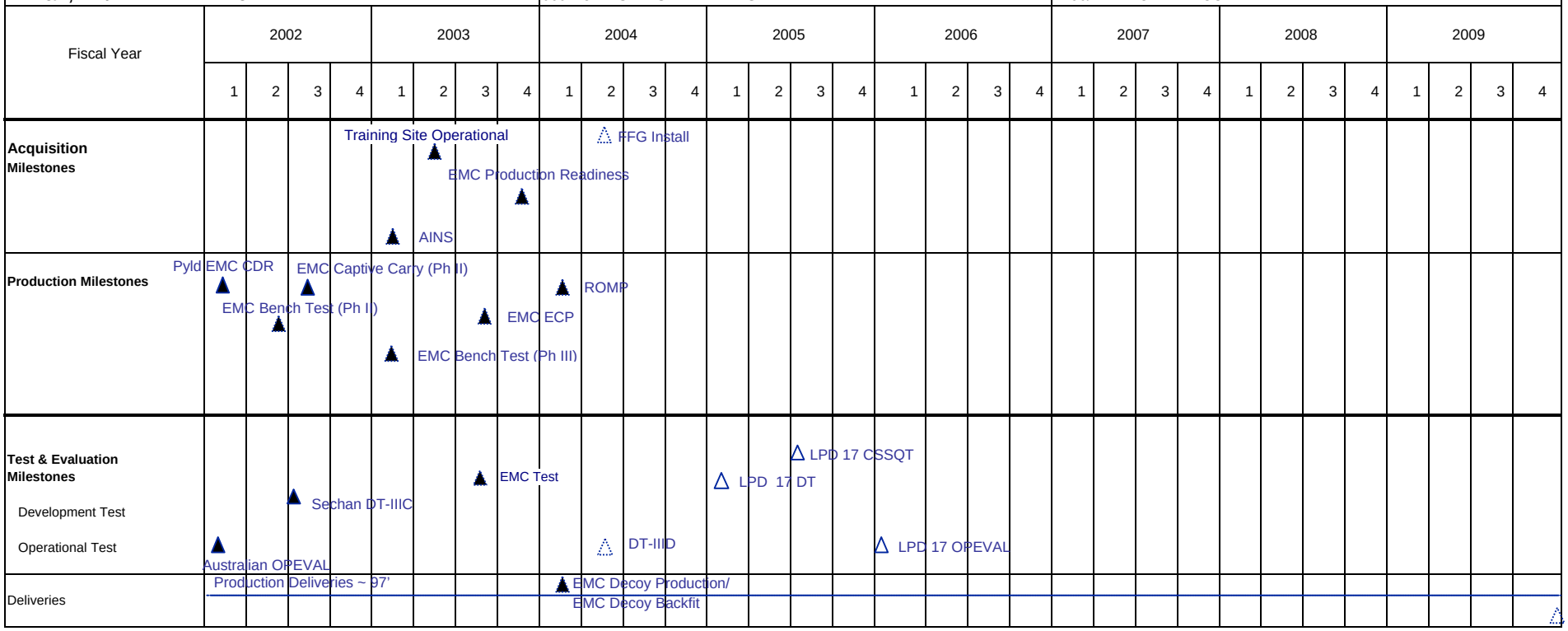
CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: February 2004

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

PROGRAM ELEMENT NUMBER AND NAME: 0604757N SHIP SELF DEFENSE

PROJECT NUMBER AND NAME: 2190/2441 NULKA DECOY



CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT 0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL)				PROJECT NUMBER AND NAME 2190/2441/Nulka Decoy			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Payload EMC CDR								
Australian OPEVAL								
EMC Bench Test (Ph II)								
SECHAN DT-IIIC								
EMC Captive Carry (Ph II)								
AINS		1Q						
EMC Bench Test (Ph III)		1Q						
Training Site Operational		2Q						
EMC ECP		3Q						
EMC Test		3Q						
EMC Production Readiness		4Q						
ROMP			1Q					
EMC Decoy Backfit			2Q					
FFG Install Certification			2Q					
EMC Decoy Production			2Q					
DT-IIIID			2Q					
LPD 17 DT				1Q				
LPD 17 CSSQT				3Q				
LPD 17 OPEVAL					1Q			
Production Deliveries~1997		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q

R-1 SHOPPING LIST - Item No. 129

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604757N SHIP SELF DEFENSE (DETECT & CONTROL)				PROJECT NUMBER AND NAME 9243/Radar Tiles			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**0.951**	**2.769**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty								

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

(u) MISSION DESCRIPTION AND BUDGET ITEM JUTIFICATION: OUTLAW BANDIT is a ship signature reduction program, applying radar absorbent material (RAM) to selected areas of a ship's equipment, superstructure, and weapons systems. PCMS enhances ship survivability when used in conjunction with AN/SLQ-32 and Decoys.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604757N SHIP SELF DEFENSE (DETECT & CONTRO	9243 Radar Tiles

B. Accomplishments/Planned Program

	FY 02	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	0.951	2.769	0.000
RDT&E Articles Quantity				

Develop an advanced radar absorbing material

	FY 02	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				

	FY 02	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				

R-1 SHOPPING LIST - Item No. 129

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604757N SHIP SELF DEFENSE (DETECT & CONTROL)	9243 RADAR TILES

C. PROGRAM CHANGE SUMMARY:

Funding:	FY2003	FY2004	FY2005
Previous President's Budget:	0.977	0.000	0.000
Current BES/President's Budget	0.951	2.769	0.000
Total Adjustments	-0.026	2.769	0.000

Summary of Adjustments

Minor Pricing Adjustments	0.000	-0.007	
SBIR/STTR Transfer	-0.026	0.000	
Economic Assumtions	0.000	-0.024	
Congressional increases	0.000	2.800	
Subtotal	-0.026	2.769	0.000

Schedule:

Not Applicable.

Technical:

Not Applicable.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604757N SHIP SELF DEFENSE (DETECT & CONTROL	9243/Radar Tiles

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
O&M,N ELECTRONIC WARFARE PE 0728827 OUTLAW BANDIT	1.348	1.379	1.417	1.433	1.578	1.659	1.693		

E. ACQUISITION STRATEGY: *

F. MAJOR PERFORMERS: **

R-1 SHOPPING LIST - Item No. 129

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	0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL)	9243/Radar Tiles

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
Hardware Development Inc 1											0.000	
Ancillary Hardware Development											0.000	
Software Development											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	WR/RCP	PHD.		0.777	03/03	2.469	02/04			0.000	3.227	
Combat Systems Modifications											0.000	
Miscellaneous											0.000	
											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			0.000	0.777		2.469		0.000		0.000	3.227	

Remarks:

Development Support											0.000	
Software Development											0.000	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Engineering Services											0.000	
Miscellaneous											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	

R-1 SHOPPING LIST - Item No. 129

Exhibit R-3 Cost Analysis (page 2) | DATE: February 2004

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA-5** | PROGRAM ELEMENT: 0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL) | PROJECT NUMBER AND NAME: 9243/Radar Tiles

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
Test Planning/T&E Events	WR/RCP	NSWC CD									0.000	
Miscellaneious	Various	Various									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 Suppor	CPFF	Anteon		0.104	03/03	0.100	01/04			0.000	0.204	
Government Engineering Supp	WR	NSWC/PHD		0.070	03/03	0.200	01/04			0.000	0.270	
Program Management Support											0.000	
Travel											0.000	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	0.174		0.300		0.000		0.000	0.474	
Remarks:												
Total Cost				0.951		2.769		0.000		Continuing	Continuing	
Remarks:												

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																																
NOT APPLICABLE																															DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY									PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-5									0604757N SHIP SELF DEFENSE (DETECT & CONTROL)												9243/Radar Tiles											
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																																
Radar System Development																																
EDM Radar Delivery																																
Software 1XXSW Delivery 2XXSW Delivery																																
Test & Evaluation Milestones Development Test Operational Test																																
Production Milestones LRIP I FY 05 LRIPII FY 06 FRP FY 07																																
Deliveries																																

R-1 SHOPPING LIST - Item No. 129

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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail **NOT APPLICABLE**						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT 0604757N SHIP SELF DEFENSE (DETECT & CONTROL)				PROJECT NUMBER AND NAME 9243/Radar Tiles			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Prototype Phase								
System Design Review (SDR)								
Milestone II (MSII)								
Contract Preparation								
Software Specification Review (SSR)								
Preliminary Design Review (PDR)								
System Development								
Critical Design Review (CDR)								
Quality Design and Build								
Test Readiness Review (TRR)								
Developmental Testing (DT-IIA)								
Eng Dev Model (EDM) Radar Delivery - Lab								
Software Delivery 1XXSW								
Preproduction Readiness Review (PRR)								
EDM Radar Delivery - Flt Related								
Milestone C (MS C)								
Operational Testing (OT-IIA)								
Start Low-Rate Initial Production I (LRIP I)								
Software Delivery 2XXSW								
Developmental Testing (DT-IIB1)								
Developmental Testing (DT-IIB2)								
Start Low-Rate Initial Production II								
Operational Testing (OT-IIB)								
Developmental Testing (DT-IIC)								
Functional Configuration Audit (FCA)								
Low-Rate Initial Production I Delivery								
Technical Evaluation (TECHEVAL)								
Physical Configuration Audit								
Operational Evaluation (OT-IIC) (OPEVAL)								
Low-Rate Initail Production II Delivery								
IOC								
Full Rate Production (FRP) Decision								
Full Rate Production Start								
First Deployment								

R-1 SHOPPING LIST - Item No. 129

FY 2005 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET DATE: February 2004

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604771N
PROGRAM ELEMENT TITLE: Medical Development

(U) COST: (Dollars in Thousands)

PROJECT NUMBER & TITLE	FY 2003 ESTIMATE	FY 2004 ESTIMATE	FY 2005 ESTIMATE	FY 2006 ESTIMATE	FY 2007 ESTIMATE	FY 2008 ESTIMATE	FY 2009 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
M0933 Medical / Dental Equipment Development									
	6,795	5,570	6,101	6,281	7,584	7,737	7,893	Continue	Continue
M2333 Rural Health									
	5,641	6,724	0	0	0	0	0	0	12,365
M2334 Bone Marrow Research									
	27,634	27,688	0	0	0	0	0	0	55,322
M2494 Center for Disaster Management & Humanitarian Assistance									
	2,904	0	0	0	0	0	0	0	2,904
M2650 Voice Instructional Devices (VID)									
	0	0	0	0	0	0	0	0	5,821
M2795 Coastal Cancer Control									
	4,392	3,461	0	0	0	0	0	0	11,249
M2836 Vectored Vaccine Research Program									
	1,464	1,483	0	0	0	0	0	0	2,947
M2896 Military Dental Research									
	2,880	1,187	0	0	0	0	0	0	6,828
M2897 High Resolution Digital Mammography									
	0	0	0	0	0	0	0	0	1,443
M9002 Minimally Invasive Surgical Technology Institute									
	1,172	989	0	0	0	0	0	0	2,161

FY 2005 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET DATE: February 2004

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604771N
PROGRAM ELEMENT TITLE: Medical Development

M9003	Biomedical Research Imaging - COH National Medical Center								
	3,417	2,967	0	0	0	0	0	0	6,384
M9005	Community Hospital Telehealth Consortium								
	975	0	0	0	0	0	0	0	975
M9083	Naval Blood Research Lab								
	1,464	0	0	0	0	0	0	0	1,464
M9246	Treatment of Radiation Sickness Research								
	0	0	0	0	0	0	0	0	0
M9247	Institute of Technology Biomedical R&D Complex								
	975	0	0	0	0	0	0	0	975
M9248	National Center for Collaboration in Medical M&S								
	2,196	0	0	0	0	0	0	0	2,196
M9249	Low Cost Retractable Needle and Safety Syringe								
	975	989	0	0	0	0	0	0	1,964
M9231	Medical Procedures Reference Tool (MPRT)								
	2,537	2,521	0	0	0	0	0	0	5,058
M9396	Applied Cognitive Science Technologies								
	0	989	0	0	0	0	0	0	989
M9397	Discovery, Early, Detection, Evaluation, Treatment and Prevention								
	0	5,883	0	0	0	0	0	0	5,883
M9398	Distress Streamer Signaling System								
	0	2,942	0	0	0	0	0	0	2,942
M9399	Health Query and Analysis System								
		1,978	0	0	0	0	0	0	1,978
M9401	Hemoglobin-Based Oxygen Carrier								

FY 2005 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET DATE: February 2004

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604771N
PROGRAM ELEMENT TITLE: Medical Development

	0	4,945	0	0	0	0	0	0	4,975
Total	65,421	70,316	6,101	6,281	7,584	7,737	7,893	Continue	Continue

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The purpose of this item is to develop biomedical equipment and related techniques to reduce morbidity, to enhance the logistic feasibility of modern medical care for combat casualties, to sustain casualties for evacuation to fixed medical facilities for definitive care, and to ensure that personnel are medically qualified for military duty. Each work unit undertaken in this project has a documented, authenticated military requirement. Efforts are justified based upon military payoff and cost benefit. There is a strong potential for dual use, technology transfer, and biotechnology firms / industry participation in the projects.

PROGRAM CHANGE FOR TOTAL PE:

		FY2003	FY2004	FY2005				
(U) FY 2004 President's Budget		2,654	5,593	9,351				
(U) Adjustments from PRESBUDG:								
2333 - Rural Health		5,780	6,800					
2334 - National Bone Marrow Program		28,900	28,000					
2494 - Center for Disaster Management		2,975	3,500					
2650 - Voice Instructional Device (VID)								
2795 - Coastal Cancer Center		4,500						
2836 - Vectored Vaccine Research		1,500	1,500					
2896 - Military Dental Research		3,000	1,200					
2897 - High Resolution Digital Mammography								
9002 - Minimally Invasive Surgical Technology		1,200	1,000					
9003 - Biomedical Research Imaging - COH Center		3,500	3,000					

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604771N
PROGRAM ELEMENT TITLE: Medical Development

9005 - Community Hospital Telehealth Consortium		1,000						
9082 - Sonarman Earcup Technology								
9083 - Naval Blood Research Laboratory		1,500						
9084 - Naval Medical Rsch Ctr Radiation Treatment								
9246 - Treatment of Radiation Sickness Research		3,400						
9247 - Institute of Technology Biomedical R&D		1,000						
9248 - National Cntr for Collaboration in Med M&S		2,250						
9249 - Low Cost Retract Needle and Safety Syringe		1,000	1,000					
9251 - Medical Procedures Reference Tool (MPRT)		2,600	2,550					
9396 - Applied Cognitive Science Technologies			1,000					
9397 - Discovery, Early Detection, Evaluation			5,950					
9398 - Distress Streamer Signaling System			2,975					
9399 - Health Query and Analysis System			2,000					
9401- Hemoglobin-Based Oxygen Carrier			5,000					
Business Process Reform (Sec. 813)		-285						
Economic Assumptions (Sec. 813)		-400						
FY 2002 SBIR (dtd 5-15-02)								
FY 2003 BTR Balancer for Emergency		81						
FY 2003 SBIR 5 May 03		-947						
Inflation Savings		-756						
IT Cost Growth (Sec. 8109)		-131						
FY03 Rescission (Radiation Treatment Sickness)		-3,400						
PPBS Baseline Adjustment		4,500						
Sec. 313 PL 107-206 Revised								
Sec. 8123 Management Reform								
Sec. 8094: Management Improvement			-179					
Sec. 8126: Efficiencies/Rev			-573					

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604771N
PROGRAM ELEMENT TITLE: Medical Development

Inflation				-18				
Non - purchase inflation				-3				
Technical Adjustments				-2,383				
RDTEN Balancing				-5				
(U) FY 2005 President's Budget		65,421	70,316	6,942				

FY 2005 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET DATE: February 2004

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604771N
PROGRAM ELEMENT TITLE: Medical Development

(U) COST: (Dollars in Thousands)

PROJECT NUMBER & TITLE	FY 2003 ESTIMATE	FY 2004 ESTIMATE	FY 2005 ESTIMATE	FY 2006 ESTIMATE	FY 2007 ESTIMATE	FY 2008 ESTIMATE	FY 2009 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
M0933 Medical / Dental Equipment Development									
	6,795	5,570	6,101	6,281	7,584	7,737	7,893	Continue	Continue

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The purpose of this item is to develop biomedical equipment and related techniques to reduce morbidity, to enhance the logistic feasibility of modern medical care for combat casualties, to sustain casualties for evacuation to fixed medical facilities for definitive care, and to ensure that personnel are medically qualified for military duty. Each work unit undertaken in this project has a documented, authenticated military requirement. Efforts are justified based upon military payoff and cost benefit. There is a strong potential for dual use, technology transfer, and biotechnology firms / industry participation in the projects.

(U) PROGRAM ACCOMPLISHMENT AND PLANS:

1. (U) FY 2003 ACCOMPLISHMENTS:

- (U) (721) TACTICAL MEDICAL COORDINATION SYSTEM: Completed project. Real-world Beta test of over 400 casualties conducted while system was deployed to Iraq with Fleet Hospital Three. Size and weight of hand-held unit reduced to 12 ounces, a Windows CE operating system has been added to replace the former, proprietary operating system, and GPS capability has been added.

- (U) (383) SOF MISSION RELATED PERFORMANCE MEASURES SYSTEM: Completed project. Four systems tested by SEAL Team and SEAL Delivery Team Personnel and recommendations from those tests incorporated into the system.

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604771N
PROGRAM ELEMENT TITLE: Medical Development

- (U) (258) UNDERWATER AND DIVE STATION WORK SITE NOISE SURVEYS: Completed project. System fielded with dive teams for collection of data that are being analyzed to determine total sound exposure at a working dive site for inclusion into guidance for diver hearing conservation.
- (U) (292) SEA TRIALS OF NEW SUBMARINE WATCHSTANDING SCHEDULE: Completed project. Data collected regarding effectiveness of revised underway watchstanding schedule on subjective submariner performance and the effect of the schedule on hormone levels that indicate normal circadian function.
- (U) (1,282) TACTILE SITUATIONAL AWARENESS SYSTEM: Completed project. Final phase of rotary wing testing completed.
- (U) (132) COMPUTER ASSISTED MANAGEMENT OF FIELD DENTAL EMERGENCIES: Completed project. Beta testing of software prototype completed and suggested modifications incorporated into the system.
- (U) (198) DIVER COOLING SYSTEM FOR PERSONAL PROTECTIVE EQUIPMENT USED IN CONTAMINATED WATER DIVING: Initiated and completed project to evaluate commercially available cooling systems for use under protective equipment worn during diving operations in warm, contaminated water.
- (U) (277) USING ESP TO VALIDATE FLEET MARINE FORCE MEDICAL RESOURCE REQUIREMENTS: Initiated project to validate FMF medical resource requirements. During the first year of funding, relevant casualty streams for ground operations were identified, programs were written to access the Estimating Supplies Program databases and calculate sustainment requirements, and the first responder, Battalion Aid Station, Shock Trauma Platoon, Forward Resuscitative Surgical System and Surgical Company functional area requirements were completed.
- (U) (162) ADVANCED ELECTRONIC STETHOSCOPE FOR GENERAL FIELD USE: Completed final field test of performance and analyzed data for evaluation of the noise reduction stethoscope.
- (U) (1,062) MEDICAL DATA SURVEILLANCE AND NAVAL WATCHBOARD THREAT ALERT INTERFACE: Completed integration of medical data surveillance capability into the naval watchboard threat alert interface.
- (U) (165) LONG RANGE RAID CASUALTY EVACUATION: Completed analysis of requirements for long range casualty evacuation and en route care based on emerging Marine Corps doctrine and concepts. Advanced development of strategies to provide care to casualties during prolonged evacuation
- (U) (80) HYPERBARIC PDA: Completed incorporation of submarine escape guidance software onto Personal Digital Assistant devices and field testing of the devices.

FY 2005 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET DATE: February 2004

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604771N
PROGRAM ELEMENT TITLE: Medical Development

- (U) (672) ESP / JMEDSAF: Initiated evaluation of models to predict supply requirements and systems to provide enhanced medical situational awaremess in the battlespace.
- (U) (44) DEPLOYED SEABEE WOMEN'S GYNECOLOGIC HEALTH PROJECT: Initiated and completed field test for reliability and user satisfaction of a kit to self-diagnose vaginal and urinary tract infections.
- (U) (672) TACTICAL MEDICAL LOGISTICS PLANNING TOOL: Initiated and completed field testing of Software that will simulate the flow of patients through the medical treatment system and estimate medical resources and logistical requirements.
- (U) (395) DENTAL ADAL (OPERATIVE FIELD DENTISTRY): Initiated analysis of the operative field dentistry ADAL (ADAL 662). Field testing of dental equipment intended for use in Marine Corps units during deployments and operations.

FY 2005 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET DATE: February 2004

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604771N
PROGRAM ELEMENT TITLE: Medical Development

2. (U) FY 2004 PLAN:

- (U) (318) USING ESP TO VALIDATE FLEET MARINE FORCE MEDICAL RESOURCE REQUIREMENTS: Continuation of project to validate FMF medical resource requirements.
- (U) (512) OPERATIVE FIELD DENTISTRY: Continuation of the analysis of components of the operative field dentistry ADAL (ADAL 662).
- (U) (1,972) RESTORING EFFECTIVE SURVIVAL IN SHOCK: Initiation of clinical trials of a hemoglobin-based oxygen carrier in hemorrhagic shock.
- (U) (167) FAR FORWARD DENTAL INTERIM RESTORATIVE MATERIAL: Initiate and complete studies to evaluate the effectiveness of interim restorative materials for possible use by non-dental medical personnel in the forward treatment of dental emergencies.
- (U) (589) IMPROVED SIMULATION OF MEDICAL CARE DELIVERY FOR NAVY OPERATIONS: Initiate and complete project to improve modeling and simulation of medical care delivery.
- (U) (275) TEST AND EVALUATION OF THE SUBMARINE ATTRITION RISK SCALE: Initiate test and evaluation of a psychological testing instrument to identify submarine school students who are at risk for separation from the Navy.
- (U) (808) TREATMENT OF ACUTE ACOUSTIC TRAUMA: Initiate test and evaluation of a treatment to reverse the cellular damage that results in hearing loss following exposure to high noise levels.
- (U) (786) SHIPBOARD MEDICAL ADMINISTRATIVE READINESS TRACKING TOOL: Initiation and completion of studies to assess the ability of the program to aggregate individual and group medical readiness information to provide automated views of current state and future state readiness.
- (U) (143) EQUIPMENT TESTING IN HYPERBARIC CHAMBERS: Initiation and completion of tests of medical equipment exposed to hyperbaric conditions for certification on the authorized for Navy use list (ANU).

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604771N
PROGRAM ELEMENT TITLE: Medical Development

3. (U) FY 2005 PLAN:

- (U) (1,986) RESTORING EFFECTIVE SURVIVAL IN SHOCK: Continuation of clinical trials of a hemoglobin-based oxygen carrier in hemorrhagic shock.
- (U) (416) TEST AND EVALUATION OF THE SUBMARINE ATTRITION RISK SCALE: Continue test and evaluation of a psychological testing instrument to identify submarine school students who are at risk for separation from the Navy.
- (U) (680) TREATMENT OF ACUTE ACOUSTIC TRAUMA: Continue test and evaluation of a treatment to reverse the cellular damage that results in hearing loss following exposure to high noise levels.
- (U) (441) OPERATIVE FIELD DENTISTRY: Continuation of the analysis of components of the operative field dentistry ADAL (ADAL 662).
- (U) (1,368) ENHANCED OXYGEN DELIVERY WITH TRANS-SODIUM CROCETINATE: Initiate clinical evaluation of a compound to enhance the delivery of oxygen to cells as a treatment for hemorrhagic shock.
- (U) (1,210) IMPROVED PRESSURE DRESSINGS FOR PENETRATING WOUNDS: Initiate trials of an improved pressure dressing that will help stop bleeding in penetrating wounds.

B. (U) PROGRAM CHANGE SUMMARY: See Program Change for PE

C. (U) OTHER PROGRAM FUNDING SUMMARY: Not applicable.

(U) RELATED RDT&E:

(U) Program Element 0603706N, Medical Development.

D. (U) SCHEDULE PROFILE: Not applicable.

CLASSIFICATION:

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 0604777N NAVIGATION/ID SYSTEMS			
COST ($ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	
Total PE Cost	**45.080**	**45.168**	**28.104**	**47.752**	**46.172**	**47.656**	**48.600**	
0253 Navigation and Electro-Optical Support	**13.952**	**11.347**	**6.120**	**9.142**	**7.162**	**7.876**	**8.033**	
0676 Improved ID Development	**1.838**	**1.536**	**1.811**	**2.778**	**3.753**	**3.829**	**3.906**	
1253 Combat ID System	**11.344**	**10.454**	**5.706**	**14.399**	**13.401**	**13.669**	**13.942**	
0921 NAVSTAR GPS Equipment	**17.946**	**21.831**	**14.467**	**21.433**	**21.856**	**22.282**	**22.719**	

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

Reliable and secure Navigation and positive identification (ID) systems are essential elements of battle management in the naval environment. The Photonics Imaging System (0253) is a non-hull penetrating replacement for existing optical periscopes. The Photonics Imaging System exploits a wide portion of the electro-magnetic spectrum utilizing advanced Electro-Optic/thermal imaging; and communications intercept/Electronic Warfare Support (ES). The Combat Identification System (CIS) project (1253) for Mark XIIA, and Improved Identification Development (0676) for AN/UPX-29, covers the Navy lead of a MK XIIA Mode 5 upgrade to the existing Mark XII family of systems that is Joint and NATO interoperable. Per OSD direction, NATO participation is encouraged and performance data is exchanged to ensure the opportunity for interoperability with allied identification systems is maximized. In addition to distinguishing friend from foe for weapons employment, the Navy requires secure, jam resistant Identification Friend or Foe (IFF) systems for battle group air defense management and air traffic control. Identification is multifaceted and includes information received from several sensors (both cooperative and non-cooperative systems).

NAVSTAR Global Positioning System (GPS), project (0921) is a space-based radio positioning and navigation system that provides users with worldwide, all weather, three dimensional position, velocity and precise time data based on a constellation of 24 satellites. Navy Sensor System Interface (NAVSSI) is a system that provides an integrated navigation message structure for network distribution to support combat, information and other mission critical capabilities. Navy Navigation Warfare (NAVWAR) is a key element and subset of the GPS program and provides Air and Sea units with jam resistant GPS antennas and receivers to ensure the continued use of GPS information in a hostile environment.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604777N NAVIGATION/ID SYSTEMS				PROJECT NUMBER AND NAME 0676 IMPROVED ID DEVELOPMENT			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**1.838**	**1.536**	**1.811**	**2.778**	**3.753**	**3.829**	**3.906**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Reliable and secure navigation and positive identification (ID) systems are essential elements of battle management in the naval environment. In addition to distinguishing friend from foe for weapons employment, the Navy requires secure, jam resistant Identification Friend or Foe (IFF) systems for battle group air defense management and air traffic control. Identification is multifaceted and includes information received from several sensors (both cooperative and non-cooperative systems). The Improved MK XII (0676) addresses the Navy lead of a MK XIIA Mode 5 Upgrade to the existing Mark XII family of systems that is Joint and NATO interoperable. These funds provide for Mode 5 integration into the AN/UPX-29(V) IFF system which interfaces with the AEGIS baseline weapon system and for other AN/UPX-29(V) improvements.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA -5	0604777N NAVIGATION/ID SYSTEMS	0676 IMPROVED ID DEVELOPMENT

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Mark XIIA Mode 5 Improvement for AN/UPX-29	1.311	0.573	1.385
RDT&E Articles Quantity			

Developed and completed baseline testing of MARK XIIA Mode 5 Improvements to the AN/UPX-29(V) to include land based testing in FY 03.
Continue engineering and integration development of MARK XIIA Improvements to the AN/UPX-29(V); initiate AN/UPX-29(V) Engineering Change Proposal in FY 04.
Complete engineering and integration development of MARK XIIA Improvements to the AN/UPX-29(V) and AN/UPX-29(V) Engineering Change Proposal in FY 05.

	FY 03	FY 04	FY 05
AN/UPX-29(V) Software Devolopement	0.527	0.663	
RDT&E Articles Quantity			

Developed AN/UPX-29(V) system software for interface with AEGIS weapons system in FY 03.
Continue development of MARK XIIA Improvement to the AN/UPX-29(V) system software for interface with AEGIS weapon system and core ILS documents; formalize hardware/software configuration; update technical data as required in FY 04.

	FY 03	FY 04	FY 05
Mark XIIA Mode 5 Development and Operational Test		0.300	0.426
RDT&E Articles Quantity			

Provide support for MARK XIIA Mode 5 DT/OA in FY 04.
Provide test asset for MARK XIIA Mode 5 DT/OT in FY 04.
Provide support for MARK XIIA Improvements to the AN/UPX-29(V) DT/OT in FY 05.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604777N NAVIGATION/ID SYSTEMS	0676 IMPROVED ID DEVELOPMENT

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:	1.912	1.553	1.810
Current BES/President's Budget:	1.838	1.536	1.811
Total Adjustments	-0.074	-0.017	0.001
Summary of Adjustments			
Congressional program reductions			
Congressional undistributed reductions		-0.017	
Congressional rescissions			
SBIR/STTR Transfer			
Economic Assumptions			
Reprogrammings	-0.074		
Rescission realignment			
Reprioritization			-0.001
Congressional increases			
Subtotal	-0.074	-0.017	-0.001

(U) Schedule:

Program milestone changes reflect reduced development funding and extended cryptographic development/certification schedule.

(U) Technical: Not applicable.

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
Identification Systems - 42MT	29.668	21.668	18.296	26.237	30.421	30.671	31.405	Continuing	Continuing

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604777N NAVIGATION/ID SYSTEMS	0676 IMPROVED ID DEVELOPMENT

(U) E. ACQUISITION STRATEGY:

The acquisition strategy is to develop Mode 5 ECPs (Engineering Change Proposals) for modern Mark XII IFF (Identification Friend or Foe) equipment and integrate into all Navy Combat Weapons systems platforms and transition the Navy's Cooperative Identification Capability to Mode 5.

R-1 SHOPPING LIST - Item No. 131

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604777N NAVIGATION/ID SYSTEMS			PROJECT NUMBER AND NAME 0676 IMPROVED ID 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
Primary Hardware Development	WR	NAWCAD, MD	0.883							Continuing	Continuing	
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration	WR	NAWCAD, MD		0.300	11/02	0.160	11/03	0.300	11./04	Continuing	Continuing	
Ship Suitability											0.000	
Systems Engineering	WR	NAWCAD, MD		0.719	11/02	0.426	11/03	0.695	11/04	Continuing	Continuing	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			0.883	1.019		0.586		0.995		Continuing	Continuing	
Remarks:												
Development Support											0.000	
Software Development	WR	NAWCAD, MD	0.778	0.527	11/02	0.333	11/03			Continuing	Continuing	
Integrated Logistics Support	WR	NAWCAD, MD		0.192	11/02	0.179	11/03	0.350	11/04	Continuing	Continuing	
Configuration Management	WR	NAWCAD, MD				0.050	11/03	0.050	11/04	Continuing	Continuing	
Technical Data	WR	NAWCAD, MD		0.100	11/02	0.088	11/03	0.100	11/04	Continuing	Continuing	
Studies & Analyses											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			0.778	0.819		0.650		0.500		Continuing	Continuing	
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604777N NAVIGATION/ID SYSTEMS			PROJECT NUMBER AND NAME 0676 IMPROVED ID 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	WR	NAWCAD, MD				0.050	11/03	0.100	11/04	Continuing	Continuing	
Operational Test & Evaluation	WR	NAWCAD, MD						0.216	11/04	Continuing	Continuing	
Live Fire Test & Evaluation											0.000	
Test Assets	WR	NAWCAD, MD				0.250	11/03				0.250	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.000	0.000		0.300		0.316		Continuing	Continuing	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support											0.000	
Travel											0.000	
Transportation											0.000	
											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		Continuing	Continuing	
Remarks:												
Total Cost			1.661	1.838		1.536		1.811		Continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 131

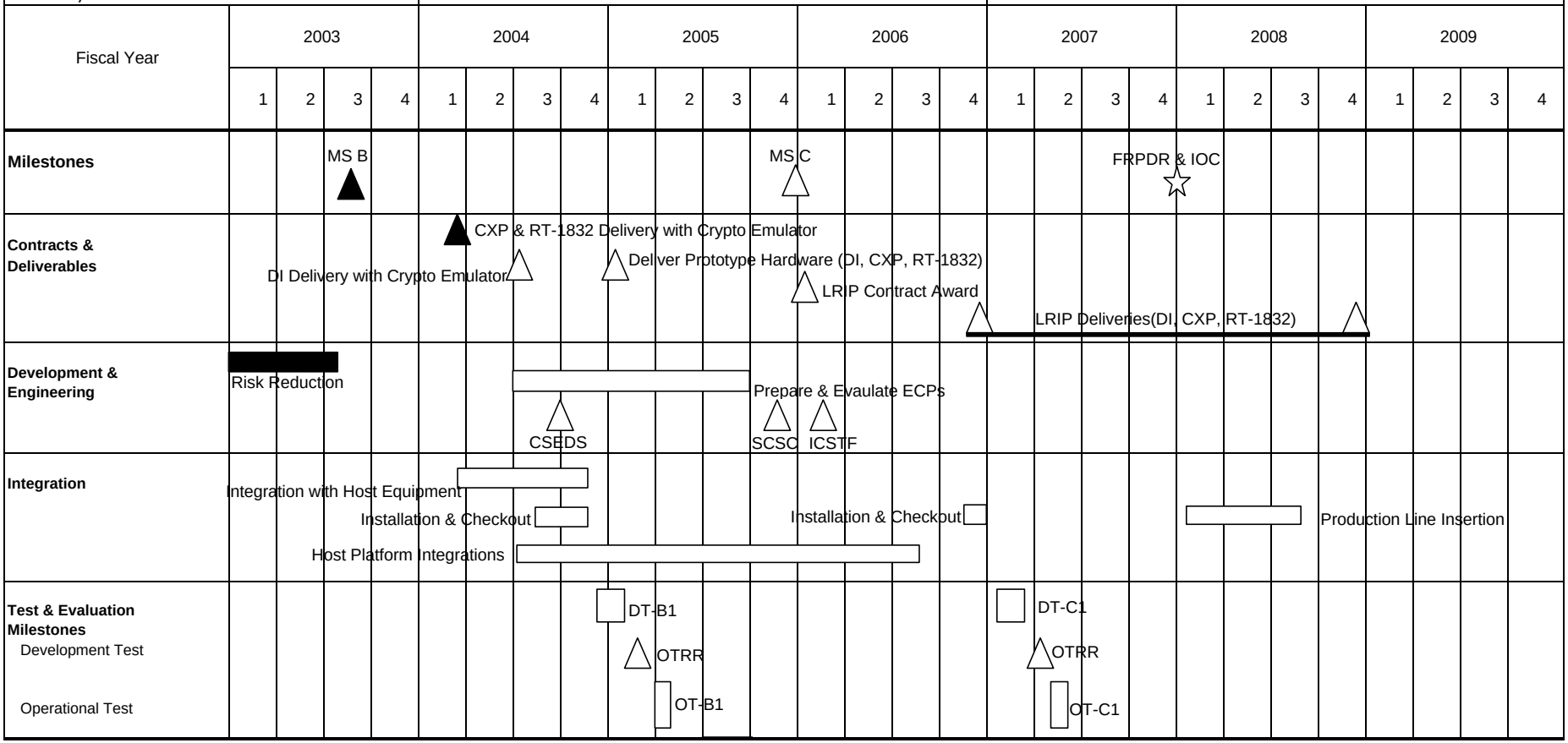
CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **February 2004**

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

PROGRAM ELEMENT NUMBER AND NAME: 0604777N NAVIGATION/ID SYSTEMS

PROJECT NUMBER AND NAME: 0676 IMPROVED ID DEVELOPMENT



R-1 SHOPPING LIST - Item No. 131

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

Exhibit R-4a, Schedule Detail					DATE: February 2004		
APPROPRIATION/BUDGET ACTIVITY **RDT&E BA-5**	PROGRAM ELEMENT 0604777N NAVIGATION/ID SYSTEMS			PROJECT NUMBER AND NAME 0676 IMPROVED ID DEVELOPMENT			
Schedule Profile	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Risk Reduction	1Q-3Q						
Milestone B (MS B)	3Q						
CXP & RT-1832 Deliveries with Crypto Emulator		1Q					
DI Delivery with Crypto Emulator		3Q					
Integration with Host Equipment		1Q-4Q					
Prepare & Evaulate ECPs		3Q-4Q	1Q-3Q				
Combat Systems Engineering Development Site (CSEDS)		3Q					
Installation & Checkout		3Q-4Q		4Q			
Host Platform Integrations		3Q-4Q	1Q-4Q	1Q-3Q			
Developmental Testing (DT-B1)		4Q	1Q				
Deliver Prototype Hardware (DI, CXP, RT-1832)			1Q				
Operational Test Readiness Review (OTRR)			1Q				
Operational Testing (OT-B1)			2Q				
Surface Combat Systems Center (SCSC)			4Q				
Milestone C (MS C)			4Q				
Integrated Combat Systems Test Facility (ICSTF)				1Q			
Low-Rate Initial Production Contract Award				1Q			
Low-Rate Initial Production Deliveries (CXP, DI, RT-1832)				4Q	1Q-4Q	1Q-4Q	
Technical Evaluation (DT-C1)					1Q		
Operational Test Readiness Review (OTRR)					2Q		
Operational Evaluation (OT-C1)					2Q		
IOC					4Q		
Full Rate Production Decision Review (FRPDR)					4Q		
Production Line Insertion						1Q-3Q	

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604777N NAVIGATION/ID SYSTEMS				PROJECT NUMBER AND NAME 1253 COMBAT ID SYSTEMS			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		11.344	10.454	5.706	14.399	13.401	13.669	13.942
RDT&E Articles Qty			28					

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

In 1995, the Under Secretary of Defense (Acquisition and Technology)/Vice Chairman, Joint Chiefs of Staff [USD(A&T)/VCJCS] tasked the Services to develop a high-level plan and long-range strategy for migrating to new digital Mark XII equipment. The services were also tasked to work with participating NATO Allies to develop a new MK XII waveform and document it in a NATO Standard Agreement (STANAG). The Navy took the lead in a waveform development effort conducted in coordination with a Five-Nation Technical Working Group (TWG), supported by Joint Services and Industry. The Navy, in conjunction with the TWG, designed, developed, modeled, and tested a new waveform – MK XIIA Mode 5. A separate Five-Nation Communication Security (COMSEC) group, led by the National Security Administration (NSA), developed a new cryptographic algorithm and associated Cryptographic Equipment Interoperability Requirements Specification. STANAG 4193, Part V has been ratified and promulgated to all NATO nations, and Part VI was approved for promulgation in January 2002.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA -5	0604777N NAVIGATION/ID SYSTEMS	1253 COMBAT ID SYSTEMS

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Mode 5 prototype hardware & cryptographic module	7.065	6.040	2.281
RDT&E Articles Quantity		28	

Designed and developed prototype Mode 5 ECP kits (Mode 5 processor card, software mode 5 cryptography and cryptographic emulator) in FY03. Design and develop lab-based Electronic Test Equipment (ETE) kits in FY03 to support integration and developmental test and evaluation . Continue development of kits for installation into existing fleet assets (AN/UPX-37 Interrogator, AN/APX-118 Common Digital Transponder, the RT-1832/APX Transponder) in FY04. Repair any deficiencies identified during testing in FY05 to support Milestone C.

	FY 03	FY 04	FY 05
Mode 5 systems engineering	3.487	1.492	1.585

Perform systems engineering in support of the Mode 5 hardware/software development efforts on the the AN/UPX-37 Interrogator, AN/APX-118 Common Digital Transponder, the RT-1832/APX Transponder, cryptographic module and Electonic Test Equipment (ETE) during FY03 through FY05.

	FY 03	FY 04	FY 05
Conduct DT & OT of the Mode 5 upgrade	0.792	2.922	1.840

Conducted test preparations in FY03. Mode 5 Developmental and Operational test phases for the AN/UPX-37 Interrogator, AN/APX-118 Common Digital Transponder, the RT-1832/APX Transponder, cryptographic module and ETE in FY04 and FY05.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604777N NAVIGATION/ID SYSTEMS	1253 COMBAT ID SYSTEMS

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:	10.693	10.572	5.750
Current BES/President's Budget:	11.344	10.454	5.706
Total Adjustments	0.651	-0.118	-0.044
Summary of Adjustments			
Congressional program reductions			
Congressional undistributed reductions		-0.118	
Congressional Recissions			
SBIR/STTR Transfer	-0.170		
Economic Assumptions			-0.005
Reprogrammings	0.821		
Recission Realignment			
Reprioritization			-0.039
Subtotal	0.651	-0.118	-0.044

(U) Schedule:

Program milestone changes reflect reduced development funding and extended cryptographic development/certification schedule.

(U) Technical: Not applicable.

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
Identification Systems - 42MT	29.668	21.668	18.296	26.237	30.421	30.671	31.405	Continuing	Continuing

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604777N NAVIGATION/ID SYSTEMS	1253 COMBAT ID SYSTEMS

(U) E. ACQUISITION STRATEGY: *

The acquisition strategy is to develop Mode 5 ECPs (Engineering Change Proposals) for modern Mark XII IFF (Identification Friend or Foe) equipment and integrate into all Navy Combat Weapons systems platforms and transition the Navy's Cooperative Identification Capability to Mode 5.

R-1 SHOPPING LIST - Item No. 131

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604777N NAVIGATION/ID SYSTEMS			PROJECT NUMBER AND NAME 1253 COMBAT ID SYSTEMS						
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	VAR	VAR	2.735	7.065	05/03	6.040	12/03	2.281	12/04	Continuing	Continuing	
Primary Hardware Dev, Electronics											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	WR	NAWCAD, MD	1.175	2.105	11/02	0.348	12/03	0.288	12/04	Continuing	Continuing	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			3.910	9.170		6.388		2.569		Continuing	Continuing	
Remarks:												
Development Support											0.000	
Software Development, Electronics			2.933							Continuing	Continuing	
Integrated Logistics Support	WR	NAWCAD, MD	0.145	0.172	11/02					Continuing	Continuing	
Configuration Management											0.000	
Technical Data			0.053							Continuing	Continuing	
Studies & Analyses											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			3.131	0.172		0.000		0.000		Continuing	Continuing	
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604777N NAVIGATION/ID SYSTEMS				PROJECT NUMBER AND NAME 1253 COMBAT ID SYSTEMS						
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	WR	NAWCAD, MD	0.850	0.792	11/02	2.922	12/03	0.882	12/04	Continuing	Continuing	
Operational Test & Evaluation	WR	NAWCAD, MD						0.958	12/04	Continuing	Continuing	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.850	0.792		2.922		1.840		Continuing	Continuing	
Remarks:												
Contractor Engineering Support			0.450								0.450	
Government Engineering Support	WR	NAWCAD, MD	0.918	0.446	11/02	0.447	12/03	0.558	12/04	Continuing	Continuing	
Program Management Support	WR	NAVAIR, MD	0.605	0.699	11/02	0.657	12/03	0.699	12/04	Continuing	Continuing	
Travel	WR	NAVAIR, MD	0.060	0.065	11/02	0.040	12/03	0.040	12/04	Continuing	Continuing	
Transportation											0.000	
											0.000	
Subtotal Management			2.033	1.210		1.144		1.297		Continuing	Continuing	
Remarks:												
Total Cost			9.924	11.344		10.454		5.706		Continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 131

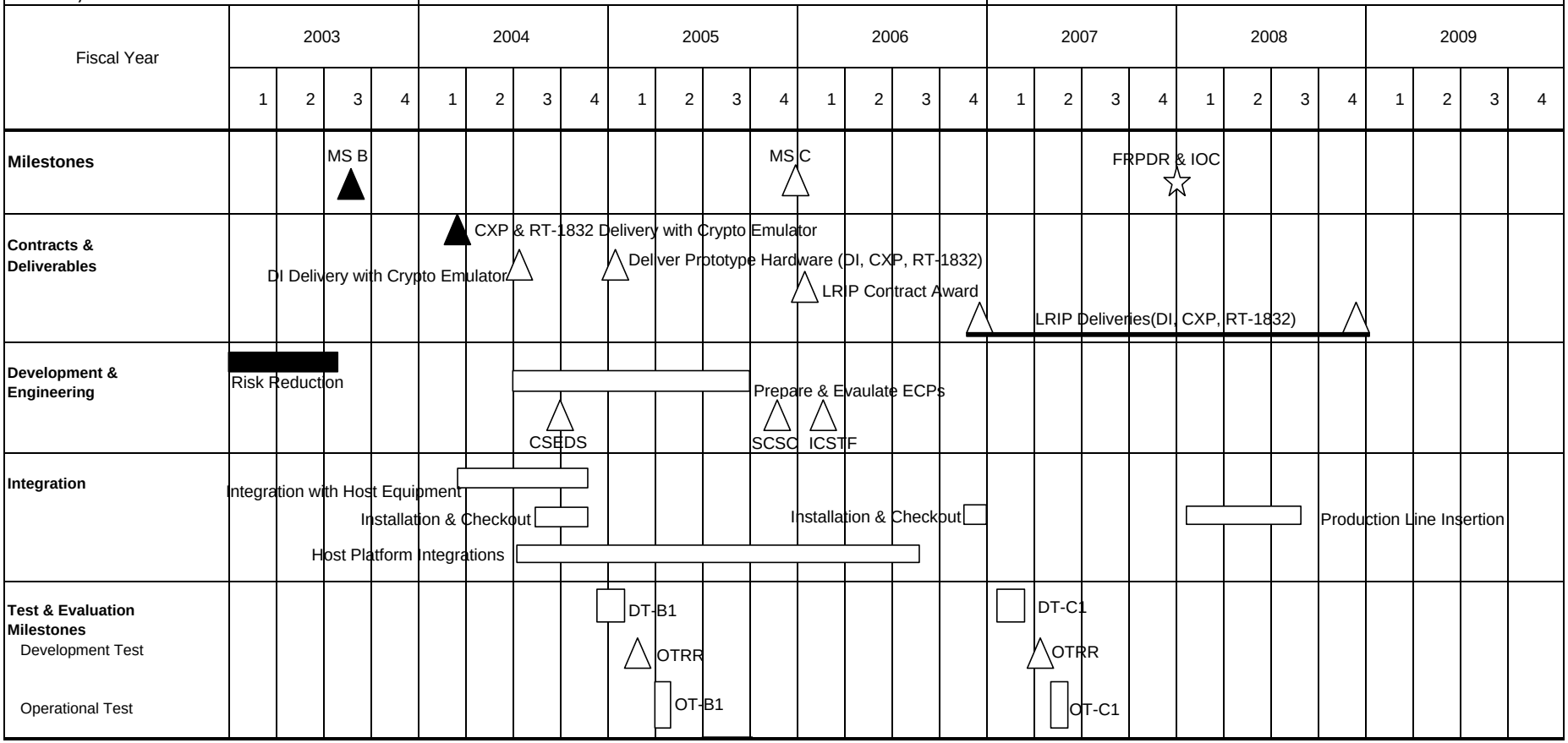
CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **February 2004**

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

PROGRAM ELEMENT NUMBER AND NAME: 0604777N NAVIGATION/ID SYSTEMS

PROJECT NUMBER AND NAME: 1253 COMBAT ID SYSTEMS



R-1 SHOPPING LIST - Item No. 131

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

Exhibit R-4a, Schedule Detail					DATE: February 2004		
APPROPRIATION/BUDGET ACTIVITY **RDT&E BA-5**	PROGRAM ELEMENT 0604777N NAVIGATION/ID SYSTEMS			PROJECT NUMBER AND NAME 1253 COMBAT ID SYSTEMS			
Schedule Profile	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Risk Reduction	1Q-3Q						
Milestone B (MS B)	3Q						
CXP & RT-1832 Deliveries with Crypto Emulator		1Q					
DI Delivery with Crypto Emulator		3Q					
Integration with Host Equipment		1Q-4Q					
Prepare & Evaulate ECPs		3Q-4Q	1Q-3Q				
Combat Systems Engineering Development Site (CSEDS)		3Q					
Installation & Checkout		3Q-4Q		4Q			
Host Platform Integrations		3Q-4Q	1Q-4Q	1Q-3Q			
Developmental Testing (DT-B1)		4Q	1Q				
Deliver Prototype Hardware (DI, CXP, RT-1832)			1Q				
Operational Test Readiness Review (OTRR)			1Q				
Operational Testing (OT-B1)			2Q				
Surface Combat Systems Center (SCSC)			4Q				
Milestone C (MS C)			4Q				
Integrated Combat Systems Test Facility (ICSTF)				1Q			
Low-Rate Initial Production Contract Award				1Q			
Low-Rate Initial Production Deliveries (CXP, DI, RT-1832)				4Q	1Q-4Q	1Q-4Q	
Technical Evaluation (DT-C1)					1Q		
Operational Test Readiness Review (OTRR)					2Q		
Operational Evaluation (OT-C1)					2Q		
IOC					4Q		
Full Rate Production Decision Review (FRPDR)					4Q		
Production Line Insertion						1Q-3Q	

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604777N NAVIGATION / ID SYSTEMS				PROJECT NUMBER AND NAME 0253 Navigation and Electro-Optical Support			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**13.952**	**11.347**	**6.120**	**9.142**	**7.162**	**7.876**	**8.033**
RDT&E Articles Qty								

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Navigation and Electro-Optical Support program develops Submarine Electro-Optical and imagery systems and equipment that will improve submarine imaging capability in the areas of: ship safety, Intelligence, Surveillance and Reconnaissance (ISR), and tactical control (contact management in the littorals). The Photonics Imaging System, mounted on the Universal Modular Mast will provide imaging capability for the VIRGINIA class submarine. The Photonics Imaging System design exploits a wide portion of the electro-magnetic spectrum through advanced Electro-Optical and thermal imaging and Electronic Warfare Support (ES)/Communications intercept. It will provide significant improvements in submarine stealth and infrared imaging capability. The non-hull penetrating design provides freedom in ship design and space savings for VIRGINIA CLASS and future submarines designs. The system was designed to satisfy Operational Requirement #365-87-94. Specific efforts include: (1) Photonics Imaging System On-Board Team Trainer Development (2) Photonics Imaging System At Sea Test And Evaluation (3) Photonics Imaging System Sensors and image processing improvements. By OPNAV Ltr Ser. N77/3U629209, 12 June 2003, OPNAV N77 established the Integrated Submarine Imaging System (ISIS) to rapidly field the Type 18 Periscope Patriot Rangefinder, Type 8IR Periscope systems, and integrate existing periscope imagery systems into a single system for installation on board submarines. The ISIS baseline includes the Type 18 Periscope Patriot Rangefinder, Type 8IR Periscope, and the Submarine Common Imaging System (SCIS) and supports high intensity operations in the littoral and provides the submarine force with the tactical imaging systems necessary to safely and effectively employ its surveillance and weapons capabilities. Specific efforts undertaken to meet the ISIS requirements are: (1) Type 18 Periscope Automated Range Finder development. (2) Submarine Common Imagery System Development. Development of capabilities common to ISIS and Photonics, include: image stitching, high resolution imaging, automatic visual detection, tracking and classification capabilities.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-5	0604777N NAVIGATION / ID SYSTEMS	0253 Navigation and Electro-Optical Support

(U) B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.422	0.391	0.130
RDT&E Articles Quantity				

Complete Photonics On-Board Team Trainer development.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.703		
RDT&E Articles Quantity				

FY03 - Performed EDM Removal/Deinstallation.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.830		
RDT&E Articles Quantity				

FY03 - Completed Photonics At Sea Test And Evaluation.

R-1 SHOPPING LIST - Item No. 131

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-5	0604777N NAVIGATION / ID SYSTEMS	0253 Navigation and Electro-Optical Support

(U) B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		3.891	5.429	3.939
RDT&E Articles Quantity				

Commence development of capabilities common to ISIS and Photonics, including: image stitching, high resolution imaging, automatic visual detection, tracking and classification capabilities.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.957	0.000	
RDT&E Articles Quantity				

Performed Systems Engineering for Automated Rangefinder for Type 18 Periscope development.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		3.561	3.556	2.051
RDT&E Articles Quantity				

Develop Low Light Level TV, improved image processing, and Photonics Imaging System all digital signal path.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-5	0604777N NAVIGATION / ID SYSTEMS	0253 Navigation and Electro-Optical Support

(U) B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.167	1.971	
RDT&E Articles Quantity				

Complete Photonics Imaging System EDM Shock Test and convert to the configuration control model.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		3.421		
RDT&E Articles Quantity				

Completed Photonics ESM Performance Improvement (PEPI) development.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604777N NAVIGATION / ID SYSTEMS	0253 Navigation and Electro-Optical Support

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 04/05 President's Budget Controls)	14.262	11.474	6.249
Current BES/President's Budget: (FY 05 President's Budget Controls)	13.952	11.347	6.120
Total Adjustments	-0.310	-0.127	-0.129
Summary of Adjustments			
SBIR/STTR Transfer	-0.273	0.000	0.000
BSO Adjustments	-0.037	0.000	0.000
MANPOWER	0.000	0.000	-0.114
NWCF Rates - NAWC Rates	0.000	0.000	-0.014
NWCF Rates - NUWC Rates	0.000	0.000	-0.004
Section 8094: Management Improvements	0.000	-0.030	0.000
Sec. 8126: Efficiencies/Revisions	0.000	-0.097	0.000
WCF - R&D - NAWC - PBD 430	0.000	0.000	0.013
WCF - R&D - NUWC - PBD 430	0.000	0.000	-0.001
Rates - NAWC	0.000	0.000	0.014
Inflation	0.000	0.000	-0.016
non purchase inflation	0.000	0.000	-0.003
Issue 69707 FY05 ITR RDTEN Balancing	0.000	0.000	-0.004
Subtotal	-0.310	-0.127	-0.129

(U) Schedule:

Not applicable

(U) Technical:

Not applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604777N NAVIGATION / ID SYSTEMS	0253 Navigation and Electro-Optical Support

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
(U) SCN Line 201300 (Photonics Mast only)	22.556	18.865	19.208	19.558	19.665	20.039	49.144	Continuing	Continuing
OPN Line 083100 (PL018, PL021 & PL022)	5.705	16.596	50.700	61.361	51.804	47.174	45.104	Continuing	Continuing
OPN Line 083105	0.000	0.100	0.945	4.159	7.411	5.715	4.860	Continuing	Continuing
(U) Related RDT&E									
(U) PE 0604558N (The VIRGINIA Class Design Development)	5.106	1.159	1.171	1.183	.188	.196	.202	Continuing	Continuing

E. ACQUISITION STRATEGY: *

Not applicable

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

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)											DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604777N NAVIGATION / ID SYSTEMS			PROJECT NUMBER AND NAME 0253 Navigation and Electro-Optical Support						
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	Various	Various	34.962	8.489	10/02	6.188	10/03	3.256	10/04	Continuing	Continuing	
Software Development	Various	Various		1.477	10/02	1.149	10/03	0.430	10/04	Continuing	Continuing	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	WR / RC	NUWC Newport, RI	5.922	2.567	10/02	1.676	10/03	0.956	10/04	Continuing	Continuing	
Training Development											0.000	
Licenses											0.000	
Miscellaneous	Various	Various	0.556	0.695	01/03	0.808	10/03	0.568	10/04	Continuing	Continuing	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			41.440	13.228		9.821		5.210		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:												

CLASSIFICATION:

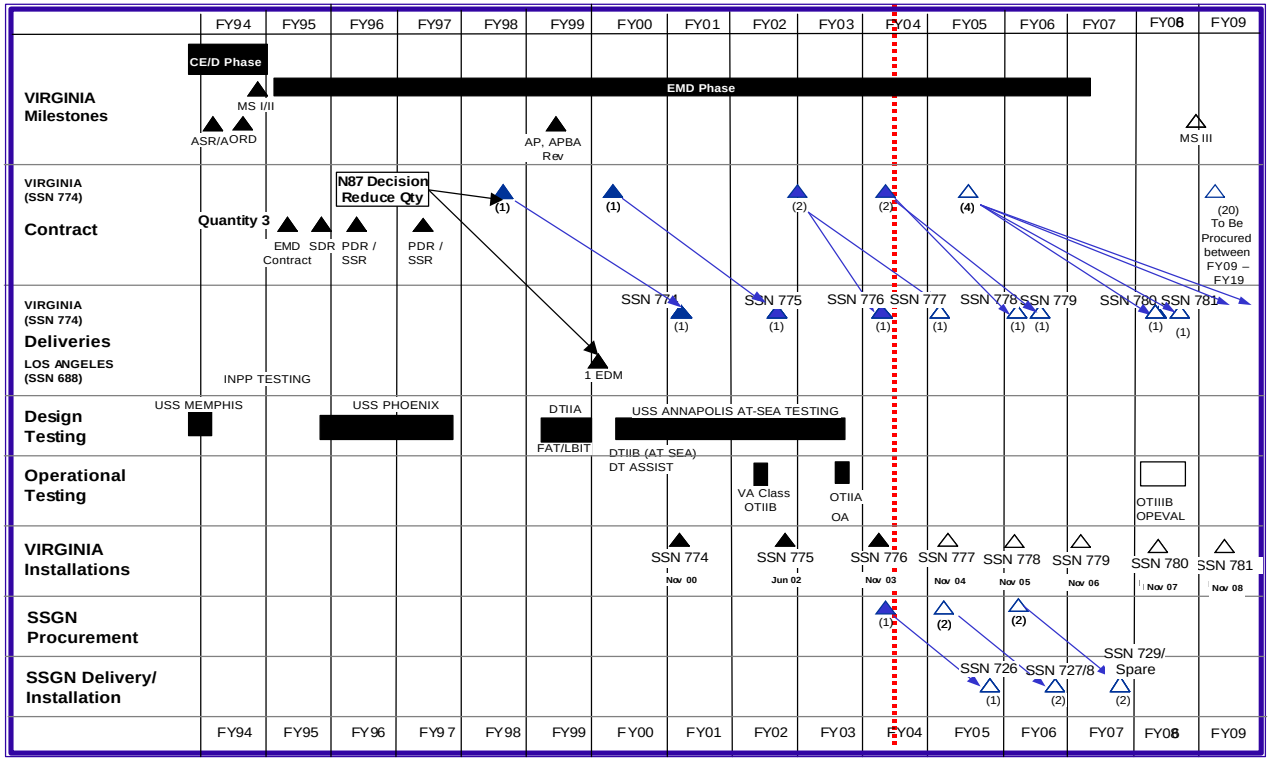
Exhibit R-3 Cost Analysis (page 2)										DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604777N NAVIGATION / ID SYSTEMS				PROJECT NUMBER AND NAME 0253 Navigation and Electro-Optical Support						
Cost Categories	Contract Method & Type	Performing Activity & 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	
Program Management Support										Continuing	Continuing	
Management Support Services/ETS	Various	Various	3.650	0.680	11/02	1.484	10/03	0.869	10/04	Continuing	Continuing	
Travel			0.457	0.044		0.042		0.041			0.584	
Transportation											0.000	
											0.000	
Subtotal Management			4.107	0.724		1.526		0.910		Continuing	Continuing	
Remarks:												
Total Cost			45.547	13.952		11.347		6.120		Continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 131

CLASSIFICATION:

EXHIBIT R-4, RDT&E Schedule Profile		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N/BA-5**	PROGRAM ELEMENT NAME AND NUMBER 0604777N NAVIGATION / ID SYSTEMS	PROJECT NAME AND NUMBER 0253 Navigation and Electro-Optical Support

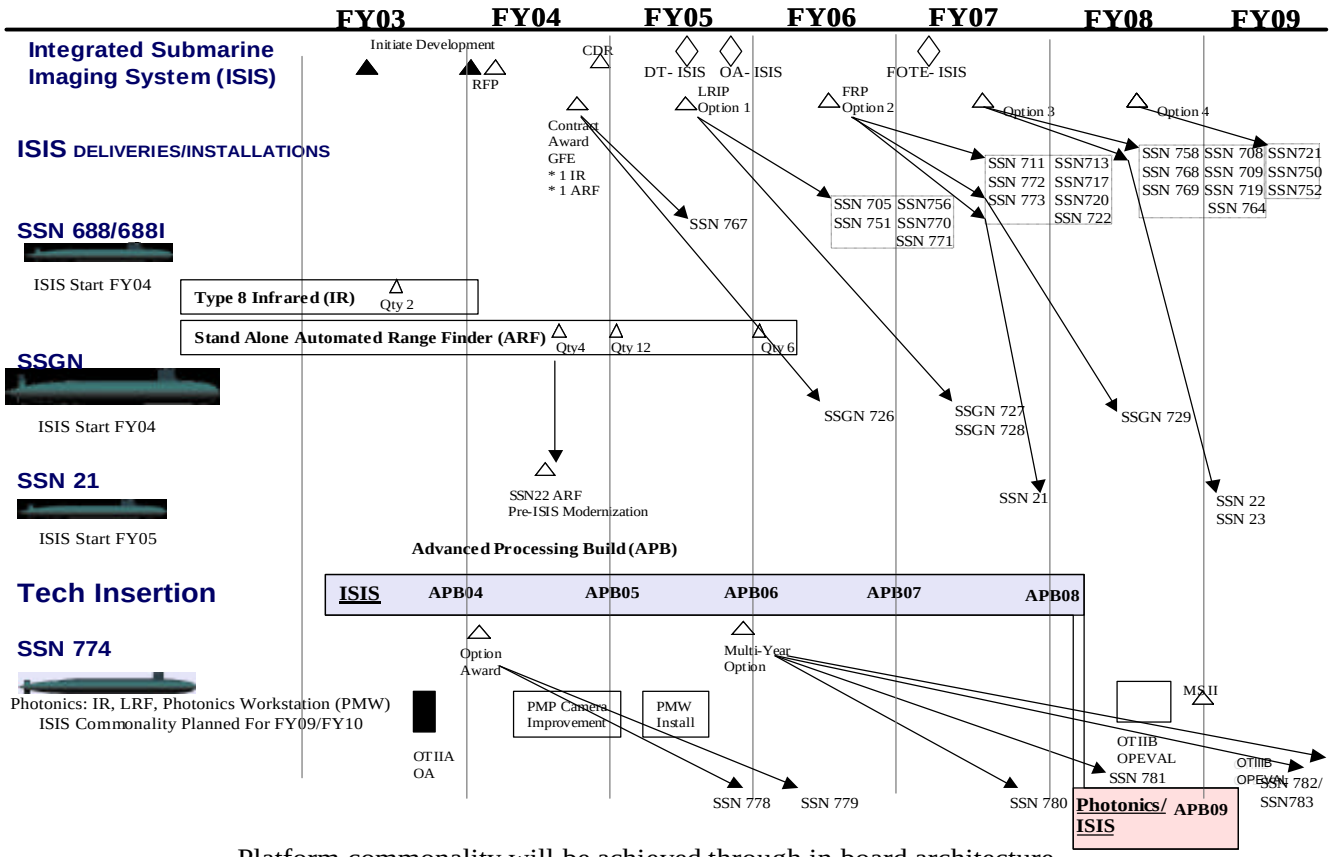
PMP Milestone Schedule



R-1 SHOPPING LIST - Item No. 13 131

CLASSIFICATION:

EXHIBIT R-4, RDT&E Schedule Profile		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N/BA-5**	PROGRAM ELEMENT NAME AND NUMBER 0604777N NAVIGATION / ID SYSTEMS	PROJECT NAME AND NUMBER 0253 Navigation and Electro-Optical Support



Platform commonality will be achieved through in-board architecture

R-1 SHOPPING LIST - Item No. 13 131

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E BA-5**	PROGRAM ELEMENT 0604777N NAVIGATION / ID SYSTEMS				PROJECT NUMBER AND NAME 0253 Navigation and Electro-Optical Support		
Schedule Profile	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Rangefinder Advanced Development Model Delivery	2Q						
Common Submarine Imaging Development	1Q-4Q						
PMP OT-IIB / Operational Assessement	3Q						
Deliver and Install SSN776 PMP		1Q					
Rangefinder Low Rate Initial Production		3Q					
Deliver Rangefinder Engineering Development Model		4Q					
Complete Common Sub Imaging System Development		4Q					
Deliver and Install SSN777 PMP			1Q				
Common Submarine Imaging Production Start			2Q				
Deliver and Install SSN778 PMP				1Q			
Deliver and Install SSN779 PMP					1Q		
Deliver and Install SSN780 PMP						1Q	
VA Class 0T-IIIB					4Q	1Q	
VA Class OPEVAL						2Q-3Q	
Milestone III						4Q	

R-1 SHOPPING LIST - Item No. 131

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604777N NAVIGATION/ID SYSTEMS					PROJECT NUMBER AND NAME 0921 NAVSTAR GPS EQUIPMENT					
COST ($ in Millions)	Prior Years Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		Cost to Complete	Total Program
Project Cost	**809.770**	**17.946**	**21.831**	**14.467**	**21.433**	**21.856**	**22.282**	**22.719**		**Continuing**	**Continuing**
RDT&E Articles Qty											**0**

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The mission is to provide supported, affordable, integrated, and interoperable navigation solutions to the warfighters. RDT&E funds are used to perform all the non-recurring Global Positioning System (GPS) Surface Ship, Submarine and Aircraft Integration efforts. The Aircraft integration efforts are required for 102 different configurations of Navy, Marine Corps and Coast Guard aircraft in response to the CNO GPS Integration Guidance (GIG), the Public Law 103-160 and the Secretary of Defense As Soon As Possible direction of April 1996 (ASAP program). The GIG directs GPS design functional characteristics for the aircraft and Public Law 103-160 directs the schedule for completion of all installations by 30 September 2005.

The GPS is a space-based radio positioning and navigation system that provides users with worldwide, all-weather, three-dimensional position, velocity and precise time data based on a constellation of 24 satellites. PMW/PMA-156 is the central office responsible for funding all GPS aircraft integration RDT&E efforts performed by over 20 NAVAIR program offices, dozens of DoD/Navy field activities and laboratories, and dozens of contractors. The aircraft installation recurring efforts are funded separately by PMW/PMA-156 and the platform program offices with APN dollars. The primary tasks to be accomplished for each of the 102 aircraft configurations include: GPS integration design studies; acquisition of aircraft and lab RDT&E assets; timing and frequency, development of test aircraft hardware and/or software designs; development of Integrated Logistics Support (ILS) elements to support test (operator and maintenance training, technical manuals); and Formal Navy Test and Evaluation (Development and Operational Test). Other tasks include the development of: new hardware and software systems for over 3300 Naval Aircraft to meet GIG, GPS Flight In Controlled Airspace (FICA), CNS/ATM and JPALS requirements when existing systems are unsuitable; the Digital Data Set (DDS); the Control Display Navigation Unit (CDNU) and associated software for many different aircraft and modifications to the GPS Mission Planning Module for the Naval Mission Planning System (NAVMPS)/Joint Mission Planning System (JMPS).

The Surface Ship and Submarine integration efforts include two vitally important navigation integration initiatives: NAVSSI and the AN/WRN-6 replacement. The first program is the Navigation Sensor System Interface (NAVSSI) development. The NAVSSI is the surface ship system with a requirement of integrating with over 54 systems/interfaces on 131 surface ship platforms. This operational requirement for the NAVSSI has two distinct functions. The first is the integration and distribution of real time navigation and time sources, primarily GPS, to combat systems, combat support systems, air alignment systems and support systems. The second is as the primary surface ship navigators' electronic workstation required to perform fully integrated Electronic Chart Display Information System for the Navy (ECDIS-N) navigation. NAVSSI is an evolutionary acquisition development. A low cost ECDIS-N system will also be developed to support non-NAVSSI ships. The second surface ship development program is the replacement of the AN/WRN-6, which is out of production and approaching obsolescence, with low cost GPS Versa Module Europa (VME) Receiver Card (GVRC) technology combined with fiber optic antenna capability and a new security chip. For NAVSSI ships, this integration will be done in conjunction with NAVSSI integrations. (For non-NAVSSI surface ships, PMW/PMA 156 is developing a low cost system to replace the AN/WRN-6.)

For submarine systems, PMW/PMA 156 is supporting ongoing NAVSEA initiatives for the replacement of the AN/WRN-6 systems with the GVRC card technology. The National Defense Authorization Act for Fiscal Year 1999 included GPS language directing DoD to start "The development of an enhanced Global Positioning System [as] an urgent national security priority."

R-1 SHOPPING LIST - Item No. 131

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5**	PROJECT NUMBER AND NAME 0921 NAVSTAR GPS EQUIPMENT

The Naval Research Advisory Committee (NRAC) GPS Vulnerability Study Panel tasked by OPNAV N6 and ASN(RD&A), assessed the Navy's GPS Vulnerabilities and recommended specific actions to resolve serious issues to ensure the continued availability of GPS information in a high risk hostile jamming environment. As a result, OPNAV N633 (now N611) and N880 (now N78) drafted the Navy Enhanced GPS User Equipment ORD to address operational requirements. These were validated and the ORD was approved on June 7, 2000. With this beginning, OSD directed the first phase of the Navy's overall GPS upgrade program with RDT&E leading to initial procurements of GPS anti-jam (AJ) antennas beginning in 2001 for aircraft and 2002 for ships. RDT&E continues to support platform integration requirements, DT/OT, as well as the GPS JPO's development of a Digital Antenna Electronics (DAE), the Navy's development of a smaller AJ antenna and a conformal low-observable AJ antennas for aircraft with those requirements, and a new a technology AJ solution for submarines. Two similar but separate ACAT III programs (Air and Sea NAVWAR) have been established and have become the basis for the Navy's NAVWAR program.

The second phase (referred to as Air and Sea GPS Modernization) of the Navy's overall GPS User Equipment upgrade, will require RDT&E to support the replacement of existing legacy GPS receivers with enhanced capability new receivers. These new receivers will incorporate GPS Joint Program Office (JPO) directed and developed technology enhancements to support new signals in space, enhanced receiver security, and aircraft operations within controlled airspace. All of these efforts will be directed, tasked, and funded through PMW/PMA-156.

R-1 SHOPPING LIST - Item No. 131

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA 5	0604777N NAVIGATION/ID SYSTEMS	0921 NAVSTAR GPS EQUIPMENT

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	2.071	0.000	0.000	
RDT&E Articles Quantity	0	0	0	

(U) FY03 ACCOMPLISHMENTS:
(U) ($2.071) Completed NAVSSI integration engineering for shipboard combat, weapons, navigation, command and control systems and NAVSSI Lite development.

	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	11.679	15.402	9.497	
RDT&E Articles Quantity				

(U) FY03 ACCOMPLISHMENTS:
(U) ($11.679) Air NAVWAR: Began integration on the F/A-18C/D/E/F/G, AV-8B, H-60. Continued integration studies on the F/A-18 series. Began hardware integration on the AV-8B. Continued DT on the H-60 platform. Continued support to the GPS JPO for modernization Initiatives (ADAP, M-CRPA) and coordinated JPO initiatives with the Navy's F/A-18 program as the selected air platform for "lead the force" GPS Modernization development and integration.
(U) FY04 PLANS:
(U) ($15.402) Air NAVWAR: Continue DT on H-60 series platforms. Continue DT testing on the AV-8B. Begin integration studies on H-53 series platforms. Begin integration studies on the AH/UH-1. Continue F/A-18E/F/G integration development and monitor continued conformal/low observable array technologies. Participate in the GPS JPO's Advanced digital Antenna Program (ADAP) source selection & hardware testing for potential application to Naval platforms. Begin integration efforts on additional aircraft T/M/S.
(U) FY05 PLANS:
(U) ($9.497) Air NAVWAR: Continue DT/OT testing on AV-8B and H-60 series platforms. Begin integration and testing on the H-53 and H-1 series platforms. Begin technology downselect on the F/A-18 E/F/G. Continue monitoring/testing on conformal/LO arrays. Continue development/integration testing on the ADAP. Begin/continue integration efforts and DT on additional aircraft T/M/S.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA 5	0604777N NAVIGATION/ID SYSTEMS	0921 NAVSTAR GPS EQUIPMENT

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	4.196	4.929	3.470	
RDT&E Articles Quantity				

(U) FY03 ACCOMPLISHMENTS:
(U) ($4.196) Sea NAVWAR: Began RDT&E modeling/simulation and integration analysis for MHC and L-class ships. Initiated planning to conduct a friendly emitter analysis on selected US ships. Completed the OA on the MCM. Completed DT on the LCAC and MHC. Began integration on the FFG. Finalized the Fiber Optic Antenna Link and GAS-1 AE integration with NAVSSI. Began integration efforts on the DDG and other Phase 1B platforms. Initiated an analysis of WDM technology for application to the Sea NAVWAR environment. Continued to evaluate anti-jam technologies for application to the submarine environment.
(U) FY04 PLANS:
(U) ($4.929) Sea NAVWAR: Continue initial integration efforts (modeling and simulation) on selected Phase 1 platforms. Begin DT efforts on selected Phase 1A (i.e. FFG) and Phase 1B (DDG) ship classes. Continue WDM technology evaluation. Conduct submarine AOA and technology downselect for Phase 2 efforts.
(U) FY05 PLANS:
(U) ($3.470) Sea NAVWAR: Continue modeling/simulation, integration, DT/OT efforts on selected Phase 1A & 1B platforms. Continue submarine AJ development and integration efforts. Support Phase 2 M/S B decision efforts.

	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	0.000	1.500	1.500	
RDT&E Articles Quantity				

(U) FY04 PLANS:
(U) ($1.500) Continue support to the GPS JPO for modernization Initiatives (i.e. Advanced digital Antenna Program (ADAP)). Coordinate JPO and F/A-18 program office efforts on F/A-18 "lead the force" GPS Modernization efforts.
(U) FY05 PLANS:
(U) ($1.500) Continue support to the GPS JPO for modernization Initiatives (i.e. Advanced digital Antenna Program (ADAP)).. Coordinate JPO and F/A-18 program office efforts on F/A-18 "lead the force" GPS Modernization efforts.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA 5	0604777N NAVIGATION/ID SYSTEMS	0921 NAVSTAR GPS EQUIPMENT

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:	19.144	22.127	14.979
Current BES/President's Budget:	17.946	21.831	14.467
Total Adjustments	-1.198	-0.296	-0.512
Summary of Adjustments			
FY 03 SBIR	-0.362		
FY2003 Update	-0.404		
Management Improvments		-0.058	
Miscellaneous Adjustments	-0.432		
Efficiencies/Revised Econ Assumptions		-0.188	
SPAWAR Service Center Cost Adj		-0.050	-0.034
NWCF Rate Adjustments			-0.002
Inflation Adjustment			-0.046
N61 Headquarters Support			-0.430
Subtotal	-1.198	-0.296	-0.512

(U) Schedule:

Air Phase 1: Schedule now includes F/A-18 C/D which was previously a Phase 2B candidate platform. This will extend the Phase 1 integration & test schedule out through FY 05 for that platform.

(U) Technical:

Air Phase 1: Engineering and Technical analysis determined that the F/A-18 C/D is a good candidate for Phase 1 GAS-1 integration and this platform is now a priority for Air NAVWAR RDT&E integration and test.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND NAME
RDT&E, N / BA 5	0604777N	NAVIGATION/ID SYSTEMS	0921 NAVSTAR GPS EQUIPMENT

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
(U) OPN Line #2657	11.436	15.519	11.65	13.204	12.504	12.759	13.021	Continuing	Continuing
(U) APN - Common Avionics	4.443	2.264	0.000	17.946	22.182	22.607	23.031	Continuing	Continuing
(U) OMN - PE 0305164N	1.063	2.537	2.491	2.503	2.553	2.616	2.682		

(U) E. ACQUISITION STRATEGY: *

NAVWAR Participate in GPS Joint Program Office and Warner Robbins ALC FY 01-FY 07 procurements for the GAS-1 anti-jam antenna. Initiate Navy contracting options for smaller array anti-jam antennas and conformal/low observable arrays for selected aircraft. Initiate Navy contracting for the shipboard ground plane and submarine array. Participate with the GPS JPO in their development of a Advanced Digital Antenna Program (DPAP) LRU and identify potential Navy candidate platforms. Support the GPS JPO in their F/A-18 "lead the force" GPS Modernization efforts. Participate in GPS JPO procurements wherever practicable for GPS Modernization Enhancements. See attached Milestone chart.

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

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604777N NAVIGATION/ID SYSTEMS			PROJECT NUMBER AND NAME 0921 NAVSTAR GPS EQUIPMENT						
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
Product Development	Various	Product Vendors	263.979	1.867	Various	3.032	Various	1.800	Various	Continuing	Continuing	
Product Development SSC-SD	WX	SSC-SD	64.678	0.610	10/02	0.650	10/03	0.371	10/04	Continuing	Continuing	
Prod Dev (other in house)	WX	Various Field Activities	440.748								440.748	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	Various	Various Govt/Cont		2.110	Various	2.200	Various	1.500	Various	Continuing	Continuing	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			769.405	4.587		5.882		3.671		Continuing	Continuing	
Remarks:												
Development Support	Various	Various	12.710							Continuing	Continuing	
Software Development	Various	SSC-SD/Platfrom Primes	3.250	1.650	10/02	1.000	10/03	0.700	10/04	Continuing	Continuing	
Integrated Logistics Support	Various	SSC-SD/NAWC/SIR/DCS		0.750	10/02	0.857	10/03	0.850	10/04	Continuing	Continuing	
Training Development	WX	SSC-SD/NAWC	0.450	0.500	10/02	0.500	10/03	0.275	10/04	Continuing	Continuing	
Technical Data	Various	Platform PMO's		0.500	10/02	0.500	10/03	0.300	10/04	Continuing	Continuing	
Studies & Analyses											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			16.410	3.400		2.857		2.125		Continuing	Continuing	
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)											DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604777N NAVIGATION/ID SYSTEMS			PROJECT NUMBER AND NAME 0921 NAVSTAR GPS EQUIPMENT							
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	
Test & Evaluation (NAWC PAX)	WX	NAWC PAX	10.969	0.700	10/02	2.060	10/03	1.700	10/04	Continuing	Continuing		
Test & Evaluation (DCS)	CPAF	DCS CORP PAX	1.427	0.334	10/02	0.350	10/03	0.365	10/04	Continuing	Continuing		
Test & Evaluation (SSC-SD)	WX	SSC-SD	1.145	0.600	10/02	0.800	10/03	0.586	10/04	Continuing	Continuing		
Test & Evaluation Platform Testing	Various	VARIOUS CONTRACTORS	1.379	3.800	Various	3.500	Various	2.025	Various	Continuing	Continuing		
Tooling											0.000		
GFE											0.000		
Award Fees											0.000		
Subtotal T&E			14.920	5.434		6.710		4.676		Continuing	Continuing		
Remarks:													
Contractor Engineering Support	Various	DCS, SAIC, ARINC	1.500	1.409	10/02	1.876	10/03	1.452	10/04	Continuing	Continuing		
Government Engineering Support	WX	SSC, NAWC, WR	0.700	1.120	10/02	2.230	10/03	0.899	10/04	Continuing	Continuing		
Program Management Support	CPAF	DCS, Price Systems	7.180	1.996	10/02	2.276	10/03	1.644	10/04	Continuing	Continuing		
Travel											0.000		
Transportation											0.000		
											0.000		
Subtotal Management			9.380	4.525		6.382		3.995		Continuing	Continuing		
Remarks:													
Total Cost			810.115	17.946		21.831		14.467		Continuing	Continuing		
Remarks:													

R-1 SHOPPING LIST - Item No. 131

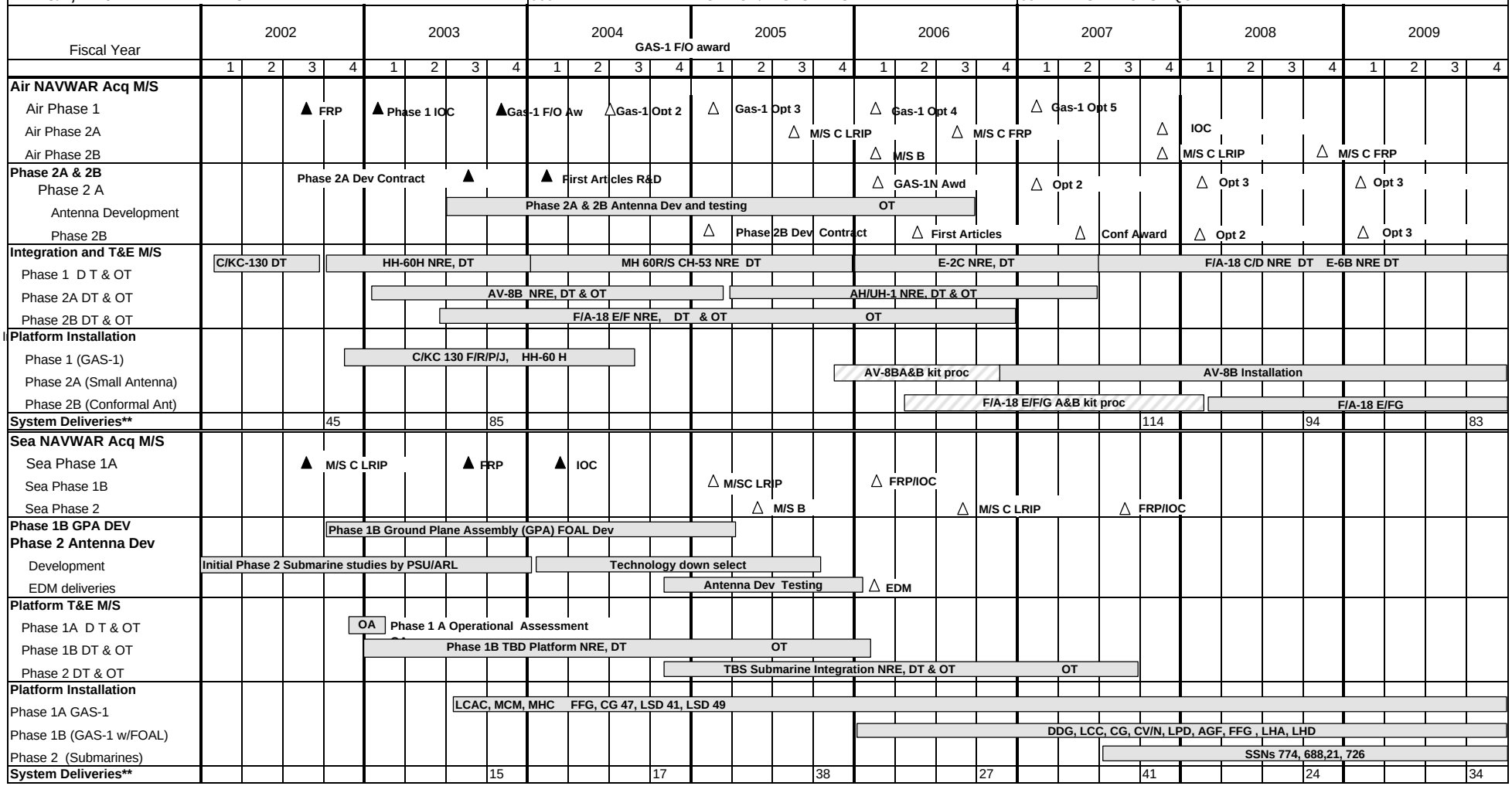
CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **February 2004**

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

PROGRAM ELEMENT NUMBER AND NAME: 0604777N NAVIGATION/ID SYSTEMS

PROJECT NUMBER AND NAME: 0921 NAVSTAR GPS EQUIPMENT



R-1 SHOPPING LIST - Item No. 131

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

** Quantities are approximate year-end total number of NAVWAR system deliveries including those projected for new construction aircraft and ships. Quantities do not include RDT&E units or Spares.

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**	PROGRAM ELEMENT 0604777N NAVIGATION/ID SYSTEMS				PROJECT NUMBER AND NAME 0921 NAVSTAR GPS EQUIPMENT			
Air Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Phase 1 FRP	3Q							
Phase 1 1st production platform integration	4Q							
H-60 DT	4Q	1-4Q	1-4Q					
Phase 1 IOC		1Q						
AB-8B DT/OT		1-4Q	1-4Q	1Q				
Phase 2A 1st platform production integration						1Q		
Phase 2A LRIP				3Q				
Phase 2A FRP					3Q			
Phase 2A IOC						4Q		
Phase 2B Milestone B					1Q			
F/A-18 E/F DT/OT		2-4Q	1-4Q	1-4Q	1-4Q			
Phase 2B Milestone C LRIP						4Q		
Phase 2B 1st platform production integration							4Q	
Phase 2B FRP							4Q	
Phase 2B IOC								
Sea Profile								
Phase 1A LRIP	3Q							
Phase 1A Operational Assessment (OA)	4Q	1Q						
MCM 1st production installation		4Q						
Phase 1A FRP		3Q						
Phase 1A IOC			1Q					
Phase 1B LRIP				1Q				
Phase 1B Operational Test (OT)				4Q	1Q			
Phase 1B Platform 1st production installation					1Q			
Phase 1B FRP					1Q			
Phase 1B IOC					1Q			
Phase 2 M/S B				2Q				
Phase 2 LRIP					3Q			
Phase 2 Operational Test (OT)						3Q		
Phase 2 Platform 1st production installation						3Q		
Phase 2 FRP						3Q		
Phase 2 IOC						3Q		

R-1 SHOPPING LIST - Item No. 131

CLASSIFICATION:

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 0604784N/ Distributed Surveillance System					
COST ($ in Millions)	Prior Years Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Total Program
Total PE Cost	**298.872**	**37.591**	**32.907**	**7.776**	**65.131**	**67.637**	**40.748**	**9.874**	**Continuing**	**Continuing**
1300/ ADVANCED DEPLOYABLE SYSTEM (ADS)	**298.872**	**37.591**	**30.907**	**7.776**	**65.131**	**67.637**	**40.748**	**9.874**	**Continuing**	**Continuing**
9402/CENTURION			**2.000**							**2.000**
										0.000
Quantity of RDT&E Articles		**8**	**6**							**14**

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

The Advanced Deployable System (ADS) is a passive acoustic undersea surveillance system which will be part of the Anti-Submarine Warfare (ASW) mission module for the Littoral Combat Ship (LCS). It will be deployed by the LCS in shallow littoral waters to provide the Joint Task Force Commander (JTFC) with the complete maritime picture. It is designed to detect and track modern diesel electric and nuclear submarines, as well as provide the capability to track surface ships and detect mine-laying activities. ADS consists of four subsystems:

- A Sensor Subsystem (SS) consisting of hydrophone arrays, small diameter fiber optic cable, connecting the arrays, and pressure vessel containing a power supply, electronics, and lasers for the optical telemetering of the hydrophone data to the in-water Tactical Interface Subsystem (TIS). Centurion Congressional add funds are provided for development and demonstration of all optical undersea sensors in Homeland Defense for port surveillance missions during FY04. Studies and conceptual design will culminate in a simple demonstration in Port Hueneme area. Demonstration will include data fusion of undersea sensors and radar.
- A TIS where the data stream is partially processed, compressed, and transmitted to the supporting LCS.
- An Analysis and Reporting Subsystem (ARS) aboard the LCS, where the received information data stream is analyzed and target information is reported to a command and control center for further distribution over tactical C4I nets as appropriate. Integrated Undersea surveillance System (IUSS) Mission Planning - These funds provide for the first increment of the Automated IUSS Mission Planning System. This effort builds on work begun in the ADS program (PE 0604784N) to automate array lay down and cable routing plans and allows the mission planner the capability to rapidly update the plan. Functional requirements for Fixed Surveillance Systems (FSS), ADS and Surveillance Towed Array Sensor (SURTASS) will be combined and prioritized with fleet input. Software will be developed as a Global Command and Control System - Maritime (GCCS-M) segment that is at least level 6 DII-COE compliant.
- An Installation Support Subsystem (ISS) for rapid deployment of the SS and TIS by the LCS.
- RDT&E Articles descreased from ten (10) to six (6) for FY2004 due to change in Acquisition Strategy. As a result of the strategy shift, revised test plan only requires six RDT&E articles.

(U) **JUSTIFICATION FOR BUDGET ACTIVITY:**
ENGINEERING AND MANUFACTURING DEVELOPMENT

This program is funded under technology development because it encompasses development of new end-items prior to the System Development & Demonstration approval decision.

R-1 SHOPPING LIST - Item No. 132

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	0604784N/ Distributed Surveillance System				PROJECT NUMBER AND NAME 1300/ ADVANCED DEPLOYABLE SYSTEM (ADS)					
COST ($ in Millions)	Prior Years Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Total Program
Total PE Cost	**298.872**	**37.591**	**30.907**	**7.776**	**65.131**	**67.637**	**40.748**	**9.874**	**Continuing**	**Continuing**
RDT&E Articles Qty		**8**	**6**							**14**

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION

The Advanced Deployable System (ADS) is a passive acoustic undersea surveillance system which will be part of the Anti-Submarine Warfare (ASW) mission module for the Littoral Combat Ship (LCS). It will be deployed by the LCS in shallow littoral waters to provide the Joint Task Force Commander (JTFC) with the complete maritime picture. It is designed to detect and track modern diesel electric and nuclear submarines, as well as provide the capability to track surface ships and detect mine-laying activities. ADS consists of four subsystems:

- A Sensor Subsystem (SS) consisting of hydrophone arrays, small diameter fiber optic cable, connecting the arrays, and pressure vessel containing a power supply, electronics, and lasers for the optical telemetering of the hydrophone data to the in-water Tactical Interface Subsystem (TIS).
- A TIS where the data stream is partially processed, compressed, and transmitted to the supporting LCS.
- An Analysis and Reporting Subsystem (ARS) aboard the LCS, where the received information data stream is analyzed and target information is reported to a command and control center for further distribution over tactical C4I nets as appropriate. Integrated Undersea surveillance System (IUSS) Mission Planning - These funds provide for the first increment of the Automated IUSS Mission Planning System. This effort builds on work begun in the ADS program (PE 0604784N) to automate array lay down and cable routing plans and allows the mission planner the capability to rapidly update the plan. Functional requirements for Fixed Surveillance Systems (FSS), ADS and Surveillance Towed Array Sensor (SURTASS) will be combined and prioritized with fleet input. Software will be developed as a Global Command and Control System - Maritime (GCCS-M) segment that is at least level 6 DII-COE compliant.
- An Installation Support Subsystem (ISS) for rapid deployment of the SS and TIS by the LCS.

- RDT&E Articles descreased from ten (10) to six (6) for FY2004 due to change in Acquisition Strategy. As a result of the strategy shift, revised test plan only requires six RDT&E articles.

R-1 SHOPPING LIST - Item No. 132

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA -5	0604784N/ Distributed Surveillance System	1300/ ADVANCED DEPLOYABLE SYSTEM (ADS)

(U) B. Accomplishments/Planned Program

ANALYSIS AND REPORTING SYSTEM (ARS)	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	2.581	5.160	0.543
RDT&E Articles Quantity			

FY03 ($2.581) Developed the Advanced Rapid COTS Insertion (ARCI) software baseline for ADS and conducted Design Verification Testing (DVT) and Final Acceptance Testing (FAT). Procured and integrated processing & display hardware for a two node system and conducted FAT and Joint Test Group (JTG) evaluation for the integrated hardware and software capability. Completed development and testing of the four node Array Laydown Planner (ALP) software.

FY04 ($5.160) Provided processing and analysis system for Dual Array Test (DAT). Developed modifications to ARCI for data reduction and communications. Procured and integrated processing and display hardware for an 8 node system. Conducted FAT and JTG evaluation for the integrated hardware software capability. Conducted modification to ALP software to permit planning of field installations. Conduct FAT for ALP and delivered to Commander Undersea Surveillance (CUS). Supported System Engineering and Integrated Test and Evaluation (IT&E).

FY05 ($0.543) Develop ARCI software for in-buoy processing. Develop a reduced power processing capability to run in-buoy processing software and interface with a communications link. Conduct System Integration Test (SIT), FAT, and JTG evaluation on the in-buoy processing software and hardware. Deliver the in-buoy processor and Workstation displays for ADS's Capability Demonstration. Support System Engineering and IT&E.

INSTALLATION SUBSYSTEM (ISS)	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	9.870	2.016	0.863
RDT&E Articles Quantity			

FY03 ($9.870) Completed Trunk Capsule Hardware Configuration Item (HWCI) detailed design for Platform B (PB) deployment. Drawings completed and released for hardware procurement. Article fabrication initiated in manufacturing DVT completed. Secured Platform B development following restructing of program. Completed preliminary design for a surface Deck Deployment System.

FY04 ($2.016) Conducted preliminary design of LCS deployment prototype system, designated Rapid Two-step Array Dispenser (RTAD). Conducted DVTs of the RTAD. Deployed ADS dummy arrays for RTAD testing.

FY05 ($0.863) Develop and operate the installation for the TIS at Buoy Integration Test (BIT). Conduct the ISS Preliminary Design Review and initiate detailed design.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604784N/ Distributed Surveillance System	1300/ ADVANCED DEPLOYABLE SYSTEM (ADS)

(U) B. Accomplishments/Planned Program

TEST AND EVALUATION (T&E)	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	3.570	4.175	0.987
RDT&E Articles Quantity			

FY03 ($3.570) Completed required system level test documentation. Monitored the developmental testing. Planned for the conduct of system level testing in FY04. Managed external relationships to Director of Test and Evaluation (DOT&E) and Commander Operational Test and Evaluation Force (COMOPTEVFOR).

FY04 ($4.175) Coordinated test planning, obtained supporting assets, and conducted dual array test (DAT) and participated in Undersea Dominance Exercise . Coordinated with COMOPTEVFOR to conduct a Development Test Assist (DTA) and an Early Operational Assessment (EOA).

FY05 ($0.987) Coordinate test planning, obtain supporting assets, conduct testing of the ADS system at the proposed Fleet Test. Coordinate with COMOPTEVFOR in the conduct of a DTA and an EOA.

TACTICAL INTERFACE SYSTEM (TIS)	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.250	6.484	0.817
RDT&E Articles Quantity			

FY03 ($0.250) Developed general architecture and conceptual design for the TIS configurations to be used during the at-sea test program. Conducted a Broad Agency Announcement (BAA) competition for concepts and developmental items that will support the production system.

FY04 ($6.484) Developed a communication link to transmit data from a surrogate buoy to a receiving surface platform during the at-sea test program. Conducted interface testing between the communication link's radio and the processing system aboard the surrogate buoy and between the radio and receiving display system. Conducted FAT for the communication link. Awarded contracts for selected BAA topics. Merged BAA development efforts into at-sea test program. Began design of buoy system and associated power sources. Supported System Engineering.

FY05 ($0.817) Modify the communication link's radio to lower system power requirements. Continue interface development and testing between radio, processor, power supply and buoy. Insert BAA technologies into the at-sea test program. Support System Engineering.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604784N/ Distributed Surveillance System	1300/ ADVANCED DEPLOYABLE SYSTEM (ADS)

(U) B. Accomplishments/Planned Program

SENSOR SUBSYTEM (SS)	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	13.950	3.531	0.530
RDT&E Articles Quantity	8	6	

FY03 ($13.950) Successfully implemented process improvements to array manufacturing based on lessons learned during the developmental test phase. Successfully completed pressure test of arrays and other test articles in support of at sea testing. Initiated contracting approvals to procure up to six additional test articles to support program restructuring.

FY04 ($3.531) Executed contracting efforts to produce additional test articles. Packaged and delivered test hardware in support of the at-sea testing. Provided engineering support for the at-sea test program. Supported system engineering preparations for the Milestone B contracting effort. Revised Acquisition Strategy, resulting in a decrease in test articles from ten (10) to six (6).

FY05 ($0.530) Maintain support during the ADS at-sea testing. Plan for the resolution of any discrepancies identified during testing. Finalize inputs to the technical data package. Support Milestone B and prepare for production of hardware in the System Development & Demonstration (SDD) phase.

SYSTEM ENGINEERING PROGRAM MANAGEMENT (SEPM)	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	7.370	9.541	4.036
RDT&E Articles Quantity			

FY03 ($7.370) Provided program management support for the ADS project office. Monitored government and contractor technical, schedule, and cost performance. Restructured program to support LCS deployment with an at sea termination. Revised Acquisition Strategy and Cost Analysis Requirements Description (CARD) based on program restructring and designation as an Acquisition Category (ACAT) 1 program. Initiated an Independent Cost Estimate (ICE) and an Independent Cost Assessment. Commenced Integrated Logistics Support (ILS) and Environmental Assessment documentation for new program direction. Coordinated interface issues with the LCS development team.

FY04 ($9.541) Provided program management support for the ADS project office. Monitored government and contractor technical, schedule, and cost performance. Oversaw preparation and conduct of at-sea testing, including the fabrication and delivery of test equipment. Developed contractual and technical elements in support of system development and integration contract award. Initiated contracting efforts for at sea termination. Conducted program review with MDA to validate all documentation required for redirected program. Initiatied preparations for Milestone B decision review in FY05. Coordinated with LCS program office to develop an Interface Requirements Document. Completed the Operational Concept document, System Performance specifications, and Environmental Specifications.

FY05 ($4.036) Continue Project Management support for the ADS project office. Monitor government and contractor technical, schedule, and cost performance. Conduct at sea capability demonstration. Continue development of documentation required for Milestone B decision. Develop contractual and technical elements in support of system development and integration contract award. Hold Milestone B decision review with MDA and gain approval to award SDD contract. Complete the System Functional Architecture, Item Performance specifications, and Equipment and Software Subsystem-level Design.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604784N/ Distributed Surveillance System	1300/ ADVANCED DEPLOYABLE SYSTEM (ADS)

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
FY 2004 President's Budget:	37.591	28.755	64.107
FY 2005 President's Budget:	37.591	30.907	7.776
Total Adjustments	0.000	2.152	-56.331
Summary of Adjustments			
PR 05 Program Adjustment			-56.295
Congressional Undistributed Reductions		-0.383	
Inflation Adjustments		0.000	-0.025
Schedule Delay		-2.500	
IUSS Mission Planning Congressional Add		5.100	
Miscellaneous Minor Adjustments		-0.065	-0.011
Subtotal	0.000	2.152	-56.331

(U) Schedule:

-Program restructure based on OPNAV revised requirements to develop ADS as a Littoral Combat Ship (LCS) Mission Module as approved by ASN/RDA.

-Schedule changes to MS 'B', 'C', and OPEVAL subject to MDA approval

(U) Technical:

- Development of wireless link
- In-buoy processing
- LCS deployment

R-1 SHOPPING LIST - Item No. 132

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604784N/ Distributed Surveillance System	PROJECT NUMBER AND NAME 1300/ ADVANCED DEPLOYABLE SYSTEM (ADS)

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	Prior Year Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
024311N/PROJECT X9102 IUSS MISSION PLANNING	6.686	2.927	0	0	0	0	0	0	0	9.613
0204311N/PROJECT X9270 FIBER OPTIC WAVELENGTH DIVISION MULTIPLIER	0	2.529	0	0	0	0	0	0	0	2.529

X9102- These funds provide for the first increment of the Automated IUSS Mission Planning System. This effort builds on work begun in the ADS program (PE 0604784N) to automate array lay down and cable routing plans and allows the mission planner the capability to rapidly update the plan. Functional requirements for Fixed Surveillance Systems (FSS), Advanced Deployable System (ADS) and Surveillance Towed Array Sensor (SURTASS) will be combined and prioritized with fleet input. Software will be developed as GCCS-M segment what are at least level 6 DII-COE compliant. Included is approximately $800K to collect environmental and physical data for an area of high fleet interest for mission planner demonstration.

X**9270-**Funds were provided for Fiber Optic Wavelength Division Multiplier . Initiated contract development efforts.

(U) E. ACQUISITION STRATEGY(AS):

Draft AS to address redirected program under review by Navy Leadership. Review and approval of Acquisition Strategy is subject to MDA program review, as directed by 14OCT03 ADM to be held no later than 31Mar04.

		FY03		FY04		FY05
PROGRAM MILESTONES		PROGRAM REVIEW		PROGRAM REVIEW		MILESTONE B
ENGINEERING MILESTONES		WET END SYSTEM VALIDATION REVIEW		SYSTEM REQUIREMENT REVIEW (SRR), SYSTEM FUNCTIONAL REVIEW (SFR)		PRELIMINARY DESIGN REVIEW (PDR), INTEGRATED BASELINE REVIEW (IBR)
T&E MILESTONES		TEST READINESS REVIEW FOR DAT		DUAL ARRAY TEST, FLEET TEST		FLEET TEST/EXERCISE
CONTRACT MILESTONES		BROAD AGENCY ANOUNCMENT (BAA) INITIATED		BROAD AGENCY ANNOUNCEMENT (BAA) AWARDED. SYSTEM DEVELOPMENT AND DEMONSTRATION (SDD) INITIATED		SYSTEM DEVELOPMENT AND DEMONSTRATION (SDD) AWARDED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1) | DATE: **February 2004**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA 5** | PROGRAM ELEMENT: 0604784N/ Distributed Surveillance System | PROJECT NUMBER AND NAME: 1300/ ADVANCED DEPLOYABLE SYSTEM (ADS)

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 Mission Product Development	C/CPAF	LMFS MANASSAS, VA	89.334								89.334	89.334
Prime Mission Product Development	C/CPAF	LMFS MANASSAS, VA	32.617	17.235	05/03	10.137	11/03	1.150	11/04	Continuing	Continuing	Continuing
Government Engineering Support	WX	SSC SAN DIEGO, CA	43.455	7.859	05/03	3.319	11/03	1.334	11/04	Continuing	Continuing	Continuing
Engineering Support Services	SS/CPFF	APL/JHU LAUREL, MD	4.671	0.551	05/03	0.300	11/03	0.080	11/04	Continuing	Continuing	Continuing
Engineering Support Services	SS/CPFF	ARL/UT AUSTIN, TX	7.322	1.697	05/03	1.338	11/03		11/04	Continuing	Continuing	Continuing
Software Development	C/CPFF	ORINCON SAN DIEGO, CA	16.534			3.600	11/03				20.134	17.534
Other Contracts			17.575	0.000		2.534		0.675		Continuing	Continuing	Continuing
Other Activities			18.276	0.761		0.300		0.022		Continuing	Continuing	Continuing
Subtotal Product Development			229.784	28.103		21.528		3.261		Continuing	Continuing	Continuing

Remarks:

Contract Engineering Support	C/CPFF	AMRON SAN DIEGO ,CA	2.763			0.644		0.740			4.147	2.763
Government Engineering Support	WX	SSC SAN DIEGO,CA	7.752	0.685	05/03	0.322	11/03	0.333	11/04	Continuing	Continuing	Continuing
Other Contracts			14.715	0.711		1.218		0.612		Continuing	Continuing	Continuing
Other Activities			4.270	1.471		0.130		0.050		Continuing	Continuing	Continuing
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Support			29.500	2.867		2.314		1.735		Continuing	Continuing	Continuing

Remarks:

R-1 SHOPPING LIST - Item No. 132

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2) | DATE: **February 2004**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA 5** | PROGRAM ELEMENT: 0604784N/ Distributed Surveillance System | PROJECT NUMBER AND NAME: 1300/ ADVANCED DEPLOYABLE SYSTEM (ADS)

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		OTHER CONTRACTS	7.595	0.030		0.580		0.052		Continuing	Continuing	Continuing
Developmental and Operational Test	WX	SSC-SAN DIEGO,CA	11.209	3.540	05/03	3.640	11/03	1.040	11/04	Continuing	Continuing	Continuing
Developmental and Operational Test		OTHER ACTIVITIES	4.658	0.000							4.658	4.658
Developmental and Operational Test	SS/CPFF	APL/JHU LAUREL, MD				0.145		0.117			0.262	
Developmental and Operational Test	SS/CPFF	ARL/UT AUSTIN, TX				0.190		0.170			0.360	
											0.000	
											0.000	
Subtotal T&E			23.462	3.570		4.555		1.379		Continuing	Continuing	Continuing
Remarks:												
Program Management Support	C/CPFF	AMRON, SAN DIEGO, CA	5.277								5.277	5.277
Program Management Support		OTHER CONTRACTS	8.082	3.051		0.780		0.642		Continuing	Continuing	Continuing
Program Management Support		OTHER CONTRACTS	2.767	0.000							2.767	2.767
Program Management Support		OTHER ACTIVITIES				1.730		0.759		Continuing	Continuing	
											0.000	
											0.000	
Subtotal Management			16.126	3.051		2.510		1.401		Continuing	Continuing	Continuing
Remarks:												
Total Cost			298.872	37.591		30.907		7.776		Continuing	Continuing	Continuing
Remarks:												

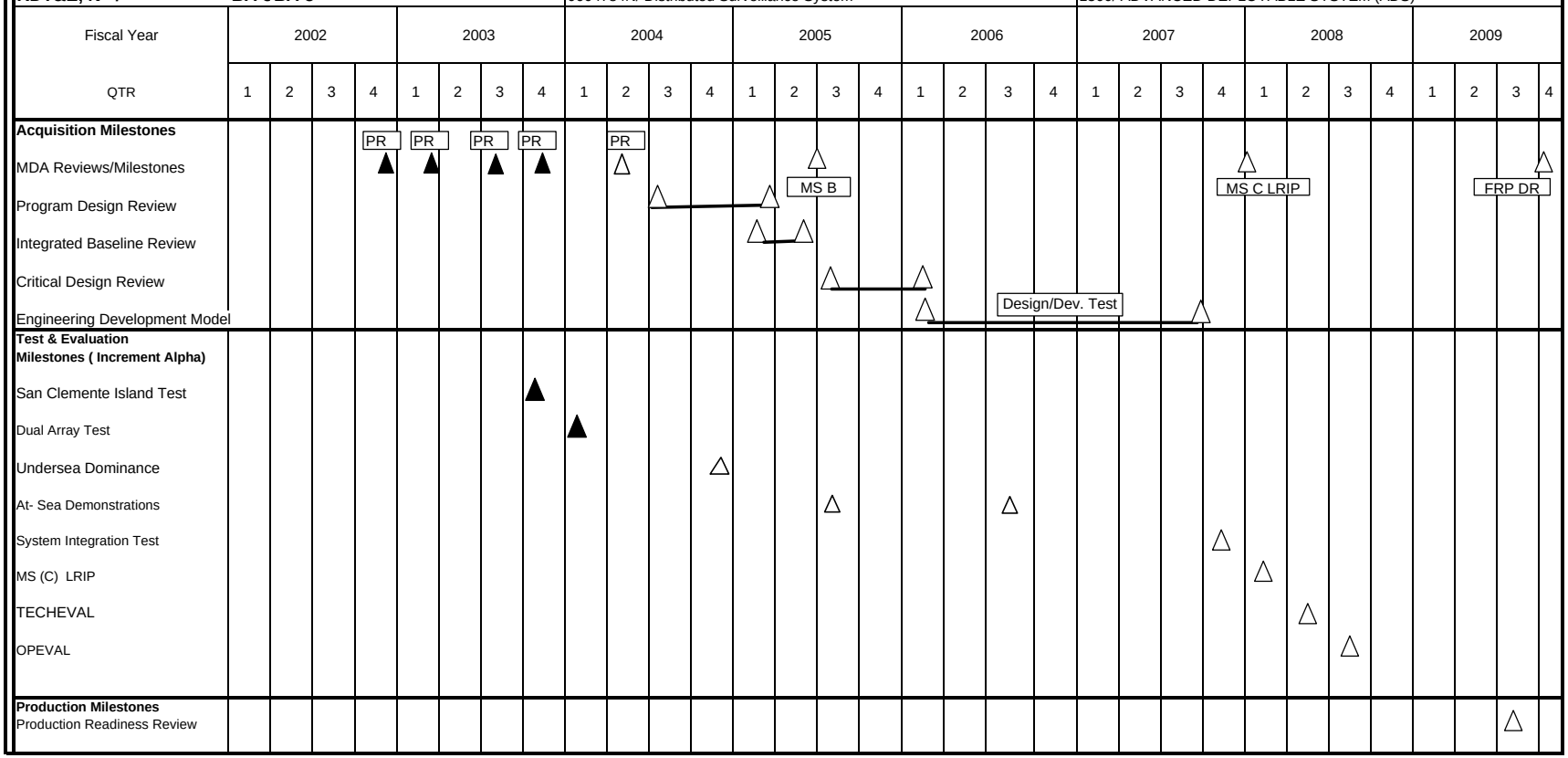
R-1 SHOPPING LIST - Item No. 132

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 BA-5	0604784N/ Distributed Surveillance System	1300/ ADVANCED DEPLOYABLE SYSTEM (ADS)



R-1 SHOPPING LIST - Item No. 132

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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N/ BA-5**	PROGRAM ELEMENT 0604784N/ Distributed Surveillance System			PROJECT NUMBER AND NAME 1300/ ADVANCED DEPLOYABLE SYSTEM (ADS)			
Schedule Profile	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
SENSOR SUBSYSTEM							
Gold Array (First Article) Fabrication							
At-Sea Test Production Array	Q3						
Complete production of 9 test articles		Q1					
Complete production of additional test articles		Q4					
EMD system Preliminary Design Review				Q2			
EMD system Detailed Design Review				Q3			
EMD system SIT system manufacture					Q3		
INSTALLATION SUBSYSTEM							
Launch & Control Segments Design & Build		Q1					
Prototype system spiral development			Q3				
EMD system Preliminary Design Review			Q2				
EMD system Detailed Design Review				Q1			
EMD system SIT system manufacture					Q4		
Refurbish / Repair for Fleet use							Q2
TACTICAL INTERFACE							
BAA / Concept Exploration	Q4						
Award study contracts		Q1					
Mock-up / engineering model		Q4					
Prototype system spiral development			Q3				
EMD system Preliminary Design Review			Q2				
EMD system Detailed Design Review				Q1			
EMD system SIT system manufacture					Q4		
Refurbish / Repair for Fleet use							Q2
ANALYSIS & REPORTING SUBSYSTEM							
Mission Planner Upgrade		Q1					
Prototype Interface Description			Q1				
Prototype system spiral development			Q3				
EMD system Preliminary Design Review			Q2				
EMD system Detailed Design Review				Q1			
EMD system SIT system manufacture					Q4		
Refurbish / upgrade & prepare for Fleet use							Q2
SYSTEM TESTS							
San Clemente Island Test	Q4						
Dual Array Test		Q1					
Undersea Dominance		Q4					
At- Sea Demonstration			Q3	Q3			
System Integration Test					Q4		
TECHEVAL						Q2	
OPEVAL						Q3	

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2004		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	0604784N/ Distributed Surveillance System				PROJECT NUMBER AND NAME 9402/ CENTURION					
COST ($ in Millions)	Prior Years Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Total Program
Total PE Cost	**0.000**	**0.000**	**2.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**Continuing**	**Continuing**
RDT&E Articles Qty										**0**

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION

Centurion Congressional add funds are provided for development and demonstration of all optical undersea sensors in Homeland Defense for port surveillance missions during FY04. Studies and conceptual design will culminate in a simple demonstration in Port Hueneme area. Demonstration will include data fusion of undersea sensors and radar.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA -5	0604784N/ Distributed Surveillance System	9402/ CENTURION

(U) B. Accomplishments/Planned Program

CENTURION	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	2.000	0.000
RDT&E Articles Quantity			

FY04 ($2.000) Centurion Congressional add funds are provided for development and demonstration of all optical undersea sensors in Homeland Defense for port surveillance missions during FY04. Studies and conceptual design will culminate in a simple demonstration in Port Hueneme area. Demonstration will include data fusion of undersea sensors and radar.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604784N/ Distributed Surveillance System	9402/ CENTURION

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
FY 2004 President's Budget:	0.000	0.000	0.000
FY 2005 President's Budget:	0.000	2.000	0.000
Total Adjustments	0.000	2.000	0.000
Summary of Adjustments			
Centurion Congressional Add		2.000	
Subtotal	0.000	2.000	0.000

(U) Schedule:
- TBD

(U) Technical:
- Development and demonstration of all optical undersea sensors in Homeland Defense for port surveillance missions
- Studies and conceptual design will culminate in a simple demonstration to include data fusion of undersea sensors and radar.

R-1 SHOPPING LIST - Item No. 132

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 Program Element 0604800N, JOINT STRIKE FIGHTER (JSF) PROGRAM			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost		**1,661.509**	**2,159.197**	**2,264.507**	**2,493.847**	**2,281.780**	**2,086.355**	**1,615.586**
D2261/JSF SDD								

This Program Element continues development efforts budgeted in program element 0603800N prior to FY 2002.

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Joint Strike Fighter program will develop and field a family of aircraft that meets the needs of the USN, USAF, USMC and allies, with maximum commonality among the variants, consistent with National Disclosure Policy (NDP), to minimize life cycle costs. This is a joint program with no executive service. Navy and Air Force each provide approximately equal shares of annual funding to the program.
The United Kingdom and other International countries are participants in the JSF Program.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME Program Element 0604800N, JOINT STRIKE FIGHTER (JSF) PROGRAM				PROJECT NUMBER AND NAME Project Unit (PU) No. D2261, JOINT STRIKE FIGHTER (JSF) SDD			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost		**1,661.509**	**2,159.197**	**2,264.507**	**2,493.847**	**2,281.780**	**2,086.355**	**1,615.586**
RDT&E Articles Qty					**6**	**8**		

This Program Element continues development efforts budgeted in program element 0603800N prior to FY 2002.

Quantity of 14 RDT&E articles reflect flight test articles; 8 ground test articles are also budgeted in SDD

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Joint Strike Fighter program will develop and field a family of aircraft that meets the needs of the USN, USAF, USMC and allies, with maximum commonality among the variants, consistent with National Disclosure Policy (NDP), to minimize life cycle costs. This is a joint program with no executive service. Navy and Air Force each provide approximately equal shares of annual funding to the program. The United Kingdom and other International countries are participants in the JSF Program.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604800N, JOINT STRIKE FIGHTER (JSF) PROGRAM	D2261, JOINT STRIKE FIGHTER (JSF) SDD

B. Accomplishments/Planned Program (Breakout reflects USN, USAF, UK and other International funding)

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		2,478.456	3,686.640	3,859.000
RDT&E Articles Quantity				

FY03, FY04 and FY05 will continue System Development and Demonstration (SDD) or Air System with Lockheed Martin including International Commonality Effortexecution of the Air System including (ICE).

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		833.127	694.114	921.000
RDT&E Articles Quantity				

FY03, FY04 and FY05 will continue System Development and Demonstration (SDD) execution of the F135 Propulsion System with Pratt & Whitney including International Commonality Effort (ICE) and commence technology maturation efforts.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		220.817	123.632	233.000
RDT&E Articles Quantity				

FY03, FY04 and FY05 continue the General Electric F136 development for a second, interchangeable, JSF engine for competition in production (previously begun in associated program elements 0603800N and 0603800F) and includes technology maturation efforts.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604800N, JOINT STRIKE FIGHTER (JSF) PROGRAM	D2261, JOINT STRIKE FIGHTER (JSF) SDD

B. Accomplishments/Planned Program (Cont.)

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		167.705	269.128	315.277
RDT&E Articles Quantity				

FY03, FY04 and FY05 will continue Systems Engineering (SE) and Mission Support activities, including modeling, simulation and analysis (MS&A) efforts, risk reduction activities and program office functions, and commence technology maturation efforts.

GRAND TOTAL		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		3,700.105	4,773.514	5,328.277
RDT&E Articles Quantity				

R-1 SHOPPING LIST - Item No. 133

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604800N, JOINT STRIKE FIGHTER (JSF) PROGRAM	D2261, JOINT STRIKE FIGHTER (JSF) SDD

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:	1,708.900	2,171.736	2,226.004
Current President's Budget	1,661.509	2,159.197	2,264.507
Technical:	-47.391	-12.539	38.503
Summary of Adjustments			
Congressional program reductions		-55.000	
Congressional undistributed reductions		-24.339	
Congressional rescissions			
Congressional increases		66.800	
SBIR/STTR Transfer	-43.761		
Economic Assumptions			-6.969
Reprogrammings	-3.630		
Reprioritization			45.472
Other Adjustments			
Subtotal	-47.391	-12.539	38.503

Schedule:

Approximate 1-year schedule extension is expected.

Technical:

Additional design work is required to overcome airframe structural issues.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604800N, JOINT STRIKE FIGHTER (JSF) PROGRAM	D2261, JOINT STRIKE FIGHTER (JSF) SDD

D. OTHER PROGRAM FUNDING SUMMARY: This is a joint program with no executive service. Program Element 0604800F continues USAF development efforts budgeted in 0603800F prior to FY 2002. The United Kingdom and multiple other countries are participants in the SDD phase of JSF.

RDT&E:	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
0604800F	1,612.826	2,092.547	2,307.420	2,489.848	2,203.446	2,051.881	1,686.684
United Kingdom	161.000	200.000	356.000	384.500	355.200	266.300	85.000
Canada	13.770	5.240	5.700	5.670	4.030	2.170	1.200
Denmark	7.400	7.700	24.030	23.930	20.910	14.510	4.110
Netherlands	90.000	103.000	123.000	133.000	120.000	76.000	28.000
Norway	8.950	22.980	24.700	24.590	15.380	8.290	4.560
Italy	104.000	126.000	152.000	171.000	154.000	98.000	36.000
Turkey	25.700	28.700	31.200	31.000	22.100	11.900	6.500
Australia	14.950	28.150	39.720	29.740	14.430	8.010	5.000

RELATED RDT&E: Funding prior to JSF SDD (FY94-FY01): USN PE 0603800N $1,950.617; USAF PE 0603800F $1,907.352; DARPA PE 0603800E $118.006; UK $201.221; Multi-Lateral $32.100; Canada $10.600; and Italy $10.000 for a total of $4,229.896.

RELATED PROCUREMENT:	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
0214146N				61.564	680.509	2,715.237	4,791.696
(Quantity)					(2)	(16)	(40)
0207142F				173.377	1,165.341	1,232.999	2,241.388
(Quantity)					(6)	(8)	(18)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604800N, JOINT STRIKE FIGHTER (JSF) PROGRAM	D2261, JOINT STRIKE FIGHTER (JSF) SDD

	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
RELATED SPARES AND REPAIR PARTS:							
USN					30.754	150.527	342.425
RELATED MILCON:							
0207142F		19.060	9.965	0.000	0.000	85.402	79.998
91211F		1.000	0.900				
24146N		24.370					

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604800N, JOINT STRIKE FIGHTER (JSF) PROGRAM	D2261, JOINT STRIKE FIGHTER (JSF) SDD

E. ACQUISITION STRATEGY:

Activities in the prior phase of JSF centered around three distinct objectives to provide a sound foundation for the start of SDD in Fall 2001:

(1) facilitated the Services' development of fully validated, affordable operational requirements;
(2) lowered risk by investing in and demonstrating key leveraging technologies that lowered the cost of development, production and ownership; and
(3) demonstrated operational concepts.

Early warfighter and technologist interaction was an essential aspect of the requirements definition process, and achieved JSF affordability goals. To an unprecedented degree the JSF Program used cost-performance trades early, as an integral part of the weapon system development process. The Services defined requirements through an iterative process, balancing weapon system capability against life cycle cost at every stage. Each iteration of requirements was provided to industry. They evolved their designs and provided cost data back to the warfighters. The warfighters evaluated trades and made decisions for the next iteration. This iterative process produced iterations of the Services' Joint Interim Requirements Documents in 1995, 1997, 1998 and culminated in the approved joint Operational Requirements Document (ORD) in FY 2000.

A sizable technology maturation effort was conducted to reduce risk and life cycle cost (LCC) through technology maturation and demonstrations. The primary emphasis was on technologies identified as high payoff contributors to affordability, supportability, survivability, and lethality. Numerous demonstrations were accomplished to validate performance and life cycle cost impact to component, subsystem, and the total system.

In November 1996, contracts were awarded to Boeing and Lockheed Martin for Concept Demonstration Programs. These competing contractors built and flew concept demonstrator aircraft, conducted concept unique ground demonstrations, and refined their respective weapon system concepts. Specifically, Boeing and Lockheed Martin demonstrated commonality and modularity, STOVL hover and transition, and low speed handling qualities of their respective weapon system concepts. Pratt and Whitney provided propulsion hardware and engineering support. General Electric continued development of a second, interchangeable, engine for competition in production.

Following evaluation of proposals and a favorable Milestone B decision, the JSF Program entered SDD on 26 October 2001 with SDD contract awards to Lockheed Martin and Pratt & Whitney. The SDD plan reflects a block approach, based on open systems architecture, for accomplishing aircraft and weapons integration. General Electric continues propulsion development efforts.

Procurement of the USAF and USMC JSF variants is planned to begin in FY 2007 with advance procurement for Lot 1 in FY 2006.

CLASSIFICATION:

Exhibit R-3 Cost Analysis								DATE: February 2004				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604800N, JOINT STRIKE FIGHTER (JSF) PROGRA			PROJECT NUMBER AND NAME D2261, JOINT STRIKE FIGHTER SDD						
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 Hdw Develop - Air System	C/CPAF	Lockheed Martin, Ft. Worth TX	851.537	2,478.456	10/02	3,686.640	10/03	3,859.000	10/04	TBD	TBD	19,645.466
Award Fees (Non-Add -Budgeted)			(83.333)	(164.373)		(343.016)		(347.000)				
Award Fees (% Funded to Date)			100%	100%		4%						
Primary Hdw Develop - F135 Engine	SS/CPAF	Pratt & Whitney, Hartford CT	763.242	832.127	10/02	676.114	10/03	910.000	10/04	TBD	TBD	4,827.785
Award Fees (Non-Add -Budgeted)			(62.365)	(80.409)		(91.089)		(92.000)				
Award Fees (% Funded to Date)			100%	100%		10%						
Prim Hdw Dev	SS/BOA	Pratt & Whitney	8.312	1.000		18.000		11.000				
Subtotal SDD			1,623.091	3,311.583		4,380.754		4,780.000		TBD	TBD	
Primary Hdw Dev - F136 Eng Phase IIIb	SS/CPAF	General Electric, Cincinnati OH	26.921	220.817	10/02	123.632	10/03	24.000	10/04	TBD	TBD	453.497
Award Fees (Non-Add - Budgeted)			(8.001)	(12.155)		(15.386)		(6.000)				
Award Fees (% Funded to Date)			100%	100%								
Primary Hdw Dev - F136 Eng Phase IV	SS/TBD	General Electric						209.000		TBD		
Award Fees (Non-Add)												
System Eng/Mission Support	Various	Field Activities	79.778	139.391	10/02	236.127	10/03	285.934	10/04	TBD	TBD	
	Various	Miscellaneous	5.775	5.255	10/02	5.200	10/03	5.400	10/04	TBD	TBD	
	C/CPAF	Sverdrup/Anteon, Arlington VA	3.150	4.975	12/02	5.224	12/03	5.278	12/04	TBD	TBD	
	SS/CPFF	LSI/Veridian, Patuxent River MD	5.256	6.809	12/02	7.055	12/03	7.127	12/04	TBD	TBD	
Subtotal System Eng/Mission Support			93.959	156.430		253.606		303.739			TBD	
Subtotal Product Development			1,743.971	3,688.830		4,757.992		5,316.739		TBD	TBD	

Remarks:
Dec 2002 SAR reflected total SDD cost of $33B; current estimate TBD pending approval of revised Acquisition Program Baseline (APB) and December 2003 SAR.
The GE Target Value of Contract reflects the negotiated value of the current Phase IIIb; follow-on contract for continued GE F136 development is TBD.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2004				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604800N / JOINT STRIKE FIGHTER (JSF) PROGRAM			PROJECT NUMBER AND NAME D2261 / JOINT STRIKE FIGHTER SDD						
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
											0.000	
											0.000	
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											0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	

Remarks:

R-1 SHOPPING LIST - Item No. 133

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)									DATE: February 2004			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604800N / JOINT STRIKE FIGHTER (JSF) PROGRAM			PROJECT NUMBER AND NAME D2261 / JOINT STRIKE FIGHTER SDD						
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
Included in Product Development											0.000	
											0.000	
											0.000	
											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Program Mgmt Support	SS/CPFF	Stanley, Arlington VA	3.834	8.955	10/02	12.211	10/03	9.076	10/04	TBD	TBD	
	SS/CPFF	Aegis, Arlington VA	1.541	2.320	12/02	3.311	12/03	2.462	12/04	TBD	TBD	
Subtotal Management			5.375	11.275		15.522		11.538		TBD	TBD	
Remarks:												
Total Cost			1,749.346	3,700.105		4,773.514		5,328.277		TBD	TBD	

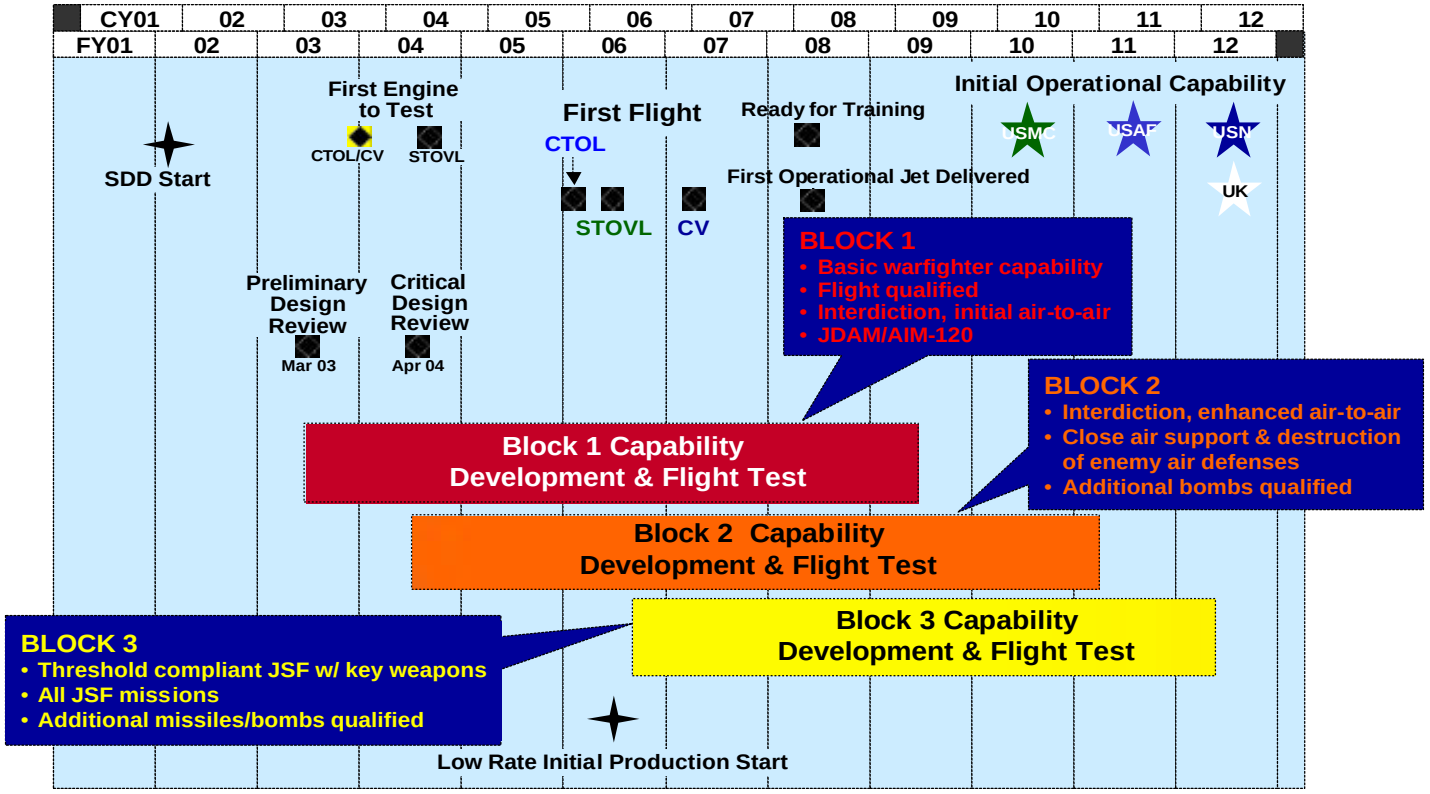
Remarks: Prior Years reflect $ 722.898 USN / $720.058 USAF / $95.000 UK / $211.390 Other International / Total $1,749.346
FY 2003 reflects $1,661.509 USN / $1,612.826 USAF / $161.000 UK / $264.770 Other International / Total $3,700.105
FY 2004 reflects $2,159.197 USN /$2,092.547 USAF / $200.000 UK / $321.770 Other International / Total $4,773.514
FY 2005 reflects $2,264.507 USN / $2,307.420 USAF / $356.000 UK/ $400.350 Other International / Total $5,328.277

R-1 SHOPPING LIST - Item No. 133

CLASSIFICATION:

EXHIBIT R4, Schedule Profile		DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-05	PROGRAM ELEMENT NUMBER AND NAME 0604800N / JOINT STRIKE FIGHTER (JSF) PROGRAM	PROJECT NUMBER AND NAME D2261 / JOINT STRIKE FIGHTER SDD

SYSTEM DEVELOPMENT AND DEMONSTRATION (SDD) SCHEDULE



Note:

1. Under review by DoD and TBD pending approval of revised Acquisition Program Baseline (APB)

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2004		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT 0604800N / JOINT STRIKE FIGHTER (JSF) PROGRAM				PROJECT NUMBER AND NAME D2261 / JOINT STRIKE FIGHTER SDD			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Milestone B and Award of SDD Contract								
Air System Requirements Review (ASRR)								
Integrated Baseline Reviews at Lockheed Martin, Pratt & Whitney and GE								
Preliminary Design Review (PDR) for Air System		3Q						
Critical Design Reviews (CDRs) for Three Variants			3Q	TBD				
CTOL First Flight					3Q			
STOVL First Flight					TBD			
CV First Flight						TBD		
First Operational Aircraft Delivered							TBD	
USMC Initial Operational Capability (IOC)								
USAF IOC								
USN IOC								
Milestone C								

Note:
1. TBD pending approval of revised Acquisition Program Baseline (APB)

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2004	
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAV Engineering & Manufacturing**				R-1 ITEM NOMENCLATURE 0604910N Smart Card Program			
COST ($ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE0604910N Cost	**0.623**	**0.546**	**0.695**	**0.710**	**0.725**	**0.297**	**0.000**
Smart Card Program	**0.623**	**0.546**	**0.695**	**0.710**	**0.725**	**0.297**	**0.000**
Quantity of RDT&E Articles **Not Applicable**							

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

(U)B. JUSTIFICATION OF BUDGET ACTIVITY: Smart Card funding was realigned from AAUSN to NAVSUP in FY 2003.

R-1 SHOPPING LIST - Item No. 134

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2004	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**				PROJECT NUMBER AND NAME T2902 Smart Card Program			
COST ($ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost	**0.623**	**0.546**	**0.695**	**0.710**	**0.725**	**0.297**	**0.000**
RDT&E Articles Qty **Not Applicable**							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Department of the Navy e-Business Operations Office is chartered to provide leading edge enabling technologies to Sailors and Marines through the use of a single multi-functional Smart Card, now referred to as the Common Access Card (CAC). Investigation of new technologies will be accomplished through interface proofs of concept demonstrating new Smart Card related technologies associated with the wireless industry, other industry standard operating systems, and biometric technology. Pilot demonstrations will also be conducted to identify and provide seed money for the development of software applications supporting functional requirements across the DoN. The goal of these projects will be to apply Smart Card Technology to streamlined processes enhancing cost effectiveness and improving operational readiness and quality of life.

R-1 SHOPPING LIST - Item No. 134

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604910N Navy IT Dev\Mod	T2902 Smart Card Program

B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost			
RDT&E Articles Quantity	0.623		

FY03 funding will be used to initiate 2-3 pilot projects to add functionality and utitlity to the CAC to enhance cost effectiveness and improve operational readiness and quality of life.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.546	
RDT&E Articles Quantity			

FY04 funding will be used to initiate 2-3 pilot projects to add functionality and utitlity to the CAC to enhance cost effectiveness and improve operational readiness and quality of life.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost			0.695
RDT&E Articles Quantity			

FY05 funding will be used to initiate 2-3 pilot projects to add functionality and utitlity to the CAC to enhance cost effectiveness and improve operational readiness and quality of life.

R-1 SHOPPING LIST - Item No. 134

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA-5	0604910N Smart Card Program	T2902 Smart Card Program	

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Last President's Budget:	0.695	0.552	0.697
Adjustments since the last President's Budget:	-0.072	-0.006	-0.002
Current Baseline	0.623	0.546	0.695
Summary of Adjustments			
Congressional program reductions			
Congressional undistributed reductions			
Congressional rescissions			
SBIR/STTR Transfer	-0.018		
FY 2003 Update	-0.054		
Sec 8126 Efficiencies/ Rev		-0.005	
Sec 8909 Management Imp.		-0.001	
Economic Assumtions			
Inflation			-0.002
Reprogrammings			
Congressional increases			
Subtotal	-0.072	-0.006	-0.002

Schedule:

Not Applicable

Technical:

Not Applicable

R-1 SHOPPING LIST - Item No. 134

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604910N Smart Card Program	PROJECT NUMBER AND NAME T2902 Smart Card Program	

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
Not Applicable									

E. ACQUISITION STRATEGY: *

The milestone for all years is the completion of proof of concept intiatives for the benefit of the Department of Navy. In each of the fiscal years approximately 2-3 projects will be executed.

F. MAJOR PERFORMERS: **

Not Applicable

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

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)											DATE: February 2004	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604910N Navy IT Dev\Mod		PROJECT NUMBER AND NAME T2902 Smart Card Program							
Cost Categories (Tailor to WBS, or System/Item Requirements)	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												
Ancillary Hardware Development												
Systems Engineering												
Licenses												
Tooling												
GFE												
Award Fees												
Subtotal Product Development			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
Development Support Equipment												
Software Development												
Training Development												
Integrated Logistics Support												
Configuration Management												
Technical Data												
GFE												
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												

R-1 SHOPPING LIST - Item No. 134

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)											DATE: February 2004	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604910N Navy IT Dev\Mod			PROJECT NUMBER AND NAME T2902 Smart Card Program						
Cost Categories (Tailor to WBS, or System/Item Requirements)	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				0.623	04/03	0.546	03/04	0.695	TBD	TBD	1.169	
Operational Test & Evaluation												
Tooling												
GFE												
Subtotal T&E			0.000	0.623		0.546		0.695			1.169	
Remarks:												
Contractor Engineering Support												
Government Engineering Support												
Program Management Support												
Travel												
Labor (Research Personnel)												
Overhead												
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			0.000	0.623		0.546		0.695		0.000	1.169	
Remarks:												

R-1 SHOPPING LIST - Item No. 134

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																													DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**					PROGRAM ELEMENT NUMBER AND NAME 0604910N Navy IT Dev\Mod												PROJECT NUMBER AND NAME T2902 Smart Card Program													
Fiscal Year	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																												
Pilot Execution																												
Test & Evaluation Milestones Development Test Operational Test																												
Production Milestones LRIP I FY 05 LRIPII FY 06 FRP FY 07																												
Deliveries																												

R-1 SHOPPING LIST - Item No. 134

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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: February 2004		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT 0604910N Navy IT Dev\Mod			PROJECT NUMBER AND NAME T2902 Smart Card Program			
Schedule Profile	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Prototype Phase	1Q-4Q	1Q-4Q	1Q-4Q				
System Design Review (SDR)							
Milestone II (MSII)							
Contract Preparation							
Software Specification Review (SSR)							
Preliminary Design Review (PDR)							
System Development							
Critical Design Review (CDR)							
Quality Design and Build							
Test Readiness Review (TRR)							
Developmental Testing (DT-IIA)							
Eng Dev Model (EDM) Radar Delivery - Lab							
Software Delivery 1XXSW							
Preproduction Readiness Review (PRR)							
EDM Radar Delivery - Flt Related							
Milestone C (MS C)							
Operational Testing (OT-IIA)							
Start Low-Rate Initial Production I (LRIP I)							
Software Delivery 2XXSW							
Developmental Testing (DT-IIB1)							
Developmental Testing (DT-IIB2)							
Start Low-Rate Initial Production II							
Operational Testing (OT-IIB)							
Developmental Testing (DT-IIC)							
Functional Configuration Audit (FCA)							
Low-Rate Initial Production I Delivery							
Technical Evaluation (TECHEVAL)							
Physical Configuration Audit							
Operational Evaluation (OT-IIC) (OPEVAL)							
Low-Rate Initail Production II Delivery							
IOC							
Full Rate Production (FRP) Decision							
Full Rate Production Start							
First Deployment							

R-1 SHOPPING LIST - Item No. 134

EXHIBIT R-2a, RDT&E Project Justification					DATE: February 2004				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-5 System Dev and Demonstration (SDD)**	PROGRAM ELEMENT NUMBER AND NAME **0605013M Marine Corps Information Technology**				PROJECT NUMBER AND NAME **C2906 Marine Corps Information Technology DEV/MOD**				
COST ($ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Total Program
Project Cost	**18.060**	**10.063**	**9.301**	**11.609**	**4.488**	**4.488**	**4.729**	**Continuing**	**Continuing**
RDT&E Articles Qty									

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

1. The CSSE Shared Data Environment (SDE), formerly know as Data Warehousing, is a cornerstone concept of the Integrated Logistics Capability. It will incorporate data warehousing technologies and products to provide one-stop shopping for data supporting CSSE/SE decision-making processes. It will stage CSSE/SE data and integrate decision support tools (DST) to enable command and control (C2), situational awareness, and total asset visibility at all levels of command, from the Combatant Commander to the company commander. The establishment of the CSSE SDE will eliminate the need for individual applications to perform these tasks for themselves and will contribute to a more cost-effective, efficient application development environment.

2. Automated Information Technology (AIT) is the proper mix of a suite of technologies that enables the user to efficiently and effectively capture, aggregate, transfer data and, integrate with Logistics Automated Information Systems (LOG AIS) using the optimum technology. Individual user's data and information will be integrated with DoD-wide systems technologies, software, and encoding formats as well as international commercial applications. AIT will facilitate data collection and flow to other AISs to better achieve Total Asset Visibility (TAV), enhancing and streamlining business processes and warfighting capability. AIT will remain interoperable with current DoD applications and capable of assimilating process and technological advancements.

3. Total Force Structure Management System (TFSMS) is a replacement for 4 existing systems: Table of Manpower Requirements (T/MR), Logistics Management Information System (LMIS), Trooplist, and Manning Level Process (MLP). The result will be consolidated management of Tables of Organization (T/O) & Tables of Equipment (T/E) via a single integrated system.

4. Total Force Administration System (TFAS) will be used by commanders, staffs and individual Marines (active, reserve, retired), conducting centralized and decentralized processing of payroll and personnel administration information. This centralized database assists decision-making by providing improved quality of life services to the Marines. TFAS will integrate and share information between the Marine Corps Total Force System and other databases such as the Personnel Evaluation System and the Manpower Order Writing System.

5. The Marine Corps Performance Evaluation System (PES) provides for the periodic reporting, recording and analysis of the performance and professional character of Marines in the grades of Sergeant through Major General. Its fundamental concepts are accuracy, accountability, simplicity and consistency of policy and evaluation methods. The primary purpose of the PES is to support the centralized selection, promotion and retention of the most qualified Marines of the Active and Reserve Components. The PES also aids in the assignment of personnel and supports other personnel management decisions as required. The new PES replaces two legacy systems previously used to support the old PES. The new PES is being developed under a Preplanned Product Improvement (P3I) Acquisition Strategy. Initial Operational Capability (IOC) has been completed in FY00. Additional improvements will continue in FY01 through FY03.

6. Defense Messaging System (DMS) is an OSD-mandated program to integrate Automatic Digital Network (AUTODIN) and E-Mail into a single, secure, DoD message communications system. DMS will expand writer-to-reader connectivity, support, and message security services. Organizations and individuals will be able to create, edit, send, receive, read, and process organizational and individual messages, secured with end-to-end protection, direct from desktop terminals/personal computers in their workspaces.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-5 System Dev and Demonstration (SDD)	**0605013M Marine Corps Information Technology**	**C2906 Marine Corps Information Technology DEV/MOD**

7. Marine Corps Recruiting Information Support Systems (MCRISS) is an electronic based system to automate administrative procedures for the recruiting substation (RSS) recruiter. This customized automated system, centered around procedures in the Volume I, Guidebook for Recruiters, will dramatically improve efficiency and effectiveness in this area. Furthermore, Military Entrance Processing Command (MEPCOM) requires Marine Corps recruiting to provide information in electronic format only.

8. HUMAN RESOURCE DEVELOPMENT PROCESS (HRDP) Portfolio (formerly Manpower AIS) is designed to manage acquisition of information technology capabilities for the modernization of processes supporting the lifecycle of Marines, from recruiting, accession, promotions, separations, retirements, performance evaluations. Efforts supported must include thorough review and analysis of business processes, re-engineering processes where technology can be leveraged for improvements. The funding in the HRDP Portfolio will provide the techical solution for process improvement, and will strategically align manpower systems/functional process modules with the C4 architecture.

9. Marine Corps Training, Exercise, and Employment Plan (MCTEEP) is a Windows-based, Marine Corps developed scheduling tool, identified in the Commandant's Planning Guidance (CPG) to standardize the "TEEP" process. MCTEEP software was first fielded in July 1995 to every G-3/S-3 in the operating forces. Funding transferred from C2270.

(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:

COST ($ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	**0.818**	**0.000**	**0.000**
RDT&E Articles Qty			

SDE: Program support for configuration control board, system integration, integrated process team, and strategic plan update.

COST ($ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	**0.300**	**0.000**	**0.000**
RDT&E Articles Qty			

SDE: Development of incremental business implementation plan.

COST ($ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	**0.850**	**0.000**	**0.000**
RDT&E Articles Qty			

SDE: Data collection for incremental systems.

COST ($ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	**0.300**	**0.000**	**0.000**
RDT&E Articles Qty			

SDE: Analyze legacy information systems for incremental structure.

COST ($ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	**0.300**	**0.000**	**0.000**
RDT&E Articles Qty			

SDE: Decomposition of legacy information systems for incremental structure.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-5 System Dev and Demonstration (SDD)	**0605013M Marine Corps Information Technology**	**C2906 Marine Corps Information Technology DEV/MOD**

COST ($ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	**0.300**	**0.000**	**0.000**
RDT&E Articles Qty			

SDE: Site survey.

COST ($ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	**0.360**	**0.000**	**0.000**
RDT&E Articles Qty			

SDE: Perform technical architecture assessment.

COST ($ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	**0.300**	**0.000**	**0.000**
RDT&E Articles Qty			

SDE: Register legacy IS in META-DATA repository.

COST ($ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	**0.388**	**0.000**	**0.000**
RDT&E Articles Qty			

SDE: Integrate legacy META-DATA into common data architecture.

COST ($ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	**0.228**	**0.000**	**0.000**
RDT&E Articles Qty			

SDE: Update CSSE data architecture.

COST ($ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	**0.400**	**0.000**	**0.000**
RDT&E Articles Qty			

SDE: Design target interface to include data transformation rules.

COST ($ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	**0.604**	**0.000**	**0.000**
RDT&E Articles Qty			

SDE: Design target data mart decision support applications.

COST ($ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	**0.350**	**0.000**	**0.000**
RDT&E Articles Qty			

SDE: Design target data warehouse database modifications.

COST ($ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	**0.216**	**0.000**	**0.000**
RDT&E Articles Qty			

SDE: Implement data warehouse increment into target environment.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N /BA-5 System Dev and Demonstration (SDD)	**0605013M Marine Corps Information Technology**	**C2906 Marine Corps Information Technology DEV/MOD**	

COST ($ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	**0.825**	**0.000**	**0.000**
RDT&E Articles Qty			

SDE: Development and installation of necessary gateways.

COST ($ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	**0.162**	**0.000**	**0.000**
RDT&E Articles Qty			

SDE: Incorporation of legacy database increment.

COST ($ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	**0.360**	**0.000**	**0.000**
RDT&E Articles Qty			

SDE: Implementation data mart decision support applications.

COST ($ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	**0.360**	**0.000**	**0.000**
RDT&E Articles Qty			

SDE: Initiation of the legacy interfaces.

COST ($ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	**0.162**	**0.000**	**0.000**
RDT&E Articles Qty			

SDE: Implementation of data warehouse data mart increment.

COST ($ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	**0.186**	**0.000**	**0.000**
RDT&E Articles Qty			

SDE: Hardware business strategy analysis.

COST ($ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	**0.158**	**0.000**	**0.000**
RDT&E Articles Qty			

SDE: COTS migration tools/licenses.

COST ($ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty			

SDE: MAGTF CSSE & SE: Design & development of web-enabling technologies, messaging backbone, and integration with air/ship/rail load and joint planning & execution tools. Efforts to migrate legacy system data and interfaces to the Shared Data Enviornment. Funding for this effort in FY02 and FY03 is provided under Project C2510, Program Element 0206313M, MC Communication Systems.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-5 System Dev and Demonstration (SDD)	**0605013M Marine Corps Information Technology**	**C2906 Marine Corps Information Technology DEV/MOD**

COST ($ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	**0.046**	**0.000**	**0.000**
RDT&E Articles Qty			

AIT: Develop software with AIT capabilities in conjunction with the DOD AIT implementation plan.

COST ($ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty			

AIT: Program Management Support.

COST ($ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	**8.679**	**0.000**	**0.000**
RDT&E Articles Qty			

TFAS: Incorporate requirements for developing software tasks and integrating software changes into existing system.

COST ($ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	**0.457**	**0.000**	**0.000**
RDT&E Articles Qty			

TFAS: Independent Verification & validation testing of software.

COST ($ in Millions)	**FY 2003**	**FY 2004**	**FY 2005**
Accomplishment/Effort Subtotal Cost	**0.631**	**0.000**	**0.000**
RDT&E Articles Qty			

TFSMS: Development of TFSMS to include refinement of the system's technical software architectures.

COST ($ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	**0.320**	**0.000**	**0.000**
RDT&E Articles Qty			

PES: Development of Back Office A-PES interface.

COST ($ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	**0.000**	**0.200**	**0.455**
RDT&E Articles Qty			

DMS: OTE and DTE testing.

COST ($ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	**0.000**	**0.195**	**0.000**
RDT&E Articles Qty			

DMS: 3.0 and Defense Message Dissemination System (DMDS) testing.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-5 System Dev and Demonstration (SDD)	**0605013M Marine Corps Information Technology**	**C2906 Marine Corps Information Technology DEV/MOD**

COST ($ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	**0.000**	**1.529**	**1.895**
RDT&E Articles Qty			

HUMAN RESOURCE DEV PROCESS (HRDP): Development of modules to integrate existing systems to streamline dataflow and increase reliability, functionality, and accuracy while reducing the manpower required to operate and maintain these systems. This includes the web-enablement of systems to provide centralized access and provide greater functionality and reliability while reducing maintenance requirements and the re-engineering of systems due to regulatory and policy changes mandated by Congress, DoD, DoN, and USMC. This integration will migrate the current Total Force Administration System (TFAS), Monitor Assignment Support System(MASS), Defense Casualty Information Processing System (DCIPS), Performance Evaluation System (PES), Total Force Retention System (TFRS), Defense Personnel Records Imaging System (DPRIS), Automated Claims Information System (ACIS), CASA/RASA/DASH (Class I/II/III), and Marine Corps Medical Entitlements Data System (MCMEDS) to an integrated Detailed Planning and Current Operations System over the long-term.

COST ($ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	**0.000**	**1.505**	**1.896**
RDT&E Articles Qty			

HUMAN RESOURCE DEV PROCESS (HRDP): Re-engineering of long-term planning tools which are integral to the decision support processes of the HRDP. The current models, in use in various form since 1960, are completely dependent on the current support contractor and do not include the documentation or software rights necessary to turn an enhancement effort over to another support source. Consequently, a major requirements analysis and process re-engineering effort is required to improve the capability of the Marine Corps to effectively plan, assign, classify, and distribute the force. This re-engineering effort will provide the technical integration of the models with the core planning systems which utilize outputs of the models, and will include integration of Reserve requirements into the HRDP Master Planning System.

COST ($ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	**0.000**	**2.326**	**1.199**
RDT&E Articles Qty			

HUMAN RESOURCE DEV PROCESS (HRDP): Development of a Civilian Marine Workforce Management System which will enhance the ability of the Marine Corps to plan for the best use of its civilian workforce and execute that plan. Initial effort is focused on Civilian Career and Leadership Development (CCLD).

COST ($ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	**0.000**	**0.237**	**0.250**
RDT&E Articles Qty			

HUMAN RESOURCE DEV PROCESS (HRDP): Testing and evaluation of the modules and integration of those modules into the Detailed Planning and Current Operations System.

COST ($ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	**0.000**	**0.270**	**0.270**
RDT&E Articles Qty			

HUMAN RESOURCE DEV PROCESS (HRDP): Testing and evaluation of re-engineered Master Planning System.

COST ($ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	**0.000**	**0.265**	**0.275**
RDT&E Articles Qty			

HUMAN RESOURCE DEV PROCESS (HRDP): Testing and evaluation of the Civilian Workforce Management System.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-5 System Dev and Demonstration (SDD)	**0605013M Marine Corps Information Technology**	**C2906 Marine Corps Information Technology DEV/MOD**

COST ($ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	**0.000**	**0.210**	**0.250**
RDT&E Articles Qty			

HUMAN RESOURCE DEV PROCESS (HRDP): Provide support for the development and integration of modules into the Detailed Planning and Current Operations System.

COST ($ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	**0.000**	**0.350**	**0.300**
RDT&E Articles Qty			

HUMAN RESOURCE DEV PROCESS (HRDP): Provide support for Joint HRDP systems where the Marine Corps is obligated to provide support to a program run from a Joint Program Office.

COST ($ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	**0.000**	**0.200**	**0.200**
RDT&E Articles Qty			

HUMAN RESOURCE DEV PROCESS (HRDP): Implement support for the re-engineering of the planning tools.

COST ($ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	**0.000**	**0.135**	**0.140**
RDT&E Articles Qty			

HUMAN RESOURCE DEV PROCESS (HRDP): Implement support for the development of the Civilian Workforce Management System.

COST ($ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	**0.000**	**2.370**	**2.171**
RDT&E Articles Qty			

MC RECRUITING INFO SUPT SYS (MCRISS): Design and development of web enabling technologies for MCRISS- Non-Commissioned Officer in Charge (NCOIC); verify and validate requirements for automating information management; incremental design and development of software; and testing of the design interface with existing system components.

COST ($ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	**0.000**	**0.271**	**0.000**
RDT&E Articles Qty			

MC TRAINING EXERCISE EMPL PLAN (MCTEEP) - Database Evaluation and Conversion. System Architecture Evaluation for Optimal System Performance. Creation of Situation Report (SitRep) and Operational Summary (OpSum). Continue the development, integration, testing and fielding of selected MCTEEP web enabling Software upgrades to enhance the capabilities of MCTEEP. The prospective S/W modifications include; 1) incremental upgrades to accomplish progressively higher levels of DII / COE compliance, 2) increased data sorting, correlation and filtering capabilities to further facilitate rapid responses to complex information requests and, 3) transition from the current Sybase licensed data-base management system (DBMS) to a DBMS having better long term supportability. Funding for this effort in FY02 and FY03 is provided under Project C2270 within PE 0206313M.

(U) Total $	**18.060**	**10.063**	**9.301**

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-5 System Dev and Demonstration (SDD)	**0605013M Marine Corps Information Technology**	**C2906 Marine Corps Information Technology DEV/MOD**

(U) PROJECT CHANGE SUMMARY

	FY2003	FY2004	FY2005
(U) FY 2004 PRESIDENT'S BUDGET	7.894	8.835	11.722
(U) Adjustments from the President's Budget:			
(U) Congressional Program Reductions			
(U) Congressional Rescissions			
(U) Congressional Increases			1.000
(U) Reprogrammings	10.166	1.326	
(U) SBIR/STTR Transfer			
(U) Minor Affordability Adjustment		-0.098	-3.421
(U) FY 2005 OSD Budget:	**18.060**	**10.063**	**9.301**

CHANGE SUMMARY EXPLANATION:

(U) Funding: See Above.
(U) Schedule: Not Applicable.
(U) Technical: Not Applicable.

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY2009	To Complete	Total Cost
(U) PMC BLI # 464100 HRDP	0	2.273	0.532	0.750	1.145	1.049	0.723	Cont	Cont
(U) PMC BLI# 464100 MAGTF LOG AIS	0.506	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.630
(U) PMC BLI#464100 TFAS	5.329	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.329
(U) PMC BLI#464100 MAGTFCSSE&SE	4.963	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.963
(U) PMC BLI#463400 DMS	3.311	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.311
(U) PMC BLI#463500 DMS	0.00	7.753	8.266	2.956	0.436	9.088	0.454	0.00	28.953
(U) PMC BLI#464100 PES	0.156	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.220

(U) Related RDT&E: Not Applicable.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-5 System Dev and Demonstration (SDD)	**0605013M Marine Corps Information Technology**	**C2906 Marine Corps Information Technology DEV/MOD**

(U) D. ACQUISITION STRATEGY:

TFAS - The operational Data Store Enterprise (ODSE) will serve as the primary database for TFAS. The acquisition strategy is to leverage the evolutionary acquisition approach, whereby functionality is incrementally added as requirements are specified. As a systems integration effort, TFAS does not replace, but provides access to legacy systems. Access will provided to Marines at the appropriate level of authority to view, change and input selected information.

TFSMS: In accordance with the Clinger-Cohen Act, a Business Process Review for the TFSMS program was conducted and it was determined that Student Entry Level Management System (SELMS) functionality should be included in the UD/MIPS program. While this did not decrease the funding requirement it decreased the requirement to maintain two different programs with two different contractors; therefore providing future cost savings in FY04 once SELMS is fully integrated within the Unit Diary/Marine Intergrated Personnel System(UD/MIPS) program Current development and design is conducted concurrently with UD/MIPS and MCTFS program software releases. As such, the funds previously programmed for SELMS have been added to the MCTFS Program funding line.

SDE - MS A was approved September 2000. The Shared Data Environment uses an evolutionary approach to development. Individual components will be ordered and implemented. The SDE program will use a lead integrator and up to three other vendors to supply discreet components. The contracts will be competitively awarded through GSA schedules. The contract will be for a base period with options for four additional years.

DMS: DMS is a Joint ACAT1AM program. It is ASD (C3I) - mandated. Each year Joint Inter-Operability Testing Center (JTIC) runs on Operational Test assessment on DMS software version, maintenance releases. The fund support Marine Corps Operations Test Activity (OTA). Marine Corps participation is vital to ensuring the Marine Corps implementation of DMS is interoperable with all DOD CINCs/Services/Agencies.

MCRISS: Development will remain consistent with established DOD, DON, and USMC standards and policies for interoperability, security and standardization. Capitalizing on centrally located data with secure web and wireless web enabled entry.

HRDP: In accordance with Clinger-Cohen Act, business process reviews are conducted to determine the optimal business case for enhancing the family of systems. Within the HRDP family of systems, there are programs designed to fulfill requirements defined by a broad range of stakeholders within the HRDP. Acquisition strategies are in place for each defined set of requirements. The HRDP Portfolio as a whole leverages evolutionary acquisition to incrementally fulfill these requirements while keeping an integrated technical architecture as the central focus. As such, concurrent design and development will occur with functional modules of the HRDP being designed while other blocks of functionality are in the implementation and fielding process.

MCTEEP: Competitively award a cost plus fixed fee contract in 2nd qtr FY04. R&D component of this contract will be web enabling software upgrades to further develop the capabilities of the MCTEEP variant, the M. C. Database Management Tool.

(U) E. MAJOR PERFORMERS:

SHARED DATA ENVIORNMENT

FY03 - Stanley Associates, EV software (COTS) development and testing.

AIT

FY03 - NAWC, St Inigoes, CA, Software development with AIT capabilities in conjunction with the DOD implementation plan, Jan 2003.

TFAS

FY03 - DFAS Kansas City, MO, Verification and validation testing of software; May 2003.

TFSMS

FY03 - Bearing Point (formerly KPMG) TFSMS Development and Implementation, Oct 02.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-5 System Dev and Demonstration (SDD)	**0605013M Marine Corps Information Technology**	**C2906 Marine Corps Information Technology DEV/MOD**

PES

FY03 - Stanley Associates, Development of the PES Back Office Interface to A-PES, Feb 03.

DMS

FY04 - MCOTEA. Quantico, VA, Operational Test and Evaluation and Developmental Test and Evaluation testing, Mar 2004.

FY05 - MCOTEA. Quantico, VA, 3.0 and DMDS testing, Jan 2005.

MCRISS

FY04 - Federal Systems Integration and Management Center (FEDSIM), Falls Church, VA, Design and development of web enabling technologies for MCRISS-NCOIC, March 2004.

FY05 - Federal Systems Integration and Management Center (FEDSIM), Falls Church, VA, Design and development of web enabling technologies for MCRISS-NCOIC, Jan 2005.

HRDP

FY04 - This line is under portfolio management. There are various Manpower programs that are being executed. Contracting information can be provided under separate cover as it is in various capacities.

FY05 - Contracting information is currently unavailable, contractor will be selected during year of execution, anticipated Jan 2005.

MCTEEP

FY04 - Contracting information is currently unavailable, anticipated March 2004.

FY05 - Contracting information is currently unavailable, contractor will be selected during year of execution, anticipated Jan 2005.

Exhibit R-3 Cost Analysis											DATE: February 2004		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-5 System Development and Demonstration (SDD)**		PROGRAM ELEMENT **0605013M Marine Corps Information Technology**					PROJECT NUMBER AND NAME **C2906 Marine Corps Information Technology DEV/MOD**						
Cost Categories	Method & Type	Activity & Location	PY s Cost	FY 03 Cost	FY03 Award Date	FY 04 Cost	FY04 Award Date	FY 05 Cost	FY05 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
SDE	FFP/O	MCSC, Quantico, VA	4.561							0.000	4.561		
SDE	VAR	VARIOUS LOCATIONS		7.927	01/03					0.000	7.927		
AIT	RCP	NAWC, ST INIGOES	0.524	0.046	01/03					0.000	0.570		
AIT	RCP	NAVAIR	0.033							0.000	0.033		
AIT	RCP	MCSC, Quantico, VA	0.006							0.000	0.006		
PES	FFP	MCSC, Quantico, VA	1.139	0.320	03/03					0.000	1.459		
MCTFS	MIPR	DFAS-KC	0.776							0.000	0.776		
TFSMS	FFP	KPMG, Sacramento,CA	5.259	0.631	03/03					0.000	5.890		
TFAS	MIPR	DFAS-KC	0.416	0.300	01/03					0.000	0.716		
TFAS	MIPR	DFAS-KC	0.414							0.000	0.414		
TFAS	MIPR	DFAS-KC		6.511	08/03					0.000	6.511		
MCWL IMS	RCP	MCSC, Quantico, VA	0.325							0.000	0.325		
FIMS II	RCP	MCSC, Quantico, VA	0.499							0.000	0.499		
ULAS	RCP	MCSC, Quantico, VA		0.345									
Subtotal Product Dev			**13.128**	**16.080**		**0.000**		**0.000**		**Cont**	**Cont**		
Remarks													
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY04 Award Date	FY 05 Cost	FY05 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
SDE	LOF	MCSC, Quantico,VA	0.608							0.000	0.608		
MCRISS	MIPR	FEDSIM				2.370	01/04	2.171	01/05	0.000	4.541		
HRDP	TDB	TBD				6.132	01/04	5.880	01/05	Cont	Cont		
MCTEEP	TDB	TBD				0.271	01/04	0.000	01/05	Cont	Cont		
Subtotal Support			**0.608**	**0.000**		**8.773**		**8.051**		**Cont**	**Cont**		
Remarks													

Exhibit R-3 Cost Analysis											DATE: February 2004		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-5 System Development and Demonstration (SDD)**		PROGRAM ELEMENT **0605013M Marine Corps Information Technology**					PROJECT NUMBER AND NAME **C2906 Marine Corps Information Technology DEV/MOD**						
Cost Categories	Method & Type	Activity & Location	PY s Cost	FY 03 Cost	FY03 Award Date	FY 04 Cost	FY04 Award Date	FY 05 Cost	FY05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
TFAS	TBD	TBD		1.980	01/03					0.000	1.980	
TFSMS	TBD	MCSC, Quantico, VA	0.300							0.000	0.300	
DMS	WR	MCOTEA				0.200	03/04	0.455	01/05	Cont	Cont	
DMS	RC	CRANE				0.195	01/04			0.000	0.195	
Subtotal T&E			**0.300**	**1.980**		**0.395**		**0.455**		**Cont**	**Cont**	
Remarks:												
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY03 Award Date	FY 04 Cost	FY04 Award Date	FY 05 Cost	FY05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
AIT	RCP	NAWC, ST. INIGOES	0.136									
HRDP	TDB	TBD				0.895	01/04	0.795	01/05	Cont	Cont	
Subtotal Management			**0.136**	**0.000**		**0.895**		**0.795**		**0.000**	**1.826**	
Remarks:												
Total Cost				**18.060**		**10.063**		**9.301**		**Cont**	**Cont**	

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 0605013N Information Technology Development			
COST ($ in Millions)	**SYSCOM**	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost		**69.827**	**65.622**	**109.543**	**35.622**	**14.259**	**28.913**	**41.768**
2901 AAUSN IT	**AAUSN**	**1.462**	**5.125**	**11.833**				
2903 NAVAIR IT	**NAVAIR**	**2.339**	**2.267**	**2.302**	**2.332**	**2.393**	**2.438**	**2.484**
2904 NAVSEA IT	**NAVSEA**	**3.132**	**1.977**					
2905 BUPERS IT EMPRS	**BUPERS**	**13.185**	**8.400**	**0.897**	**0.005**	**0.004**	**0.004**	**0.004**
2907 COMNAVRESFOR IT	**SPAWAR**	**4.400**	**2.195**	**1.710**	**1.749**	**1.727**	**1.763**	**1.799**
3026 ERP Convergence	**NAVAIR**			**82.945**	**31.536**	**10.135**	**24.708**	**37.481**
3038 E-Business	**NAVSUP**	**12.941**	**7.539**	**6.856**				
3054 Navy Web Enabling	**SPAWAR**	**1.969**						
9088 SPAWAR ITC Enterprise Management	**SPAWAR**	**5.714**	**7.120**					
9089 Long Distance Learning	**SPAWAR**	**9.287**	**3.350**					
9090 Total Fleet Support System	**NAVSEA**	**2.428**						
9253 Web Centric Network Warfare (WECAN)	**SPAWAR**	**5.350**	**5.537**					
9254 Horizontal Integrated Data Environment	**SPAWAR**	**0.964**	**0.988**					
9257 Institute for Systems Test and Productivity	**SPAWAR**	**2.847**						
9258 Navy Predictive Response Center	**NAVSEA**	**3.236**	**3.362**					

R-1 SHOPPING LIST - Item No. 136

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 0605013N Information Technology Development			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
9259 Condition Based Maintenance Enabling Tech	**NAVSEA**	**0.573**	**2.967**	**3.000**				
9404 Defense Systems Testing and Productivity Init	**ONR**		**2.521**					
9405 Fiber Optic Components for Military Applications	**NAVAIR**		**1.682**					
9406 Maintenance Data Warehouse	**NAVAIR**		**2.225**					
9407 On-line Web-based learning Development Prog	**NAVSEA**		**4.203**					
9408 Virtual Perimeter Monitoring System	**NAVSEA**		**1.780**					
9409 Wireless Sensor Technologies	**NAVSEA**		**1.384**					
9445 Secure Interactive Distributive Learning	**SPAWAR**		**1.000**					

R-1 SHOPPING LIST - Item No. 136

CLASSIFICATION:

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 0605013N Information Technology Development

2901 This RDT&E Project supports, in part, Navy Secretariat staff level efforts in the areas of paperless acquisition and information technology, acquisition strategic planning and business management, and other acquisition reform areas such as knowledge management. In 1997, a Deputy Secretary of Defense directive was issued calling for paper-free acquisition processes by 1 January 2000. While the Department of the Navy has made significant strides toward this goal, additional capabilities and continued support are required. Effective, 1 October 2004, the ASN(RD&A) transferred this project to the Program Executive Officer (PEO) for Information Technology (IT).

Increase in FY 2005 in support of DON's "Mid-Range Plan", which was designed to realize OSD's goal of achieving a clean audit of Defense Department financial statements.

NCIS is the Department of Navy component with primary responsibility for law enforcement, counterintelligence, and security policy matters. NCIS has primary investigative and counterintelligence jurisdiction within the DON, and exclusive investigative jurisdiction in non-combat matters involving actual, potential, or suspected terrorism, sabotage, espionage, and subversive activities. Terrorist events in the recent past - including the bombing of the USS Cole and the September 11th attacks on the United States - have necessitated a concerted effort to improve NCIS' ability to fuse, analyze and disseminate terrorist threat information. A 3-month study identified critical deficiencies in the NCIS infrastructure which impact on the organization's ability to support the fleet. Significant weaknesses included an insufficient ability to pull, fuse and disseminate threat data; perform predictive analysis; and reliance on unsuitable equipment essential to mission performance. The study resulted in 11 discrete areas of concern. Specific aspects addressing RDT&E requirements within three of these portfolios (Multiple Threat Alert Center (MTAC), Data Modernization & Analytical Tools, and Threat Planner) are attached in Tab R-2a.

2903 NAVAIR IT - Configuration Management Information System (CMIS) Program is DoD's standard software system for complete and integrated configuration management (CM) of weapon systems from acquisition to disposal. Funding is budgeted to support the services of rehosting and testing of COTS upgrades to ensure objective performance of CMIS is achieved. Naval Aviation Logistics Data Analysis Integrated Data Environment (NALDA IDE) provides a central Navy aviation logistics database and Management Information System (MIS) compliant with Computer Aided Logistics Support (CALS) and Defense Information Infrastructure Common Operating Environment (DIICOE) for making improved decisions affecting aircraft logistics acquisition, readiness, safety, configuration management, and logistics/engineering support for the CNO Air Warfare Division. Funding is budgeted to support the services of system migration from legacy systems into NALDA IDE.

2904 This is not a new start. These funds were moved from O&M,N to RDT&E,N due to Congressional (HAC) direction and subsequent OUSD(C) guidance to adjust Information Technology (IT) budgeting This program includes the funding for Information Technology (IT) support at NAVSEA HQ. This includes modifications/enhancements to IT systems within Headquarters such as Ships Configuration Logistics Support Information Systems (SCLSIS), Command Document Management System (CDMS) and Integrated Class Maintenance Plans (ICMP). The Task Force Web (TFW) is responsible for the development of the infrastructure needed for the Web Enabled Navy. The Web Enabled Navy is currently researching, developing and implementing a overall plan to web technologies to create integrated and transformational information exchange for the Navy. The goal is to better enhance the Navy's capability to perform combat/mission support in a fully mobile, joint environment for both deployable and non-deployable units. Through Web enabling technologies, Navy personnel will have the ability to tailor the information flow and information access to meet their requirements. This funding also supports modification to existing software, hardware changes, contractual program management and technical support to modify/enhance the NAVSEA HQ systems and infrastructure. The NAVSEA HQ network infrastructure architecture requires the development, analysis and testing of IT prototypes, such as Remote Access and Data Management. Also supported is software development and upgrades for IT systems and infrastructure, to include COTS software packages/systems; developmental testing and initial operational test and evaluation required prior to system acceptance/approval.

R-1 SHOPPING LIST - Item No. 136

CLASSIFICATION:

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 0605013N Information Technology Development

2905 This non-acquisition category program provides funds for continued (but less risky) R&D for broader application of advanced technologies to transition successful 6.3 research proof-of-concept demonstrations into operational use. Development of prototype systems to support and/or improve operational requirements of manpower and personnel sponsors is the primary goal of this Engineering Development Program. The 6.5 R&D Program features the use of a broad range of technologies from cognitive science and ability testing techniques, mathematical modeling and optimization, statistical and econometric forecasting, intelligent systems, data visualization, data mining, simulation, decision support systems, and new database and communications configuration.
Electronic Military Personnel Record System (EMPRS) is an electronic document/image based system that serves as the repository for all Department of Navy (DoN) official military personnel record images. It supports retired, active, and reserve military personnel in the functional areas of selection board operations, casualty management, mobilization, and other military personnel management functions. EMPRS supports over 180 statutory and administrative selection boards annually providing over 12 million service record images, covering promotions, assignments, and retention. Additionally, it provides the Navy with the capability to meet the statutory requirement to maintain permanent personnel records for a period of 75 years. After 75 years, Navy permanent records are provided to National Archives and Records Administration and become public records. Current Acquisition Strategy is a two-phased approach to Technology Refresh (TR) EMPRS and achieve Milestone C designation, followed by actions to reengineer the system commencing with Business Process Reengineering (BPR). The TR system, which will achieve Milestone C, will result in the disposal of the legacy system and the beginning of sustainment on the new system. The reengineering system scope will be expanded to include data and image archival to support the N1 Architecture and Single Integrated Human Resource Strategy (SIHRS). EMPRS was authorized to commence TR in March 2003.

2907 COMNAVRESFOR IT: Funding is provided to modernize legacy software programs (e.g., COBOL, FORTRAN, etc.) and flat-file databases with fourth-generation language software and relational database architectures. Web-enabling enhancements for several programs is provided.
JALIS: This system provides an airlift data collection and analysis system for the purpose of airlift and aircraft management. JALIS supports the objectives and strategies presented in the DoD Transportation Corporate Information Management (CIM) Strategic Plan and Enterprise Integration (EI) Implementation Strategy as directed for DoD transportation management responsibilities in the USTRANSCOM Joint transportation CIM Center (JTCC) Abbreviated Integration Decision Paper (IDP) for the JALIS.
NOW: This system will improve order writing capability for Active Duty Special Work (ADSW) recall and Presidential Selective Reserve Call-Up (PSRC) for unified and Fleet CINCSs and speed of Reservist response with timely receipt of orders and travel arrangements. Reserve retention will improve as Reservists can submit their own orders and check its status.
TFMMS: This system is a classified system. It is the Navy's single authoritative source of activity data and military and civilian manpower data including requirements and end strength authorizations.

3026 ERP Convergence - The Navy Converged ERP Program was developed in response to the need to transform Navy business practices as expressed by the Chief of Naval Operation's vision in Sea Power 21 and the OUSD (Comptroller) Business Management Modernization Program (BMMP). The charter of the Navy Converged ERP Program is to merge four existing pilots (SIGMA, SMART, NEMAIS and CABRILLO) into a single system that will be implemented across the Navy enterprise to enable:

- Coherent Fleet focus that will optimize logistics functions between afloat units and shore infrastructure
- Reliable and timely financial and management information for effective decision making,
- End-to-end product management and improved interoperability for standardized processes.

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CLASSIFICATION:

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 0605013N Information Technology Development

3038 The DoN Electronic Business (eBusiness) Operations Office was established on 1 October 2000 to serve as a catalyst for implementing and integrating DON eBusiness efforts, and harnessing emerging uses of electronic business (both from within the whole of government as well as private industry), and making DON processes more efficient and effective. The Office provides a consistent and integrated management approach and facilitates the evolution to future technological solutions, a center of eBusiness innovation for the Navy and Marine Corps. The DON eBusiness Operations Office, as chartered by the Secretary of the Navy, is responsible for acting as the DON center for innovation as well as managing card programs and selected electronic transaction systems.

3054 Navy Web Enabling: This effort supports VCNO initiative of 28 Aug 2000 directing all programs to move rapidly to a web-enabled environment. Web-enabling the Navy applications will allow afloat and ashore users to access the applications from any workstation with a web browser. This provides the foundation for synchronized data replication allowing labor intensive tasks to be moved ashore from ships and expeditionary units.

9046 Maintenance Data Warehouse - The development of the Decision Knowledge Programming for Logistics Analysis and Technical Evaluation (DECKPLATE) program is the next generation data warehouse for aircraft maintenance, flight and usage data.

9088 SPAWAR ITC Enterprise Management: Funding will be used to support enterprise level reengineering, systems migration and web enablement of Manpower and Personnel (M&P) legacy systems. This includes creation and integration into enterprise architectures, and preparing these systems for integration with the Defense Integrated Military Human Resources System (DIMHRS) platform and PeopleSoft architecture. Congressional adds were received in prior years. Program does not require follow-on funding and have no maintenance and sustainment requirements.

9089 Long Distance Learning: The focus of the Workforce Learning Community project is to construct a Career Development System for the government civilian workforce. The Career Development System will provide individualized pathways for government employees to attain upward mobility in selected career paths. Deliverables for the project are an Organizational Assessment, Career Development System, and Job Task Analysis, including pathways to attain common KSTs and job-specific KSTs. Congressional adds were received in prior years. Program does not require follow-on funding and have no maintenance and sustainment requirements.

9090 Total Fleet Support System - This project will provide the Shared Data and Real Time Knowledge Management elements of the Distance Support/Anchor Desk Program. This effort includes funding for Information Technology Development (ITD) support for the Distance Support (DS) integration focused on reducing Fleet support cost. This includes program management and technical support, enhancements and integration of ITD system, software, hardware changes, within the (DS) capabilities. It includes software development and upgrades for ITD systems and software, and COTS software.

9253 Web Centric Network Warfare (WECAN): Congress appropriated funds to provide continued development of Web Centric ASW Net (WECAN). WECAN is a web based software tool for USW/ASW collaborative planning and execution based upon Commercial Off The Shelf (COTS) technologies and products that allows users to discuss immediate and tactical operational concerns such as vulnerability analysis, battle group coordination, and threat discussions.

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: **February 2004**
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9254 Horizontal Integrated Data Environment: HIDE will play a significant role in achieving high efficiency of all stages of system support and installation fielding. Process automation will be achieved by leveraging these technologies.

9257 Institute for Systems Test and Productivity: This RDT&E Project is a continuation of activities of the National Institute for Systems Test and Productivity (NISTP) at the University of South Florida to implement recommendations of a Defense Science Board Task Force focused on improving acquisition of software-intensive systems. The goal is to create a research and development environment, in collaboration with industry and government, to evaluate and improve both systems test, productivity tools and techniques to provide meaningful expert support to Navy systems development projects. Section 804 of the Defense Authorization Act of 2003 called for software best practices to be sought, identified, collected, cataloged and ultimately applied across the armed services. NISTP is working to provide revamped contract incentives for more reliable and predictable software.

9258 Navy Readiness Response Center - Congressional Add funding provided to improve fleet support processes by reducing fleet workload and improving the shore support infrastructure. Specifically these funds will be used to assess Navy toubled systems and develop processes for assisting the fleet in expedient resolution of these systems.

9259 Conditioned Based Maintenance - Congressional Add funding provided to provide research and development efforts for pursuing Condition Based Maintenance (CBM) enabling technologies IAW processes emerging from commercial markets and develop those resources and procedures to transition these CBM enabling technology products into the maintenance and logistic processes and Fleet tools that are under the cognizance of the Navy Distance Support Program.

9404 Defense Systems Testing and Productivity Init

9405 Fiber Optic Components for Military Applications is a Congressional increase. This element includes development of fiber optic technology and associated electro-optic manufacturing technologies for Wavelength Division Multiplexed (WDM) networks.

9406 Maintenance Data Warehouse

9407 On-line Web-based learning Development Prog

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CLASSIFICATION:

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 0605013N Information Technology Development

9408 Virtual Perimeter Monitoring System

9409 Wireless Sensor Technologies - Congressional Add provided for research and development efforts for pursing Wireless Sensor Technology as a Condition Based Maintenance (CBM) enabling technology in support of the Navy Distance Support program. The technology will be developed to meet DOD requirements for encryption of wirelessly transmitted data certified to FIPS 140-2 as well as support joint services interoperability encryption profiles.

9445 Secure Interactive Distributive Learning: To keep pace with fast moving changes in the Navy's techology, eduation and training must be available at more than the traditional classroom setting. This effort enhances current distance learning technology by developing a more realistic setting for education and training. Most distance learning is a one-way stream confined by bandwidth and cost. This R&D effort will bring to the Navy a secure, cost-effective technology for the more realistic "give and take" experiences in the classroom.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA - 5**	PROGRAM ELEMENT NUMBER AND NAME 0605013N Information Technology Development				PROJECT NUMBER AND NAME 2901 AAUSN IT			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**1.462**	**5.125**	**11.833**	**0.000**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

RDT&E Project supports, in part, Navy Secretariat staff level efforts in the areas of paperless acquisition and information technology, acquisition strategic planning and business management, and other acquisition reform areas such as knowledge management. In 1997, a Deputy Secretary of Defense directive was issued calling for paper-free acquisition processes by 1 January 2000. While the Department of the Navy has made significant strides toward this goal, additional capabilities and continued support are required. Effective, 1 October 2003, the ASN(RD&A) transferred this project to the Program Executive Officer (PEO) for Information Technology (IT).

Increase in FY 2005 for ASN(FM&C) Capital Asset Management system in support of DON's "Mid-Range Plan", which was designed to realize OSD's goal of achieving a clean audit of Defense Department financial statements.

The NCIS Modernization Initiative includes 3 projects with RDT&E requirements : Multiple Threat Alert Center (MTAC), Data Modernization & Analytical Tools, and Threat Planner.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N Information Technology Development	2901 AAUSN IT

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		1.462	0.000	0.000
RDT&E Articles Quantity				

Paperless Acquisition
Continuation of the efforts in implementing an electronic end-to-end contracting acquisition process. Specific initiatives include continuing the design and development of the business architecture, continuing the development of the Universal Interface and requirements generation software, and for the design and testing of the electronic invoicing system (Wide Area Work Flow - WAWF).

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.000	0.000	4.971
RDT&E Articles Quantity				

ASN(FM&C) Capital Asset Management System
Begin efforts to achieve by 2007 an unqualified opinion on the Department of the Navy (DON) financial statements. To achieve this objective, the plan: addresses all “known” major financial statement line item deficiencies; combines manual and system leveraged corrective actions including performing internal assessments to resolve the deficiencies; assumes timely completion of DoD wide efforts such as Military Equipment, Defense Travel System, Defense Cash Accountability System, etc…; and estimates costs based on a rough order of magnitude of incremental costs for corrective actions and program support.

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APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N Information Technology Development	2901 AAUSN IT

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.000	0.725	3.018
RDT&E Articles Quantity				

Multiple Threat Alert Center (MTAC):
The Post Cole Secretary of the Navy Antiterrorism/Force Protection Task Force identified the need for NCIS to enhance the Multiple Threat Alert Center (MTAC). The MTAC provides key antiterrorism/force protection products in response to Fleet tasking and is critical to Fleet protection during the current Global War on Terrorism. This project provides funding for the development of an IT system to track the movement of NCIS special agents deployed in advance of DoN in-transit units. The ability to track and communicate with these agents is necessary in order to forward threat data to these forward deployed agents and to task them to respond to emerging threats. Funding is required for equipment and contractor support ito modify COTS software.

FY2004
$400K Contractor systems engineering and software development staff (two man years) for development of “Agent Overwatch” system to track location and communications connectivity with worldwide deployed Special Agents.
$325K Hardware and software for Agent Overwatch capability.

FY2005
$2,088K Agent Overwatch Contract Support. Contractor support is required to provide support contractors for the IT and AV systems in the MTAC as well as hardware /software maintenance agreements.
$777K Agent Overwatch Hardware and Software. The hardware/software support for the MTAC is the maintenance, upgrade and lifecycle management of the computer workstations, network components, and audio/video systems.
$153K Agent Overwatch Training.

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B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.000	4.400	1.200
RDT&E Articles Quantity				

Data Modernization & Analytical Tools:
NCIS data collection, filtering, and analysis infrastructure is unable to handle the increased flow of terrorism investigative and threat reporting of the Post 9/11-Global War on Terrorism era. NCIS must revitalize its infrastructure and its data and investigation management capabilities to effectively counter current terrorist threats. The three main components of this portfolio investment are data modernization, knowledge management, and investigation management.

The FY04 effort is a 100% contractor based requirement to modernize legacy data collection and the integration of that data. Also included are equipment purchases to acquire the necessary storage capacity. Continuation of this contractor support at a reduced level will be required in the outyears to periodically update and enhance systems, as well as equipment improvements. The cost associated with Data Modernization and Analytical Tools include contractor support for the integration of legacy data as well as the integration of commercial-off-the-shelf (COTS) analytical tools/licenses for data analysis, correlation/collaboration, taxonomies/ontologies, evidence extraction, geo-coding of data, and data visualization. Additional hardware for processing and data storage will be required as data is collected and aggregated as well as the deployment of analytical tools. Training support will be required for government analysts and information technology personnel in the operation and maintenance of systems.

FY 2004
$1,117K Contractor Support - Electronic data collection and integration of all-source data from worldwide network of NCIS staff and collection sources.
$1,000K Modernization of legacy data collection and storage systems.
$1,000K Increased fusion and sharing of all-source data (law enforcement, DOD/military).
$770K Implementation of NCIS data storage and access systems for seamless and intuitive worldwide access; predominantly via web systems.
$513K Integrate commercial tools for analytical tasks.

FY2005
$1,200K Contract Support - Electronic data collection and integration of all-source data from worldwide network of NCIS staff and collection sources.

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B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.000	0.000	2.644
RDT&E Articles Quantity				

Threat Planner:
The NCIS Threat Planner is a web-based push/pull intelligence product delivery system designed for use by operational commanders in the fleet. Some unified commands are experimenting with similar capabilities to deliver intelligence and security information. NCIS has also been coordinating with PACOM which is testing the Area Security Operations Command and Control (ASOCC) and Homeland Security Command and Control Systems. The concept of the NCIS Threat Planner was a result of these collaborations and the NCIS Modernization Study.

The cost of the NCIS Threat Planner includes the use of contractors to develop a concept of operations, develop the system architecture and initial operating capability with a limited number of fleet users. Hardware and software costs include the procurement of both production and development servers as well as software licenses for database software, mapping software and other commercial web-based software. Additionally in the first year the development of a training program for Fleet users.

$625K Hardware and Software
$1,748K Contract Support for Design & Implementation
$271K Training

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APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N Information Technology Development	2901 AAUSN IT

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 04 Pres Controls)	1.338	0.950	1.311
Current BES/President's Budget (FY 05 Pres Controls)	1.462	5.125	11.833
Total Adjustments	0.124	4.175	10.522
Summary of Adjustments			
Congressional program reductions			
Congressional undistributed reductions	-0.014		
Congressional rescissions			
SBIR/STTR Transfer	-0.035		
Economic Assumtions	-0.014		-0.029
Reprogrammings	0.187	5.125	11.862
Functional Transfer (Paperless to PEO IT)		-0.950	-1.311
Subtotal	0.124	4.175	10.522

Schedule:

Not Applicable.

Technical:

Not Applicable.

CLASSIFICATION:

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RDT&E, N / BA-5	0605013N Information Technology Development	2901 AAUSN IT

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
OMN 4A1M	0	0	113.641	0	0	0	0	113.641	113.641
OMN 4B3N	7.883	0	0	0	0	0	0	7.883	7.883
OMN 4C0P	0	0	6.251	5.6	7.3	5.9	6.6	31.651	31.651
OPN 810600	0	0	0.775	4.136	5.867	4.522	5.262	20.562	20.562

E. ACQUISITION STRATEGY:

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0605013N - Navy IT Dev/Mod				PROJECT NUMBER AND NAME 2903 - NAVAIR IT			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**2.339**	**2.267**	**2.302**	**2.332**	**2.393**	**2.438**	**2.484**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The **Configuration Management Information System (CMIS) Program** is DoD's standard software system for complete and integrated configuration management (CM) of weapon systems from acquisition to disposal. CMIS efficiently manages all product structure data, including complex interrelationship between assemblies and subassemblies, technical documentation and the parts that comprise the item. CMIS is designed to manage and control configuration data to support the DoD business processes. Accurate, complete and accessible configuration data is critical to the successful operations of DoD weapon systems or tracked assets. Mission readiness, and operational capabilities are enhanced by CMIS, as instant consistent integrated configuration data is readily available to operators, maintainers and logistics personnel. This system is a CM tool available DoD wide to support all potential customers. CMIS provides users with a common database infrastructure to ensure compatibility, quality, and consistency of CM processes and provides configuration managers and analysts the validated CM information necessary for accurate maintenance, spare procurements, reliability and safety analysis, and mission readiness. Funding is budgeted to support the services of rehosting and testing of COTS upgrades to ensure objective performance of CMIS is achieved.

Naval Aviation Logistics Data Analysis Integrated Data Environment (NALDA IDE) provides a central Navy aviation logistics database and Management Information System (MIS) compliant with Computer Aided Logistics Support (CALS) and Defense Information Infrastructure Common Operating Environment (DII COE) for making improved decisions affecting aircraft logistics acquisition, readiness, safety, configuration management, and logistics/engineering support for the CNO Air Warfare Division. The Office of the Secretary of Defense (OSD) has certified NALDA as the central Naval Aviation upline Integrated Logistics Support (ILS) data system. NALDA currently provides users with critically needed data access and analysis of maintenance, operations, safety, supportability, and readiness information. Funding is budgeted to support the services of system migration from legacy systems into NALDA IDE, and for development of the NALDA IDE data warehouse.

CLASSIFICATION:

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APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N - Navy IT Dev/Mod	2903 - NAVAIR IT

(U) B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		2.330	2.267	2.302
RDT&E Articles Quantity				

Re-baseline CMIS Software to upgrade to latest version of Oracle, incorporate development efforts associated with COTS obsolescence, and evolve an open standard interface to other systems.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.009	0.000	0.000
RDT&E Articles Quantity				

Migration and testing of legacy configuration management systems into the DoD Configuration Management Information System (CMIS) under Naval Aviation Logistics Data Analysis Integrated Data Environment (NALDA IDE) data warehouse development.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.000	0.000	0.000
RDT&E Articles Quantity				

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APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N - Navy IT Dev/Mod	2903 - NAVAIR IT

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 04 Pres Controls)	2.423	2.292	2.304
Current BES/President's Budget (FY 05 Pres Controls)	2.339	2.267	2.302
Total Adjustments	-0.084	-0.025	-0.002
Summary of Adjustments			
Congressional program reductions			
Congressional undistributed reductions		-0.025	
Congressional rescissions			
SBIR/STTR Transfer	-0.052		
Economic Assumptions			-0.002
Reprogrammings			
Reprioritization	-0.032		
Congressional increases			
Subtotal	-0.084	-0.025	-0.002

(U) Schedule:

(U) Technical:

Not Applicable.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0605013N - Navy IT Dev/Mod	PROJECT NUMBER AND NAME 2903 - NAVAIR IT

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost

Not Applicable.

(U) E. ACQUISITION STRATEGY:

The CMIS Program used Joint Logistics Systems Center (JLSC) funds to evolve CMIS to Software Release 5.0. At this point, in June 1998 CMIS was transferred to the Navy as executive agent and NAVAIR as program manager. Program Budget Decision 401 transferred joint funding from JLSC to NAVAIR to continue evolving CMIS. The CMIS Program Manager continues to evolve the program to keep pace with cost, Military Standards, and evolvoing commercial standards. Various contractors using competitively awarded contracts have supported the program. Currently, Intergraph Corporation is the CMIS integration contractor selected through a competitively awarded IDIQ contract.

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0605013N - Navy IT Dev/Mod			PROJECT NUMBER AND NAME 2903 - NAVAIR IT							
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
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Software Development (NALDA)	C/CPAF	LockheedMartin,Manassas,VA	2.303								2.303	2.303
Award Fee (6%) (NALDA)	C/CPAF	LockheedMartin,Manassas,VA	0.147								0.147	0.147
Software Development (CMIS)	C/CPAF	TeamQualtec, California, MD	0.415								0.415	0.415
Award Fee (6%) (CMIS)	C/CPAF	TeamQualtec, California, MD	0.024								0.024	0.024
Software Development (CMIS)	MIPR		0.155								0.155	
Software Development (CMIS)	WX		0.050								0.050	
Software Development (NALDA)	C/ID/IQ	Intergraph, Huntsville AL		0.009	11/02						0.009	0.009
Software Development (CMIS)	C/ID/IQ	Intergraph, Huntsville AL	1.633	1.756	11/02	1.699	11/03	1.694	11/04		6.782	6.782
Subtotal Support			4.727	1.765		1.699		1.694			9.885	
Remarks: Funding will be used for rehosting and testing of COTS upgrades to ensure objective performance of the CMIS system is achieved and testing of system migration from legacy configuration management systems into DoD CMIS.												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0605013N - Navy IT Dev/Mod			PROJECT NUMBER AND NAME 2903 - NAVAIR IT							
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
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Program Mgmt Support (NALDA)	WX		0.017								0.017	
Program Mgmt Support (CMIS)	WX		0.598	0.574	11/02	0.568	11/03	0.608	11/04	Continuing	Continuing	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Management			0.615	0.574		0.568		0.608		Continuing	Continuing	
Remarks:												
Total Cost			5.342	2.339		2.267		2.302		Continuing	Continuing	
Remarks:												

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0605013N NAVY INFO TECH DEV/MOD				PROJECT NUMBER AND NAME 2904/9090/9258/9259/9409 NAVSEA IT DEV/MOD PROJECT			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**9.369**	**9.690**	**3.000**	**0.000**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

S2904 This is not a new start. These funds were moved from O&M,N to RDT&E,N due to Congressional (HAC) direction and subsequent OUSD(C) guidance to adjust Information Technology (IT) budgeting This program includes the funding for Information Technology (IT) support at NAVSEA HQ. This includes modifications/enhancements to IT systems within Headquarters such as Ships Configuration Logistics Support Information Systems (SCLSIS), Command Document Management System (CDMS) and Integrated Class Maintenance Plans (ICMP). The Task Force Web (TFW) is responsible for the development of the infrastructure needed for the Web Enabled Navy. The Web Enabled Navy is currently researching, developing and implementing a overall plan to web technologies to create integrated and transformational information exchange for the Navy. The goal is to better enhance the Navy's capability to perform combat/mission support in a fully mobile, joint environment for both deployable and non-deployable units. Through Web enabling technologies, Navy personnel will have the ability to tailor the information flow and information access to meet their requirements. This funding also supports modification to existing software, hardware changes, contractual program management and technical support to modify/enhance the NAVSEA HQ systems and infrastructure. The NAVSEA HQ network infrastructure architecture requires the development, analysis and testing of IT prototypes, such as Remote Access and Data Management. Also supported is software development and upgrades for IT systems and infrastructure, to include COTS software packages/systems; developmental testing and initial operational test and evaluation required prior to system acceptance/approval.

S9090 Total Fleet Support System - This project will provide the Shared Data and Real Time Knowledge Management elements of the Distance Support/Anchor Desk Program. This effort includes funding for Information Technology Development (ITD) support for the Distance Support (DS) integration focused on reducing Fleet support cost. This includes program management and technical support, enhancements and integration of ITD system, software, hardware changes, within the (DS) capabilities. It includes software development and upgrades for ITD systems and software, and COTS software.

S9258 Navy Readiness Response Center - Congressional Add funding provided to improve fleet support processes by reducing fleet workload and improving the shore support infrastructure. Specifically these funds will be used to assess Navy toubled systems and develop processes for assisting the fleet in expedient resolution of these systems.

S9259 Conditioned Based Maintenance - Congressional Add funding provided to provide research and development efforts for pursuing Condition Based Maintenance (CBM) enabling technologies IAW processes emerging from commercial markets and develop those resources and procedures to transition these CBM enabling technology products into the maintenance and logistic processes and Fleet tools that are under the cognizance of the Navy Distance Support Program.

S9409 Wireless Sensor Technologies - Congressional Add provided for research and development efforts for pursing Wireless Sensor Technology as a Condition Based Maintenance (CBM) enabling technology in support of the Navy Distance Support program. The technology will be developed to meet DOD requirements for encryption of wirelessly transmitted data certified to FIPS 140-2 as well as support joint services interoperability encryption profiles.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N NAVY INFO TECH DEV/MOD	2904 NAVSEA IT DEV/MOD PROJECT

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		1.353	0.440	0.000
RDT&E Articles Quantity				

Miscellaneous Technical Support - Infrastructure Enhancement

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.105	0.040	0.000
RDT&E Articles Quantity				

Integration Class Maintenance Plans (ICMP)

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.211	0.100	0.000
RDT&E Articles Quantity				

Ships Configuration Logistics Support Information Systems (SCLSIS)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N NAVY INFO TECH DEV/MOD	2904 NAVSEA IT DEV/MOD PROJECT

B. Accomplishments/Planned Program (Cont.)

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.470	0.383	0.000
RDT&E Articles Quantity				

Command Document Management Systems (CDMS)

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.459	0.808	0.000
RDT&E Articles Quantity				

Task Force Web

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.534	0.206	0.000
RDT&E Articles Quantity				

Various Software Development/Upgrades and Fleet Support System

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N NAVY INFO TECH DEV/MOD	2904 NAVSEA IT DEV/MOD

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 04 Pres Controls)	11.018	7.316	4.187
Current BES/President's Budget (FY 05 Pres Controls)	9.369	9.690	3.000
Total Adjustments	-1.649	2.374	-1.187
Summary of Adjustments			
Issue 67534		-2.316	
Issue 68849	-1.300		
Issue 68525		1.400	
Issue 68525		3.400	
Elimination of NAVSEA IT/LAN Support			-4.187
Various Minor Adjustments/BPR/etc.	-0.349	-0.110	
Congressional Plus-up			3.000
	-1.649	2.374	-1.187

Schedule:

Not Applicable

Technical:

Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **Febryary 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N NAVY INFO TECH DEV/MOD	2904 NAVSEA IT DEV/MOD

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
N/A										

E. ACQUISITION STRATEGY:

N/A

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT NUMBER AND NAME 0605013N NAVY INFO TECH DEV/MOD				PROJECT NUMBER AND NAME 2904 NAVSEA IT DEV/MOD						
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	Various	Various		0.237		0.030		0.000		Continuing	Continuing	
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	0.237		0.030		0.000		0.000	0.267	

Remarks:

"Various" is being used in the Contract Method &Type, plus Performing Activity & Location, because of numerous project initiations and implementations.

Development Support											0.000	
Software Development	Various	Various		0.329		0.167		0.000		Continuing	Continuing	
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	0.329		0.167		0.000		0.000	0.496	

Remarks:

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT NUMBER AND NAME 0605013N NAVY INFO TECH DEV/MOD				PROJECT NUMBER AND NAME 2904 NAVSEA IT DEV/MOD						
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	Various	Various		0.707		0.549		0.000		Continuing	Continuing	
Operational Test & Evaluation				0.213		0.020		0.000		Continuing	Continuing	
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	0.920		0.569		0.000		0.000	1.489	
Remarks:												
Contractor Engineering Support	C/FP	Various		0.738		0.682		0.000		Continuing	Continuing	
Government Engineering Support											0.000	
Program Management Support	C/FP	Various		0.908		0.529		0.000		Continuing	Continuing	
Travel											0.000	
Labor (Research Personnel)											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	1.646		1.211		0.000		0.000	2.857	
Remarks:												
Total Cost			0.000	3.132		1.977		0.000		0.000	5.109	
Remarks:												

R-1 SHOPPING LIST - Item No. 136

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **January 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0605013N Navy Info Tech Dev/Mod				PROJECT NUMBER AND NAME L2905 EMPRS			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**13.185**	**6.900**	**0.873**	**0.000**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Electronic Military Personnel Record System (EMPRS) is an electronic document/image based system that serves as the repository for all Department of Navy (DoN) official military personnel record images. It supports retired, active, and reserve military personnel in the functional areas of selection board operations, casualty management, mobilization, and other military personnel management functions. EMPRS supports over 180 statutory and administrative selection boards annually providing over 12 million service record images, covering promotions, assignments, and retention. Additionally, it provides the Navy with the capability to meet the statutory requirement to maintain permanent personnel records for a period of 75 years. After 75 years, Navy permanent records are provided to National Archives and Records Administration and become public records. Current Acquisition Strategy is a two-phased approach to Technology Refresh (TR) EMPRS and achieve Milestone C designation, followed by actions to reengineer the system commencing with Business Process Reengineering (BPR). The TR system, which will achieve Milestone C, will result in the disposal of the legacy system and the beginning of sustainment on the new system. The reengineering system scope will be expanded to include data and image archival to support the N1 Architecture and Single Integrated Human Resource Strategy (SIHRS). EMPRS was authorized to commence TR in March 2003.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **January 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N Navy Info Tech Dev/Mod	L2905 EMPRS

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		13.185	6.900	0.873
RDT&E Articles Quantity				

(U) **1. FY 2003 Accomplishments ($13,185K):**

($2,023K) Stabilization of Legacy System. Program Management Office and development contract services to support stabilization of current system, development of software and hardware system interface between EMPRS and OSD activities.

($11,162K) Tech Refresh - Program Management Office, development contract services, and hardware/software to support Tech Refresh strategy.

2. FY 2004 PLAN ($6,900K):

($1,800K) Stabilization of Legacy System. Program Management Office and development contract services to support stabilization of current system, development of software and hardware system interface between EMPRS and OSD activities.

($5,100K) Tech Refreshment - Development support and system upgrade for the Navy's centralized Selection Board/Decision Support System. Critical mission support component of the EMPRS Tech Refresh project.

3. FY 2005 PLAN ($873K):

($873) Tech Refreshment - System Development and Demonstration. Program Management Office and development contract services to support acquisition and systems engineering processes (R&D, business design, development, testing, programming, and documentation).

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **January 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N Navy Info Tech Dev/Mod	L2905 EMPRS

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 04 Pres Controls)	12.996	9.561	8.214
Current BES/President's Budget (FY 05 Pres Controls)	13.185	6.900	0.873
Total Adjustments	0.189	-2.661	-7.341
Summary of Adjustments			
15028 EMPRS			-1.695
15062 N1 Technical Adjustment			-0.250
65849 DIMHRS/EMPRS Swap		-2.567	-2.855
66499 FY 03 BTR	0.269		
67527 Unjustified EMPRS RDTE			-1.291
67689 Manpower (OccLine 25.1)			-0.125
67949 Technical Realignment			-1.123
68041 - Management Improvements		-0.022	
68066 - Efficiencies/Revised Econ. Assumptions		-0.072	
68849 FY 2003 Update	-0.080		
69492 PBD-604 Inflation			-0.002
Subtotal	0.189	-2.661	-7.341

Schedule: Not Applicable

Technical: Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **January 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N Navy Info Tech Dev/Mod	L2905 EMPRS

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	To Complete	Total Cost
	O&MN	10.591	10.079	10.592	6.388	6.542	11.643	11.530	11.530	N/A	78.895
	OPN	6.664	1.278	0.000	0.000	0.000	0.000	6.790	6.098	N/A	20.830

E. ACQUISITION STRATEGY:

The requirements imposed by the Department of Defense (DoD) Acquisition Management Framework guidelines and EMPRS Key Performance Parameters (KPPs) have not been satisfied to enable EMPRS to move to Acquisition Milestone C. Present EMPRS technology, both software and hardware, does not meet requirements for information assurance, system availability, reliability, interoperability, and maintainability. The EMPRS single step acquisition plan includes a Technology Refreshment (TR) of the current system using Commercial Off The Shelf (COTS) technology that will correct known deficiencies and enable EMPRS to move to Milestone C. The proposed TR project will also bring EMPRS in compliance with current directives and will support the Deputy Chief of Naval Operations, Manpower and Personnel (N1) Single Integrated Human Resources Strategy (SIHRS), and make it forward compatible with the Navy Marine Corps Intranet (NMCI) architecture. The technology refreshment will provide an integrated document storage and records management solution with system failover capability. EMPRS was authorized to commence TR in March 2003.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT NUMBER AND NAME 0605013N Navy Info Tech Dev/Mod					PROJECT NUMBER AND NAME L2905 EMPRS				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total Prior Yr 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	T&M	GSA Contractor/NPC Millington		8.386							8.386	8.386
Ancillary Hardware Development											0.000	
Component Development											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	T&M	GSA Contractor/NPC Millington		1.440		0.765	1-Oct-03	0.742	1-Oct-04		2.947	2.947
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development				9.826		0.765		0.742		0.000	11.333	
Development Support	T&M	IBM Contractor (FISC)				5.006	1-Oct-03				5.006	5.006
Software Development	T&M	GSA Contractor/NPC Millington		1.920				0.131	1-Oct-04		2.051	2.051
Training Development											0.000	
Integrated Logistics Support	T&M	GSA Contractor/NPC Millington		0.720		0.564	1-Oct-03				1.284	1.284
Configuration Management	T&M	GSA Contractor/NPC Millington		0.719		0.565	1-Oct-03				1.284	1.284
Technical Data											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support				3.359		6.135		0.131		0.000	9.625	

Remarks: EMPRS was authorized to commence TR in March 2003.

R-1 SHOPPING LIST - Item No. 136

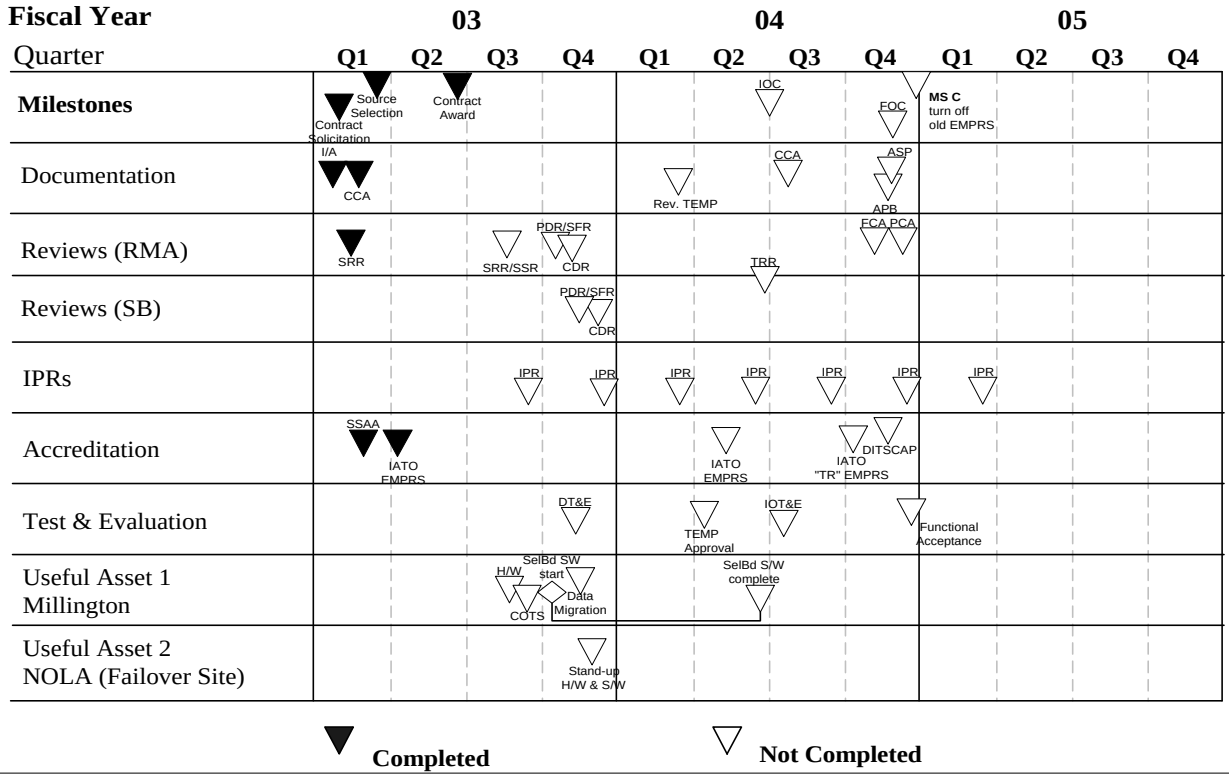
CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0605013N Navy Info Tech Dev/Mod						PROJECT NUMBER AND NAME L2905 EMPRS				
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	Various	Various									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											0.000	
Program Management Support											0.000	
Travel											0.000	
Labor (Research Personnel)											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			0.000	13.185		6.900		0.873		0.000	20.958	
Remarks:												

R-1 SHOPPING LIST - Item No. 136

CLASSIFICATION:

EXHIBIT R4, Schedule Profile		DATE: January 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N Navy Info Tech Dev/Mod	L2905 EMPRS



ACRONYM LISTING	
APB	Acquisition Program Baseline
ASP	Acquisition Strategy Plan
CCA	Clinger-Cohen Act
CDR	Critical Design Review
COTS	Commercial of the Shelf
DITSCAP	DoD Information Technology Security Certification and Accreditation Process
DT&E	Development, Test & Evaluation
FCA	Functional Configuration Audit
FOC	Full Operational Capability
I/A	Information Assurance
IATO	Interim Authority to Operate
IOC	Initial Operational Capability
IOT&E	Initial Operational Test & Evaluation
IPR	Interim Progress Review
MS C	Milestone C
PCA	Physical Configuration Audit
PDR	Preliminary Design Review
SAMP	Single Acquisition Management Plan
SelBD	Selection Board
SFR	System Functional Review
SRR	System Requirement Review
SSAA	System Security Authorization Agreement
SSR	Software Specification Review
TEMP	Test & Evaluation Master Plan
TRR	Test Readiness Review

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **January 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E BA-5**	PROGRAM ELEMENT 0605013N Navy Info Tech Dev/Mod				PROJECT NUMBER AND NAME L2905 EMPRS			
Schedule Profile	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	
Acquisition Program Baseline		4Q						
Clinger-Cohen Act	1Q	3Q						
Critical Design Review	4Q							
Commercial Off The Shelf	2Q-3Q							
Contract Awards	2Q							
Contract Source Selection	1Q							
Data Migration	4Q	3Q-4Q						
DoD Information Technology Security Certification and Accreditation Process		4Q						
Development, Test & Evaluation	4Q							
Functional Configuration Audit		4Q						
Full Operational Capability		4Q						
Information Assurance	1Q							
Interim Authority to Operate (Old EMPRS)	2Q	2Q						
Interim Authority to Operate (New EMPRS)		4Q						
Initial Operational Capability		3Q-4Q						
Initial Operational Test & Evaluation		2Q-3Q						
Interim Progress Review	3Q-4Q	1Q-4Q	1Q					
Milestone C		4Q						
Physical Configuration Audit		4Q						
Preliminary Design Review	4Q							
Selection Board Software	4Q	1Q-2Q						
System Functional Review	4Q							
System Requirement Review	3Q							
System Security Authorization Agreement	1Q	4Q						
Software Specification Review	3Q							
Test & Evaluation Master Plan		2Q						
Test Readiness Review		2Q						
Turn-off old EMPRS		4Q						

R-1 SHOPPING LIST - Item No. 136

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0605013N Navy Info Tech Dev/Mod			PROJECT NUMBER AND NAME L1822/Manpower, Presonnel, Training, Simulation, and Human Factors				
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**0.000**	**1.500** *	**0.024** *	**0.005** *	**0.004** *	**0.004** *	**0.004** *
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This non-acquisition category program provides funds for continued (but less risky) R&D for broader application of advanced technologies to transition successful 6.3 research proof-of-concept demonstrations into operational use. Development of prototype systems to support and/or improve operational requirements of manpower and personnel sponsors is the primary goal of this Engineering Development Program. The 6.5 R&D Program features the use of a broad range of technologies from cognitive science and ability testing techniques, mathematical modeling and optimization, statistical and econometric forecasting, intelligent systems, data visualization, data mining, simulation, decision support systems, and new database and communications configuration.

* L1822 is included as part of the L2905 Budget Control

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA 5	0605013N Navy Info Tech Dev/Mod	L1822/Manpower, Presonnel, Training, Simulation, and Human Factors

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.000	0.500	0.000
RDT&E Articles Quantity				

ARGUS Query system development.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.000	0.200	0.024
RDT&E Articles Quantity				

Continue 6.5 R&D transitioning of the Strength Planning and Budget System Integration (STP/BSI) project. Complete strength modeling and computer based training for enlisted strength planners. Develop ability to retrieve data from PERSMART. Complete prototype development of the models for the Strength Planning and Budget System Integration (STP/BSI) project and implement system enhancements, as required.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.000	0.150	0.000
RDT&E Articles Quantity				

Continue development of URL Officer Career Path Simulation prototype model. Implement Data Collection Plan for model use. Extend application of the model to Aviator Community. Develop input and output reporting requirements and analyze data for full implementation. Map Submarine and Fleet Support Officer Career Milestones in preparation of extending model application to these communities in FY 2005.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA 5	0605013N Navy Info Tech Dev/Mod	L1822/Manpower, Presonnel, Training, Simulation, and Human Factors

B. Accomplishments/Planned Program (Cont.)

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.000	0.190	0.000
RDT&E Articles Quantity				

Continue 6.5 R&D transitioning to operational use of Comprehensive Officer Force Management Environment models/system (CHROME). Compare Strength Planner and Officer Community Manager forecasts and actual data. Develop capability to allocate officer accessions within the model platform. Develop capability to plan officer promotions within model platform. Develop capability to predict out-year officer strength losses. Develop capability to account for external variables that influence changes to the officer force. Incorporate pay-grade changes that occur with actual losses and add graphical output.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.000	0.150	0.000
RDT&E Articles Quantity				

Continue 6.5 R&D transitioning to operational use of Models of Navy Compensation and Personnel Behavior (MODCOMP).

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.000	0.050	0.000
RDT&E Articles Quantity				

Begin 6.5 R&D transitioning of Training Continuum and Readiness Modeling (TCARM) system to operational use by developing a prototype that supports N13, NPC-4, and NETC training quota control and personnel management of assignment/reassignment actions involving en-route training. Capitalize on prior 6.3 R&D proof of concept modeling efforts.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA 5	0605013N Navy Info Tech Dev/Mod	L1822/Manpower, Presonnel, Training, Simulation, and Human Factors

B. Accomplishments/Planned Program (Cont.)

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.000	0.100	0.000
RDT&E Articles Quantity				

Begin 6.5 R&D transitioning to operational use of Rating Identification Engine (RIDE). Demonstrate Skill-Job Matching Algorithm known as RIDE; a broad spectrum assignment algorithm that optimally assigns individuals to jobs, increasing job options for recruits while reducing training attrition, increasing first-pass A-school success, and maximizing average school and job performance.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.000	0.160	0.000
RDT&E Articles Quantity				

Complete STEAR (Skill Assessment, Training, Evaluation, and Assistance for Recruiters) project. Produce guidelines to the sponsor for instituting final version of RAB.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.000	0.000	0.000
RDT&E Articles Quantity				

R-1 SHOPPING LIST - Item No. 136

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N Navy Info Tech Dev/Mod	L1822/Manpower, Presonnel, Training, Simulation, and Human Factors

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 04 Pres Controls)	0.000	1.500	0.000
Current BES/President's Budget (FY 05 Pres Controls)	0.000	1.500	0.024
Total Adjustments	0.000	0.000	0.024
Summary of Adjustments			
69533 PBD 606 FY2004 Pay Raise			0.081
69534 PBD 606 FY2004 Pay Raise			-0.050
69632 Change FY05 Pay Raise from 1			
69707 FY05 ITR RDTEN Balancing			-0.006
69707 FY05 ITR RDTEN Balancing			-0.001
Subtotal	0.000	0.000	0.024

Schedule:

Not Applicable

Technical:

Not Applicable.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N Navy Info Tech Dev/Mod	L1822/Manpower, Presonnel, Training, Simulation, and Human Factors

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost

(U) PE 0601152N, In-House Independent Lab Research
(U) PE 0601153N, Defense Research Sciences
(U) PE 0602233N, Mission Support Technology
(U) PE 0602722A, Personnel and Training
(U) PE 0603707N, Manpower, Personnel and Training Advanced Technology Development
(U) PE 0603731A, Manpower and Personnel
(U) PE 0603704F, Manpower and Personnel Systems Technology

E. ACQUISITION STRATEGY:

Not Applicable.

R-1 SHOPPING LIST - Item No. 136

EXHIBIT R-2a, RDT&E Project Justification					DATE: February 2004			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0605013N Navy Information Technology Dev/Mod				PROJECT NUMBER AND NAME 2907 COMNAVRESFOR IT			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**4.400**	**2.195**	**1.710**	**1.749**	**1.727**	**1.763**	**1.799**
RDT&E Articles Qty Not applicble								

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

Funding is provided to modernize legacy software programs (e.g., COBOL, FORTRAN, etc.) and flat-file databases with fourth-generation language software and relational database architectures. Web-enabling enhancements for several programs is provided.
JALIS: This system provides an airlift data collection and analysis system for the purpose of airlift and aircraft management. JALIS supports the objectives and strategies presented in the DoD Transportation Corporate Information Management (CIM) Strategic Plan and Enterprise Integration (EI) Implementation Strategy as directed for DoD transportation management responsibilities in the USTRANSCOM Joint transportation CIM Center (JTCC) Abbreviated Integration Decision Paper (IDP) for the JALIS.
NOW: The New Order Writing (NOW) system will integrate order writing to reduce redundancy and eliminate discrepancies, with the potential for interfaces with systems within the Department of Navy (DoN) and the Department of Defense (DoD). NOW will replace the Reserve Financial Management System (RESFMS), Reserve Integrated Management System (Order Writing Module) (RIMS(OM)), and the Inactive Duty Training Travel (IDTT). The system will interfac with the Defense Travel System (DTS), Reserve Headquarter System (RHS), Reserve Integrated Management System (Financial Management (RIMS(FM)) and Travel Systems. The system wil provide SELRES with timely receipt of orders and travel arrangements. Reserve retention will improve as Reservists can submit their own orders and check its status.
TFMMS: This system is a classified system. It is the Navy's single authoritative source of activity data and military and civilian manpower data including requirements and end strength authorizations.

AAUSN IT: This RDT&E Project supports, in part, Navy Secretariat staff level efforts in the areas of paperless acquisition and information technology, acquisition strategic planning and business management, and other acquisition reform areas such as knowledge management. In 1997, a Deputy Secretary of Defense directive was issued calling for paper-free acquisition processes by 1 January 2000. While the Department of the Navy has made significant strides toward this goal, additional capabilities and continued support are required. AAUSN IT functional transferred into 62907 in FY-04.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N Navy Information Technology Dev/Mod	2907 COMNAVRESFOR IT

(U) B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		**4.400**	**2.195**	**1.710**
RDT&E Articles Quantity				

FY 2003 ACCOMPLISHMENTS:
JALIS: Continued development of a Web-enabled application for airlift data collection and analysis system. Development and operational testing began.
NOW: Completed development and testing of a new order writing system.
TFMMS: Developed short-and-long term computer models that will forecast Navy military and civian manpower requirements while balancing fleet manning needs.

FY 2004 PLANS:
JALIS: Business process re-engineering incorporation into new software development.
TFMMS: Continue to develp short-and-long term computer models that will forecast Navy military and civilian manpower requirements while balancing fleet manning needs.

FY 2005 PLANS:
JALIS: Continue software development. Development and operational testing will commence.

FY 2004 - 2005 PLANS:
AAUSN IT: Continue Assistant Secretary of the Navy Research, Development & Acquisition (ASN(RD&A) staff acquisition and business management improvements. This includes continuing the development of the business architecture for the Universal Interface integration of DoN financial and requirements systems to one another and to Standard Procurement System (SPS, the DoD mandated contract writing software), and for Purchase Request (PR) Builder interfaces/iteractive development and WAWF.

AAUSN IT functional transferred into 62907 in FY-04.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N Navy Information Technology Dev/Mod	2907 COMNAVRESFOR IT

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:	3.981	1.319	1.337
Current BES/President's Budget	4.400	2.195	1.710
Total Adjustments	0.419	0.876	0.373
Summary of Adjustments			
Section 8094: Management Improvements		-0.006	
Sec. 8126: Efficiencies/Revised Econ. Assumptions		-0.019	
NMCI NOIS Support	0.419		
N1 Realignment of TFMMS Funds			-0.938
Functional Transfer AAUSN IT into PE - September 2003		0.901	1.311
Subtotal	0.419	0.876	0.373

(U) Schedule:

Not Applicable.

(U) Technical:

Not Applicable.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N Navy Information Technology Dev/Mod	2907 COMNAVRESFOR IT

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
JALIS	0.405	0.419	0.406	0.443	0.419	0.427	0.436	Continuing	Continuing
NOW	1.85	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
TFMMS	1.726	0.900	0.000	0.000	0.000	0.000	0.000	N1 Realignment FY05 and out	
AAUSN IT		0.876	1.304	1.306	1.308	1.336	1.363	Continuing	Continuing
NOIS	0.419								

(U) E. ACQUISITION STRATEGY:

Not Applicable.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0605013N Navy Information Technology Dev/Mod			PROJECT NUMBER AND NAME 2907 SPAWAR IT						
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											0.000	
Ancillary Hardware Development	GSA					0.193	10/03	0.250	10/04	1.014	1.457	
Component Development	GSA	Bearing Point, ARL, VA				0.231	10/03	0.300	10/04	2.311	2.842	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	GSA	Bearing Point, ARL., VA				0.356	10/03	0.542	10/04	1.105	2.003	
Training Development			0.040			0.008	10/03	0.008	10/04	0.035	0.091	
Licenses			0.050								0.050	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			0.090	0.000		0.788		1.100		4.465	6.443	
Remarks:												
Development Support	FFP/C	Various	0.416	0.300	10/02	0.218	10/03	0.204	10/04	0.896	2.034	
Software Development	FFP/C	Various	4.400	3.784	10/02	1.007	10/03	0.079	10/04	0.742	10.012	
Integrated Logistics Support			0.088	0.065	10/02						0.153	
Configuration Management	CPFF/C	Various	0.013			0.004	10/03	0.004	10/04	0.017	0.038	
Technical Data											0.000	
Studies & Analyses			0.018								0.018	
GFE											0.000	
Award Fees			0.141								0.141	
Subtotal Support			5.076	4.149		1.229		0.287		1.655	12.396	
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0605013N Navy Information Technology Dev/Mod				PROJECT NUMBER AND NAME 2907 SPAWAR IT						
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	FFP	PWC Consulting, Fairfax, VA	0.079	0.136	10/02	0.170	10/03	0.288	10/04	0.892	1.565	
Operational Test & Evaluation			0.031	0.026	10/02			0.027			0.084	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.110	0.162		0.170		0.315		0.892	1.649	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support				0.081	10/02						0.081	
Travel		Various	0.005	0.008	10/02	0.008	10/03	0.008	10/04	0.035	0.064	
Transportation											0.000	
											0.000	
Subtotal Management			0.005	0.089		0.008		0.008		0.035	0.145	
Remarks:												
Total Cost			5.281	4.400		2.195		1.710		7.047	20.633	
Remarks:												

R-1 SHOPPING LIST - Item No. 136

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																																
																															DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**									PROGRAM ELEMENT NUMBER AND NAME 0605013N Navy Information Technology Dev/Mod														PROJECT NUMBER AND NAME 2907 SPAWAR IT											
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		BLD A PR		BLD A IOC				BLD B OTRR/ MS C/ FOC																									
Prototype Phase						BLD B																										
Build A Software Development	X	X	X																													
Build B Software Development				X	X	X	X	X																								
Software Build A Delivery Build B Delivery		X	X	X			X	X																								
Test & Evaluation Milestones Build A Software Build B Software		X	X	X			X	X																								
Requirements Analysis													X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Software Development								X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Developmental Testing														X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Integration Testing												X		X					X					X					X			
User Acceptance Testing															X	X				X	X				X	X				X	X	
Implementation																	X					X					X					X

R-1 SHOPPING LIST - Item No. 136

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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT 0605013N Navy Information Technology Dev/Mod				PROJECT NUMBER AND NAME 2907 SPAWAR IT			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Integration Testing					Q3	Q4		Q1
IOC				Q3	Q4		Q1	Q2
FOC					Q1	Q2	Q3	Q4
Integration Testing			Q4	Q2	Q3	Q4		Q1
IOC				Q3	Q4		Q1	Q2
FOC					Q1	Q2	Q3	Q4
Milestones (Bld A IOC)	Q4							
Milestones (BldB OTRR/Ms C / FOF)		Q4						
Bld A SW Development	Q1 - Q3							
Bld B SW Development	Q4	Q1 - Q4						
Test and Eval (Bld A)	Q2 - Q4							
Test and Eval (Bld B)		Q3 - Q4						

R-1 SHOPPING LIST - Item No. 136

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0605013N - Navy IT Dev/Mod				PROJECT NUMBER AND NAME 3026 - ERP Convergence			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost				**82.945**	**31.536**	**10.135**	**24.708**	**37.481**
RDT&E Articles Qty Not applicable								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Converged ERP - The Navy Converged ERP Program was developed in response to the need to transform Navy business practices as expressed by the Chief of Naval Operation's vision in Sea Power 21 and the OUSD (Comptroller) Business Management Modernization Program (BMMP). The charter of the Navy Converged ERP Program is to merge four existing pilots (SIGMA, SMART, NEMAIS and CABRILLO) into a single system that will be implemented across the Navy enterprise to enable:

- Coherent Fleet focus that will optimize logistics functions between afloat units and shore infrastructure
- Reliable and timely financial and management information for effective decision making,
- End-to-end product management and improved interoperability for standardized processes.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N - Navy IT Dev/Mod	3026 - ERP Convergence

(U) B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.000	0.000	55.721
RDT&E Articles Quantity				

Develop ERP program functional solutions to include logistics, financial, workforce management, and supply.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.000	0.000	11.473
RDT&E Articles Quantity				

Procure hardware and software to support testing efforts for the ERP functional solutions.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.000	0.000	15.751
RDT&E Articles Quantity				

Testing of ERP functional solutions.

R-1 SHOPPING LIST - Item No. 136

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N - Navy IT Dev/Mod	3026 - ERP Convergence

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 04 Pres Controls)	0.000	0.000	0.000
Current BES/President's Budget (FY 05 Pres Controls)	0.000	0.000	82.945
Total Adjustments	0.000	0.000	82.945
Summary of Adjustments			
Congressional program reductions			
Congressional undistributed reductions			
Congressional rescissions			
SBIR/STTR Transfer			
Economic Assumptions			-0.003
Reprogrammings			
Reprioritization			82.948
Congressional increases			
Subtotal	0.000	0.000	82.945

(U) Schedule:

(U) Technical:

Not Applicable.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N - Navy IT Dev/Mod	3026 - ERP Convergence

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost

Not Applicable.

(U) E. ACQUISITION STRATEGY:

Converged ERP - The Navy plans to award a performance based contract for the design and testing of Global Template 1.0 on a sole source basis to BearingPoint. BearingPoint has entered into teaming agreements with IBM and EDS and intends to propose them as subcontractors to ensure knowledge capture from all ERP Pilots. The contract will be for the design, configuration, and testing of all functionality proposed for Global Template 1.0, including documentation of the business processes, configuration of the COTS product to Navy business processes, integration testing and certification, and support for independent third party testing and formal acceptance testing. Contract support services will be awarded competitively.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0605013N - Navy IT Dev/Mod			PROJECT NUMBER AND NAME 3026 - ERP Convergence							
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
Servers/Software (C-ERP)	C/FFP	TBD						11.473	TBD		11.473	11.473
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			0.000	0.000		0.000		11.473		0.000	11.473	
Remarks:												
Software Development (C-ERP)	TBD	TBD						54.209	TBD	Continuing	Continuing	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Support			0.000	0.000		0.000		54.209		Continuing	Continuing	

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0605013N - Navy IT Dev/Mod			PROJECT NUMBER AND NAME 3026 - ERP Convergence							
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
Technical Testing (C-ERP)	TBD	TBD						7.298	TBD	Continuing	Continuing	
Integration Test (C-ERP)	TBD	TBD						6.455	TBD	Continuing	Continuing	
Operational Test (C-ERP)	TBD	TBD						1.998	TBD	Continuing	Continuing	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal T&E			0.000	0.000		0.000		15.751		Continuing	Continuing	
Remarks:												
Program Mgmt Support (C-ERP)	WX	TBD						1.512	TBD	Continuing	Continuing	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Management			0.000	0.000		0.000		1.512		Continuing	Continuing	
Remarks:												
Total Cost			0.000	0.000		0.000		82.945		Continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 136

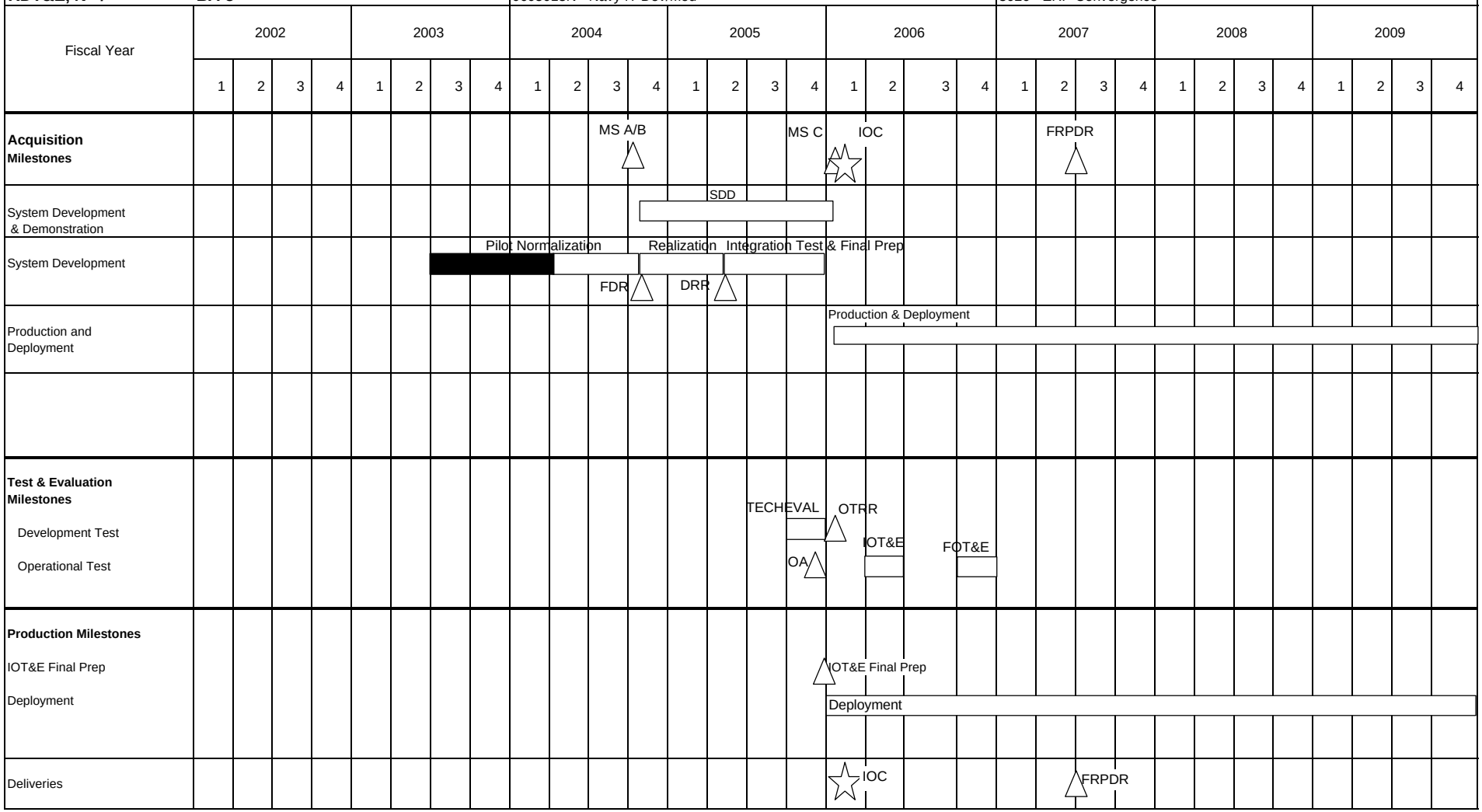
CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **February 2004**

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

PROGRAM ELEMENT NUMBER AND NAME: 0605013N - Navy IT Dev/Mod

PROJECT NUMBER AND NAME: 3026 - ERP Convergence



R-1 SHOPPING LIST-Item No. 136

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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT 0605013N - Navy IT Dev/Mod				PROJECT NUMBER AND NAME 3026 - ERP Convergence			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Pilot Normalization		3Q-4Q	1Q-3Q					
Milestone A/B			4Q					
Functional Design Review (FDR)			4Q					
System Development & Demonstration (SDD)			4Q	1Q-4Q	1Q			
Realization			4Q	1Q-2Q				
Design Readiness Review (DRR)				2Q				
Integration Test & Final Prep				2Q-4Q				
TechEval				4Q				
Operational Assessment (OA)				4Q				
IOT&E Final Prep					1Q			
Operational Test Readiness Review (OTRR)					1Q			
Milestone C					1Q			
Initial Operating Capability (IOC)					1Q			
Deployment					1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Initial Operational Test & Evaluation (IOT&E)					2Q			
Follow Test & Evaluation (FOT&E)					4Q			
Full Rate Production Decision Review (FRPDR)						3Q		

R-1 SHOPPING LIST - Item No. 136

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0605013N Navy IT DEV / MOD				PROJECT NUMBER AND NAME T3038 E-Business			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**12.941**	**7.539**	**6.856**	**0.000**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The R&D funding provided is specifically for the execution of proof of concept type intiatives which are submitted by personnel from across the Department of Navy. This Office is the enabler for the Department of Navy to be in alignment with the President's Management Agenda and effectively meet the transformation challenge. Success in FY01 and FY02 was significant. Mr Mark Forman, OMB's Associate Director for IT and eGovernment, visited this Office in April and found our efforts to be a model for not only DOD but the Federal Government as a whole. Several of the pilots executed in FY01 directly related to the eGovernment strategies OMB is currently focusing on. Those pilot solutions of interest were provided to OMB for potential exportability to Other Federal Agencies. Of particular interest was a solution focused on e authentication, another focused on management of geospatial products. In FY02 the Pilot Management Group executed a DOD/VA Integration project in direct alignment with the President's Management Agenda item #14, addressing seemless sharing of key medical information once personel transition from active duty to retirement. The DOD Deputy CIO was also briefed on the efforts of the Office and will visit this Office on 5 September, a very detailed briefing is planned for the day. It is the intent of the Office to continue the success of FY01 and 02 into FY03 and out providing continued opportunity for effective ebusiness solutions to be developed, deployed and shared across the Department reducing needless duplication and continuing to meet the requirements as set forth in the President's Management Agenda.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA-5	0605013N Navy IT DEV / MOD	T3038 E-Business	

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		12.941		
RDT&E Articles Quantity				

Executed 18 pilot projects. Pilot project execution consists principally of proof of concept approach. An example of a successful pilot is the Naval Collaborative Engineering Environment, an initiative of ASN (RDA) Chief Engineer Office, will provide an interface between the Naval Force systems architectures repository and the Naval tool for Interoperability Risk Assessment (NTIRA). This effort will enable collaborative capabilities between RDA CHENG and the Commander Fleet Forces Command (CFFC) for information sharing, planning and coordination on suitability of force systems architectures and resolution of known interoperability issues.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost			7.539	
RDT&E Articles Quantity				

With an average project costing between $500K-$800K the anticipated number of projects is 10-15. Continue the effort of identifying opportunities within DoN to implement new eBusiness solutions and facilitate the integration of these initiatives across the Department.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost				6.856
RDT&E Articles Quantity				

With an average project costing between $500k-$800k the anticipated number of projects is 9-14

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N Navy IT DEV / MOD	T3038 E-Business

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 04 Pres Controls)	14.780	0.000	0.000
Current BES/President's Budget (FY 05 Pres Controls)	12.941	7.539	6.856
Total Adjustments	-1.839	7.539	6.856
Summary of Adjustments			
Congressional program reductions			
Congressional undistributed reductions			
Congressional rescissions		-0.176	-0.168
ASN(RDA) BTRs	-0.372		
SBIR/STTR Transfer	-0.387		
FY 02 Inflation Savings			-0.004
FY 2003 Update	0.818		-0.018
Economic Assumtions			
Reprogrammings		7.800	7.950
Efficiencies/ Rev		-0.065	
Management Improvement		-0.020	
RDTEN Balancing	0.002		-0.004
Congressional increases			
Mid Year Reduction	-1.900		-0.900
Subtotal	-1.839	7.539	6.856

Schedule:

If schedule changes occurred on the Schedule Profile from the President's budget explain those changes here; otherwise, type "Not Applicable." Explanations must address reasons for the changes rather than who made them. Adjustments from the President's budget must include final POM-04 adjustments, as well as changes that were made to reflect approved reprogramming actions, including Omnibus proposals and other rescissions

Technical:

If technical changes occurred since the President's budget explain those changes here; otherwise, type "Not Applicable."

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N Navy IT DEV / MOD	T3038 E-Business

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
Not Applicable									

E. ACQUISITION STRATEGY:

The milestone for FYs 03-FYs 05 is the proof of concept initiatives for the benefit of the Departmart of Navy. In fiscals years 02-03 approximately 20 projects will be executed. In the FY 04-05 timeframe the number will decrease commensurate with the 50% reduction in R&D funding.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)						DATE: **February 2004**						
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0605013N Navy IT Dev / Mod			PROJECT NUMBER AND NAME T3038 E-Business						
Cost Categories (Tailor to WBS, or System/Item Requirements)	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											0.000	
Ancillary Hardware Development											0.000	
Systems Engineering											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Development Support Equipment											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	
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2) | DATE: **February 2004**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N Navy IT Dev / Mod	T3038 E-Business

Cost Categories (Tailor to WBS, or System/Item Requirements)	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	Various	Various		$12.941	06/03	$7.539	01/04	$6.856	01/05		20.480	
Operational Test & Evaluation											0.000	
Tooling											0.000	
GFE											0.000	
Subtotal T&E			0.000	$12.941		$7.539		$6.856			20.480	

Remarks: The funding provided is for purposes of executing proof of concept projects by the DON eBusiness Operations Office, Pilot Management Group. The pilot submission process is ongoing with application for submission available to all DON personnel via the DON eBusiness Operations Office website. Pilots are rated and ranked on an incremental basis throughout a given fiscal year. The FY02 funding resulted 22 pilot projects and the FY03 funding resulted in 18 projects using the availabe R&D funding. The projects range in organizations involved including the CNO's Office, NAVSEA, NAVAIR, Marine Corp as well as BUMED. The technologies pursued are as varied as the organizations including web based, scaleable metrics displays, employing COTS used by commercial airlines to collect key flight data recorder information, testing use of multi media technology to provide job aids. A similar approach is planned FY04 and out. However, due to the nature of the program, the rapid prototyping, proof of concept approach the specific projects which will be executed are not known at this time. This pilot corpus is the means by which the Department of Navy executes the transformation effort, as set forth in the President's Management Agenda in an effective and efficient means. The number of projects executed by approximately 50%.

Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support											0.000	
Travel											0.000	
Labor (Research Personnel)											0.000	
Overhead											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	

Remarks:

Total Cost			$0.000	$12.941		$7.539		$6.856			20.480	

Remarks:

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																													DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**					PROGRAM ELEMENT NUMBER AND NAME 0605013N Navy IT Dev / Mod												PROJECT NUMBER AND NAME T3038 E-Business												
Fiscal Year	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																												
Pilot Execution																												
Test & Evaluation Milestones																												
Development Test																												
Operational Test																												
Production Milestones																												
LRIP I FY 05																												
LRIPII FY 06																												
FRP FY 07																												
Deliveries																												

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT 0605013N Navy IT Dev / Mod				PROJECT NUMBER AND NAME T3038 E-Business			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Prototype Phase	2Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q				
System Design Review (SDR)								
Milestone II (MSII)								
Contract Preparation								
Software Specification Review (SSR)								
Preliminary Design Review (PDR)								
System Development								
Critical Design Review (CDR)								
Quality Design and Build								
Test Readiness Review (TRR)								
Developmental Testing (DT-IIA)								
Eng Dev Model (EDM) Radar Delivery - Lab								
Software Delivery 1XXSW								
Preproduction Readiness Review (PRR)								
EDM Radar Delivery - Flt Related								
Milestone C (MS C)								
Operational Testing (OT-IIA)								
Start Low-Rate Initial Production I (LRIP I)								
Software Delivery 2XXSW								
Developmental Testing (DT-IIB1)								
Developmental Testing (DT-IIB2)								
Start Low-Rate Initial Production II								
Operational Testing (OT-IIB)								
Developmental Testing (DT-IIC)								
Functional Configuration Audit (FCA)								
Low-Rate Initial Production I Delivery								
Technical Evaluation (TECHEVAL)								
Physical Configuration Audit								
Operational Evaluation (OT-IIC) (OPEVAL)								
Low-Rate Initail Production II Delivery								
IOC								
Full Rate Production (FRP) Decision								
Full Rate Production Start								
First Deployment								

R-1 SHOPPING LIST - Item No. 136

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2004		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0605013N Navy Information Technology Dev/Mod				PROJECT NUMBER AND NAME 3054 Navy Web Enabling			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**1.969**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:.
This effort supports VCNO initiative of 28 Aug 2000 directing all programs to move rapidly to a web-enabled environment. Web-enabling the Navy applications will allow afloat and ashore users to access the applications from any workstation with a web browser. This provides the foundation for synchronized data replication allowing labor intensive tasks to be moved ashore from ships and expeditionary units.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N Navy Information Technology Dev/Mod	3054 Navy Web Enabling

(U) B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		1.969	0.000	0.000
RDT&E Articles Quantity				

FY2003 ACCOMPLISHMENTS:
Designed, developed, and tested web front end for force level NTCSS applications. Continued development and testing of Web-enabling infrastructure.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N Navy Information Technology Dev/Mod	3054 Navy Web Enabling

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 04 Pres Controls)	2.033	0.000	0.000
Current BES/President's Budget (FY 05 Pres Controls)	1.969	0.000	0.000
Total Adjustments	-0.064	0.000	0.000
Summary of Adjustments			
IT Cost Growth (SEC. 8109)	-0.004		
Economic Assumptions (SEC. 8135)	-0.030		
Business Process Reform (SEC. 8100)	-0.008		
Inflation Savings	-0.022		
Subtotal	-0.064	0.000	0.000

(U) Schedule:

Not Applicable.

(U) Technical:

Not Applicable.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N Navy Information Technology Dev/Mod	3054 Navy Web Enabling

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
OPN 261100 Naval Tactical Command Support System	31.616	51.253	26.208	81.090	13.760	31.035	39.253	Continuing	Continuing
RDT&E PE 0604231N /X3032 MLDN and Enterprise Databa	4.605	3.277	0.071	0.047	0.047	0.054	0.052		

(U) E. ACQUISITION STRATEGY:

The NTCSS Acquisition Strategy is defined in its Single Acquisition Management Plan (SAMP) dtd 7 May 99.

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0605013N Navy Information Technology Dev/Mod			PROJECT NUMBER AND NAME 3054 Navy Web Enabling							
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		Various	0.500								0.500	
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering		Various	4.832	0.222	10/02						5.054	
Training Development											0.000	
Licenses		Various	1.500	0.300	10/02						1.800	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			6.832	0.522		0.000		0.000		0.000	7.354	
Remarks:												
Development Support											0.000	
Software Development		Various	6.742	0.740	10/02						7.482	
Integrated Logistics Support											0.000	
Configuration Management		Various		0.150	10/02						0.150	
Technical Data		Various	0.250	0.150	10/02						0.400	
Studies & Analyses											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			6.992	1.040		0.000		0.000		0.000	8.032	
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0605013N Navy Information Technology Dev/Mod				PROJECT NUMBER AND NAME 3054 Navy Web Enabling						
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		Various	0.610	0.100	10/02						0.710	
Operational Test & Evaluation		Various	0.172	0.200	10/02						0.372	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.782	0.300		0.000		0.000		0.000	1.082	
Remarks:												
Contractor Engineering Support		Various	0.235	0.107	10/02						0.342	
Government Engineering Support											0.000	
Program Management Support											0.000	
Travel											0.000	
Transportation											0.000	
											0.000	
Subtotal Management			0.235	0.107		0.000		0.000		0.000	0.342	
Remarks:												
Total Cost			14.841	1.969		0.000		0.000		0.000	16.810	
Remarks:												

R-1 SHOPPING LIST - Item No. 136

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																																DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**									PROGRAM ELEMENT NUMBER AND NAME 0605013N Navy Information Technology Dev/Mod												PROJECT NUMBER AND NAME 3054 Navy Web Enabling											
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					X	X	X	X																								
Unit-level eNTCSS Development					X																											
Force-level eNTCSS Development						X	X	X																								
Software 1XXSW Delivery 2XXSW Delivery																																
Test & Evaluation Milestones Unit-level eNTCSS Development Test Operational Test							X	X			X	X																				
Production Milestones LRIP Unit-level eNTCSS FRP FY 03											X		X																			
Deliveries																																

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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT 0605013N Navy Information Technology Dev/Mod			PROJECT NUMBER AND NAME X3054 Navy Web Enabling			
Schedule Profile	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Prototype Phase							
System Design Review (SDR)							
Milestone II (MSII)							
Contract Preparation							
Software Specification Review (SSR)							
Preliminary Design Review (PDR)							
System Development							
Critical Design Review (CDR)							
Quality Design and Build							
Test Readiness Review (TRR)							
Developmental Testing (Unit-level eNTCSS)	Q2-Q3						
Software Delivery unit-level eNTCSS	Q3						
Preproduction Readiness Review (PRR)		Q1					
Milestone C (MS C)		Q1					
Start Low-Rate Initial Production I (LRIP I)		Q1					
IOC		Q1					
Full Rate Production (FRP) Decision		Q3					

R-1 SHOPPING LIST - Item No. 136

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2004		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0605013N Navy Information Technology Dev/Mod				PROJECT NUMBER AND NAME 9088 SPAWAR ITC Enterprise Management			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**5.714**	**7.120**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty Not applicable								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Space and Naval Warfare (SPAWAR), Information Technology Center (ITC), New Orleans is the primary Information Technology (IT) support command for all Navy and Naval Reserve manpower and personnel functions and for the Program Executive Office for Information Technology (PEO-IT). In this role, the SPAWAR ITC provides effective enterprise-wide integrated information management/information technology (IM/IT) solutions related to system integration, development, testing and evaluation.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N Navy Information Technology Dev/Mod	9088 SPAWAR ITC Enterprise Management

(U) B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		5.714	7.120	0.000
RDT&E Articles Quantity				

FY2003 ACCOMPLISHMENTS:
- Developed enterprise integration and migration solutions for manpower and personnel programs.

FY2004 PLANS;
- Continue to develop enterprise integration and migration solutions for manpower and personnel programs.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N Navy Information Technology Dev/Mod	9088 SPAWAR ITC Enterprise Management

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 04 Pres Controls)	5.867	0.000	0.000
Current BES/President's Budget (FY 05 Pres Controls)	5.714	7.120	
Total Adjustments	-0.153	7.120	0.000
Summary of Adjustments			
Congressional Add SPAWAR ITC Enterprise Mgt.		7.200	
66556 FY03_SBIR_5May03	-0.153		
Section 8094: Management Improvements		-0.019	
Section 8126: Efficiencies/Revised Econ Assumptions		-0.061	
Subtotal	-0.153	7.120	

(U) Schedule:

Not Applicable.

(U) Technical:

Not Applicable.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N Navy Information Technology Dev/Mod	9088 SPAWAR ITC Enterprise Management

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost

(U) E. ACQUISITION STRATEGY:

Not Applicable.

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0605013N Navy Information Technology Dev/Mod			PROJECT NUMBER AND NAME 9088 SPAWAR ITC Enterprise Management							
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											0.000	
Ancillary Hardware 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			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Development Support	CPFF	GSA	4.326	5.714		7.120					17.160	
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			4.326	5.714		7.120		0.000		0.000	17.160	
Remarks:												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0605013N Navy Information Technology Dev/Mod				PROJECT NUMBER AND NAME 9088 SPAWAR ITC Enterprise Management						
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											0.000	
Program Management Support											0.000	
Travel											0.000	
Transportation											0.000	
											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			4.326	5.714		7.120		0.000		0.000	17.160	
Remarks:												

R-1 SHOPPING LIST - Item No. 136

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2004		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0605013N Navy Information Technology Dev/Mod				PROJECT NUMBER AND NAME 9089 Distance Learning IT Center			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**9.287**	**3.350**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

To keep pace with fast moving changes in the Navy's techology, eduation and training must be available at more than the traditional classroom setting. This effort enhances current distance learning technology by developing a more realistic setting for education and training. Most distance learning is a one-way stream confined by bandwidth and cost. This R&D effort will bring to the Navy a secure, cost-effective technology for the more realistic "give and take" experiences in the classroom.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N Navy Information Technology Dev/Mod	9089 Distance Learning IT Center

(U) B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		9.287	3.350	0.000
RDT&E Articles Quantity				

FY2003 ACCOMPLISHMENTS:
Developed robust, secure, cost-effectve technology for distance learning.

FY2004 PLANS;
Continue to design a robust, secure, cost-effective technology for distance learning.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N Navy Information Technology Dev/Mod	9089 Distance Learning IT Center

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 04 Pres Controls)	9.535	0.000	0.000
Current BES/President's Budget (FY 05 Pres Controls)	9.287	3.350	0.000
Total Adjustments	-0.248	3.350	0.000
Summary of Adjustments			
Congression Add Distance Learning IT Center		3.400	
66556 FY03_SBIR_5May03	-0.248		
Section 8094: Management Improvements		-0.012	
Section 8126: Efficiences/Revised Econ Assumptions		-0.038	
Subtotal	-0.248	3.350	0.000

(U) Schedule:

Not Applicable.

(U) Technical:

Not Applicable.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N Navy Information Technology Dev/Mod	9089 Distance Learning IT Center

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost

(U) E. ACQUISITION STRATEGY:

Not Applicable.

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0605013N Navy Information Technology Dev/Mod				PROJECT NUMBER AND NAME 9089 Distance Learning IT Center						
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				1.006		0.354					1.360	
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering				0.331		0.116					0.447	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			0.000	1.337		0.470		0.000		0.000	1.807	
Remarks:												
Development Support											0.000	
Software Development				7.371		2.677					10.048	
Integrated Logistics Support											0.000	
Configuration Management				0.064		0.022					0.086	
Technical Data											0.000	
Studies & Analyses			0.956								0.956	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			0.956	7.435		2.699		0.000		0.000	11.090	
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0605013N Navy Information Technology Dev/Mod				PROJECT NUMBER AND NAME 9089 Distance Learning IT Center						
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				0.116		0.041					0.157	
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	0.116		0.041		0.000		0.000	0.157	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support				0.202		0.071					0.273	
Travel				0.197		0.069					0.266	
Transportation											0.000	
											0.000	
Subtotal Management			0.000	0.399		0.140		0.000		0.000	0.539	
Remarks:												
Total Cost			0.956	9.287		3.350		0.000		0.000	13.593	
Remarks:												

R-1 SHOPPING LIST - Item No. 136

EXHIBIT R-2a, RDT&E Project Justification					DATE: February 2004			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	0605013N Navy Information Technology Dev/Mod				PROJECT NUMBER AND NAME 9253 WEB Centric Network Warfare			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**5.350**	**5.537**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:.

Congress appropriated funds to provide continued development of Web Centric ASW Net (WECAN). WECAN is a web based software tool for USW/ASW collaborative planning and execution based upon Commercial Off The Shelf (COTS) technologies and products that allows users to discuss immediate and tactical operational concerns such as vulnerability analysis, battle group coordination, and threat discussions.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N Navy Information Technology Dev/Mod	9253 WEB Centric Network Warfare

(U) B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		5.350	5.537	0.000
RDT&E Articles Quantity				

FY2003 ACCOMPLISHMENTS:
CONGRESSIONAL PLUS-UP – Expanded capability of WEB Centric ASW Network (WECAN) collaborative planning functionality to include other multi-mission warfare areas. Provided WECAN functionality to new ASW platforms. Funding provided continued program support and the migration of existing capabilities to the Navy Common Collaborative Tool Set and integration with other warfare areas and domains.

FY2004 PLANS:
CONGRESSIONAL PLUS-UP – Expand capability of WEB Centric ASW Network (WECAN) collaborative planning functionality to include other multi-mission warfare areas. Provide WECAN functionality to new ASW platforms. Funding will provide continued program support and the migration of existing capabilities to the Navy Common Collaborative Tool Set and integration with other warfare areas and domains.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N Navy Information Technology Dev/Mod	9253 WEB Centric Network Warfare

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 04 Pres Controls)	5.478	0.000	0.000
Current BES/President's Budget (FY 05 Pres Controls)	5.350	5.537	0.000
Total Adjustments	-0.128	5.537	0.000
Summary of Adjustments			
Web Centric Network Warfare (WECAN)			
66556 FY03_SBIR_5May03	-0.128		
Web Centric Network Warfare (WECAN)		5.600	
Section 8094: Management Improvements		-0.015	
Sec. 8126: Efficiencies/Revised Econ. Assumptions		-0.048	
Subtotal	-0.128	5.537	0.000

(U) Schedule:

Not Applicable.

(U) Technical:

Not Applicable.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N Navy Information Technology Dev/Mod	9253 WEB Centric Network Warfare

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost

(U) E. ACQUISITION STRATEGY:

Not Applicable

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0605013N Navy Information Technology Dev/Mod			PROJECT NUMBER AND NAME 9253 WEB Centric Network Warfare							
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
WeCAN	CPFF	ORINCON/Various		5.350	Various	5.537	Various				10.887	
Ancillary Hardware 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			0.000	5.350		5.537		0.000		0.000	10.887	
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:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0605013N Navy Information Technology Dev/Mod				PROJECT NUMBER AND NAME 9253 WEB Centric Network Warfare						
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											0.000	
Program Management Support											0.000	
Travel											0.000	
Transportation											0.000	
											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			0.000	5.350		5.537		0.000		0.000	10.887	
Remarks:												

R-1 SHOPPING LIST - Item No. 136

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2004		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0605013N Navy Information Technology Dev/Mod				PROJECT NUMBER AND NAME X9254 Horizontal Integrated Data Environment (HIDE)			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**0.964**	**0.988**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty								

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

HIDE will play a significant role in achieving high efficiency during all stages of system support and installation fielding. Process automation will be achieved by leveraging HIDE technologies.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT NUMBER AND NAME 0605013N Navy Information Technology Dev/Mod	PROJECT NUMBER AND NAME X9254 Horizontal Integrated Data Environment (HIDE)

(U) B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.964	0.988	0.000
RDT&E Articles Quantity				

FY2003 ACCOMPLISHMENTS:
Developed a prototype expert system for capturing engineering knowledge models and for generating drawing and design documentation for installation of C4I systems ashore.

FY2004 PLANS:
Congressional add.
Migrate prototype to full production expert system, deploy web-enabled secure access, add engineering design features based on user feedback, incorporate drawing storage repository.

R-1 SHOPPING LIST - Item No. 136

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N Navy Information Technology Dev/Mod	X9254 Horizontal Integrated Data Environment (HIDE)

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 04 Pres Controls)	0.989	0.000	0.000
Current BES/President's Budget (FY 05 Pres Controls)	0.964	0.988	0.000
Total Adjustments	-0.025	0.988	0.000
Summary of Adjustments			
Issue 66556 FY03 SBIR 5May03	-0.025		
Issue 68518 Horizontal Integrated Data		1.000	
Issue 68041 Section 8094: Management Improvements		-0.003	
Issue 68066 Sec. 8126: Efficiencies/Revised Econ Assumption		-0.009	
Subtotal	-0.025	0.988	0.000

(U) Schedule:

Not Applicable.

(U) Technical:

Not Applicable.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0605013N Navy Information Technology Dev/Mod	PROJECT NUMBER AND NAME X9254 Horizontal Integrated Data Environment (HIDE)

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost

Not Applicable.

(U) E. ACQUISITION STRATEGY:

Not Applicable.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0605013N Navy Information Technology Dev/Mod			PROJECT NUMBER AND NAME X9254 Horizontal Integrated Data Environment (HIDE)							
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											0.000	
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering											0.000	
Training Development											0.000	
Licenses		Various	0.000	0.167	01/03						0.167	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			0.000	0.167		0.000		0.000		0.000	0.167	
Remarks: The software application requires Documentum enterprise licenses $167K												
Development Support											0.000	
Software Development		Various	0.000	0.797	01/04	0.988	02/04				1.785	
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	0.797		0.988		0.000		0.000	1.785	
Remarks: The total software development and testing will be performed during FY04.												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0605013N Navy Information Technology Dev/Mod			PROJECT NUMBER AND NAME X9254 Horizontal Integrated Data Environment (HIDE)							
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											0.000	
Program Management Support											0.000	
Travel											0.000	
Transportation											0.000	
											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			0.000	0.964		0.988		0.000		0.000	1.952	
Remarks:												

R-1 SHOPPING LIST - Item No. 136

CLASSIFICATION: **UNCLASSIFIED**

EXHIBIT R-2a, RDT&E Project Justification						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0605013N NAVY INFO TECH DEV/MOD				PROJECT NUMBER AND NAME 9257 Institute for Systems Test and Productivity			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**2.847**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:.

This RDT&E Project is a continuation of activities of the National Institute for Systems Test and Productivity (NISTP) at the University of South Florida to implement recommendations of a Defense Science Board Task Force focused on improving acquisition of software-intensive systems. The goal is to create a research and development environment, in collaboration with industry and government, to evaluate and improve both systems test, productivity tools and techniques to provide meaningful expert support to Navy systems development projects. Section 804 of the Defense Authorization Act of 2003 called for software best practices to be sought, identified, collected, cataloged and ultimately applied across the armed services. NISTP is working to provide revamped contract incentives for more

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N Navy Information Technology Dev/Mod	9257 Institute for Systems Test and Productivity

(U) B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		2.847	0.000	0.000
RDT&E Articles Quantity				

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. FY 2003 ACCOMPLISHMENTS:

Developed End-to-End test tools and techniques for large-scale distributed systems based upon practical lessons learned from the Y2K effort in the Department of Defense including time critical evaluation support to the series of Navy FORCEnet Limited Objective Experiments and FORCEnet Sea Trials (These techniques grew to become a forerunner in developing applied evaluation techniques for Grid Automation.); developed and produced a working prototype software test capability to be used for a Navy Collaborative Engineering Environment (and subsequently for all of DoD) that utilizes combinations of computational intelligence tools and techniques to predict and optimize the number of test cases that should result in significant reductions in both cycle time and costs associated with testing Navy and other defense software (Applied theorem proving behavior for Navy Network Centric Warfare scenario design activities is a current focus for the tool.); delivered modular Software Test and Systems Engineering courses for DoN and other Defense Department use; development of a collection of relevant Harvard Business School style Case Studies; cross disciplinary initiatives to define metrics aimed at extending the engineering concept of Quality of Service (QOS) to a broader concept of Quality of Information (QOI) which takes both the context and meaning of content into consideration as serious metrics; and a state-of-the-art systems testing laboratory facilities and a test correlation database.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, BA-5	0605013N Navy Information Technology Dev/Mod	9257 Institute for Systems Test and Productivity

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 04 Pres Controls)	2.904	0.000	0.000
Current BES/President's Budget (FY 05 Pres Controls)	2.847	0.000	0.000
Total Adjustments	-0.057	0.000	0.000
Summary of Adjustments			
FY03_SBIR_5-May-03	-0.057		
Subtotal	-0.057		

(U) Schedule:

Not Applicable.

(U) Technical:

Not Applicable.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N Navy Information Technology Dev/Mod	9257 Institute for Systems Test and Productivity

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
Not Applicab le.									

(U) E. ACQUISITION STRATEGY:

Not applicable.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0605013N Navy Information Technology Dev/Mod			PROJECT NUMBER AND NAME 9257 Institute for Systems Test and Productivity						
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											0.000	
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	C/Cost	U. of So Fl		2.300							2.300	
	Various	Various		0.547							0.547	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			0.000	2.847		0.000		0.000		0.000	2.847	
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:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0605013N Navy Information Technology Dev/Mod			PROJECT NUMBER AND NAME 9257 Institute for Systems Test and Productivity							
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											0.000	
Program Management Support											0.000	
Travel											0.000	
Transportation											0.000	
											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			0.000	2.847		0.000		0.000		0.000	2.847	
Remarks:												

R-1 SHOPPING LIST - Item No. 136

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0605013N NAVY INFO TECH DEV/MOD				PROJECT NUMBER AND NAME 9259 Condition Based Maintenance Enabling Tech			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**0.573**	**2.967**	**3.000**	**0.000**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

S9259 Conditioned Based Maintenance Enabling Technology – This is a new start. These funds have been provided to accelerate the Navy Distance Support (DS) Program's implementation of the DoD CBM Plus directive (ASN (RD&A) Memorandum "Condition Based Maintenance Plus Policy" on 27 January 2003) and the concurrent achievement of Sea Power 21 logistics and maintenance metrics in support of Fleet readiness and rapid constitution for Naval missions. This includes funding for the annual assessment of logistics and maintenance Information Technology (IT), the annual preparation and revision of the DS CBM+ Technology Roadmap, as well as, modifications and enhancements to ship and shore logistic and maintenance information systems and infrastructures. This funding supports modification to existing software, hardware changes, contractual program management and Navy organic technical support to modify/enhance the NAVSEA HQ and Naval Surface Warfare Center systems and infrastructure. The will require the development, analysis and testing of IT prototypes at contractor facilities, Land Based Test Facilities at NSWCCD Philadelphia and NSWC Crane, and aboard Navy ships. Also supported is software development and upgrades for IT systems and infrastructure, to include COTS software packages/systems; developmental testing and initial operational test, evaluation and certification required prior to system acceptance/approval.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N NAVY INFO TECH DEV/MOD	9259 Condition Based Maintenance Enabling Tech

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.100	0.100	0.100
RDT&E Articles Quantity				

(U) FY 2003 $0.100 Specifications for integration of Shipboard CBM and Mission Readiness Assessment Systems.
(U) FY 2004 $0.100 Completion of Technology Assessment and Roadmap.
(U) FY 2005 $0.100 Annual revision of Technology Assessment and Roadmap.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.473		
RDT&E Articles Quantity				

(U) FY 2003 $0.473 Establishment of DS/CBM+ Management and support team support contract for technology roadmap development.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost			0.500	0.500
RDT&E Articles Quantity				

(U) FY 2004 $0.500 Technical Document Knowledge Management (TDKM) enhancements.
(U) FY 2005 $0.500 Technical Document Knowledge Management (TDKM) enhancements.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N NAVY INFO TECH DEV/MOD	9259 Condition Based Maintenance Enabling Tech

B. Accomplishments/Planned Program (Cont.)

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost			1.500	1.500
RDT&E Articles Quantity				

(U) FY 2004 $1.500 Distance Support Ver 2.0 enhancements.
(U) FY 2005 $1.500 Distance Support Ver 2.0 enhancements.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost			0.400	0.400
RDT&E Articles Quantity				

(U) FY 2004 $0.400 Shore systems maintenance mgmt systems enhancements.
(U) FY 2005 $0.400 Shore systems maintenance mgmt systems enhancements.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost			0.467	0.500
RDT&E Articles Quantity				

(U) FY 2004 $0.367 Various Software certification in support of Trident Warrior Exercises.
(U) FY 2004 $0.100 Software Development Upgrades.
(U) FY 2005 $0.400 Software Development Upgrades.
(U) FY 2005 $0.100 COTS Software Licenses.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N NAVY INFO TECH DEV/MOD	9259 Condition Based Maintenance Enabling Tech

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 04 Pres Controls)	0.000	3.000	0.000
Current BES/President's Budget (FY 05 Pres Controls)	0.573	2.967	3.000
Total Adjustments	0.573	-0.033	3.000
Summary of Adjustments			
Issue 65455 Condition Based Maint	0.600		
Various Minor Adjustments/BPR/etc.	-0.027	-0.033	
Issue 69572 PBD 739			3.000
	0.573	-0.033	3.000

Schedule:

Not Applicable

Technical:

Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **Febryary 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N NAVY INFO TECH DEV/MOD	9259 Condition Based Maintenance Enabling Tech

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
N/A									

E. ACQUISITION STRATEGY:

N/A

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT NUMBER AND NAME 0605013N NAVY INFO TECH DEV/MOD			PROJECT NUMBER AND NAME 9259 Condition Based Maintenance Enabling Tech							
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											0.000	
Ancillary Hardware Development	C/FP	Various	0.000	0.000		0.350		0.400		0.800	1.550	1.550
Component Development											0.000	
Ship Integration	C/FP	Various	0.000	0.000		0.050		0.340		0.680	1.070	1.070
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	0.000		0.400		0.740		1.480	2.620	

Remarks:

"Various" is being used in the Performing Activity & Location, because of numerous project initiations and implementations.

Development Support	C/FP	Various	0.000	0.400		0.600		0.600		1.200	2.800	2.800
Software Development	C/FP	Various	0.000	0.070		1.340		1.000		2.000	4.410	4.410
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	0.470		1.940		1.600		3.200	7.210	

Remarks:

"Various" is being used in the Performing Activity & Location, because of numerous project initiations and implementations.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)											DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT NUMBER AND NAME 0605013N NAVY INFO TECH DEV/MOD			PROJECT NUMBER AND NAME 9259 Condition Based Maintenance Enabling Tech						
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	C/FP	Various	0.000	0.000		0.300		0.200		0.400	0.900	0.900
Operational Test & Evaluation	C/FP	Various	0.000	0.000		0.067		0.200		0.400	0.667	0.667
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		0.367		0.400		0.800	1.567	
Remarks: "Various" is being used in the Performing Activity & Location, because of numerous project initiations and implementations.												
Contractor Engineering Support	C/FP	ManTech WV	0.000	0.090		0.160		0.160		0.320	0.730	0.730
Government Engineering Support	C/FP	NSWCCD & NSWC CRANE	0.000	0.013		0.100		0.100		0.200	0.413	0.413
Program Management Support											0.000	
Travel											0.000	
Labor (Research Personnel)											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	0.103		0.260		0.260		0.520	1.143	
Remarks:												
Total Cost			0.000	0.573		2.967		3.000		6.000	12.540	
Remarks:												

R-1 SHOPPING LIST - Item No. 136

EXHIBIT R4, Schedule Profile																													DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**									PROGRAM ELEMENT NUMBER AND NAME 0605013N NAVY INFO TECH DEV/MOD									PROJECT NUMBER AND NAME 9259 Condition Based Maintenance Enabling Tech											
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	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																													
Contract Awards						*				*			*																
Technology Assessments								*		*				*															
Technology Roadmap Releases											*			*															
Hardware Development Spirals												*			*														
Software Development Spirals												*			*														
T&E and Technology Demos													*			*													
Test & Evaluation Milestones																													
Production Milestones																													
Deliveries																													

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-??**	PROGRAM ELEMENT 0605013N NAVY INFO TECH DEV/MOD				PROJECT NUMBER AND NAME 9259 Condition Based Maintenance Enabling Tech			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Contract Awards		2Q	2Q	2Q				
Technology Assessments		2Q-4Q	2Q-3Q	2Q-3Q				
Technology Roadmap Releases			3Q	3Q				
Hardware Development Spirals			2Q-4Q	2Q-4Q				
Software Development Spirals			2Q-4Q	2Q-4Q				
T&E and Technology Demos				1Q-4Q				

R-1 SHOPPING LIST - Item No. 136

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0605013N Information Technology Development				PROJECT NUMBER AND NAME W9405 Fiber Optic Components for Military			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost			**1.682**					
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This element includes development of fiber optic technology and associated electro-optic manufacturing technologies for Wavelength Division Multiplexed (WDM) networks. This effort will develop and optimize the fiber optic components and related manufacturing technologies required for advanced information distribution systems, capable of transporting all digital and broadband radio frequency (RF) signals on platforms utilized for the electronic attack mission.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N Information Technology Development	W9405 Fiber Optic Components for Military

B. Accomplishments/Planned Program

FIBER OPTIC		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost			1.682	
RDT&E Articles Quantity				

- (U) Specific tasks planned for FY 04 include development of an automated manufacturing capability for termination and inspection of single mode fiber optic cable assemblies, fiber Bragg gratings and associated tunable filters, tunable WDM receivers and development of low cost militarized packaging for photonic components.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N Information Technology Development	W9405 Fiber Optic Components for Military

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 04 Pres Controls)	0	0	0
Current BES/President's Budget (FY 05 Pres Controls)		1.682	0.000
Total Adjustments	0.000	1.682	0.000
Summary of Adjustments			
Congressional program reductions			
Congressional undistributed reductions		-0.018	
Congressional rescissions			
SBIR/STTR Transfer			
Economic Assumptions			
Reprogrammings			
Other Adjustments			
Reprioritization			
Congressional increases		1.700	
Subtotal	0.000	1.682	0.000

Schedule:

Not Applicable

Technical:

Not Applicable

R-1 SHOPPING LIST - Item No. 136

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N Information Technology Development	W9405 Fiber Optic Components for Military

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
NOT APPLICABLE									

E. ACQUISITION STRATEGY:

- The FOCUS II program is currently flight testing a WDM backbone network utilizing commercial off the shelf (COTS) components on the EA-6B. The RF portion of the system is being tested in the ICAP III laboratory at Pt. Mugu. Components developed under this effort will overcome the performance size and weight design deficiencies of commercial components to enable transition to the
EA-18G in the 2008 timeframe.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0605013N Information Technology Development			PROJECT NUMBER AND NAME W9405 Fiber Optic Components for Military							
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	C/CPFF	Penn State Electo-Optic Ctr				1.500	03/04				1.500	1.500
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	WX	NAWCAD PAX				0.182	03/04				0.182	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			0.000	0.000		1.682		0.000		0.000	1.682	
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:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0605013N Information Technology Development				PROJECT NUMBER AND NAME W9405 Fiber Optic Components for Military						
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											0.000	
Program Management Support											0.000	
Travel											0.000	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			0.000	0.000		1.682		0.000		0.000	1.682	
Remarks:												

R-1 SHOPPING LIST - Item No. 136

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																																DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**									PROGRAM ELEMENT NUMBER AND NAME 0605013N Information Technology Development												PROJECT NUMBER AND NAME W9405 Fiber Optic Components for Military												
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 **FIBER OPTIC**										△ Contract Award																						
Test & Evaluation Milestones Developmental Testing														LAB & ENVIRONMENTAL TEST																		
Production Milestones																																
Deliveries																																

R-1 SHOPPING LIST - Item No. 136

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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT 0605013N Information Technology Development				PROJECT NUMBER AND NAME W9405 Fiber Optic Components for Military			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
FIBER OPTIC								
Automated Cable Temination			2Q-4Q	1Q-2Q				
Fiber Optic BRAGG Gratings			2Q-4Q	1Q-2Q				
Tunable WDM Receivers			2Q-4Q	1Q-2Q				
Low Cost Photonic Packaging			2Q-4Q	1Q-2Q				

R-1 SHOPPING LIST - Item No. 136

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0605013N - Navy IT Dev/Mod				PROJECT NUMBER AND NAME 9406 MAINT DATA WAREHOUSE			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost			**2.225**					
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

FY04 funding has been provided through a Congressional Add to support maintenance data warehouse. The development of the Decision Knowledge Programming for Logistics Analysis and Technical Evaluation (DECKPLATE) program is the next generation data warehouse for aircraft maintenance, flight and usage data. It provides a web-based interface to a single source of information currently being stored in multiple NALDA systems. Through the use of analysis, query and reporting tools the user has the capabilities to effectively obtain readiness data in a near real-time environment, as well as, historical data for trend analysis and records reconstruction. DECKPLATE supports the mission of the warfighter who requires a single source of near real-time aviation data in which to base critical readiness decisions. This requires collecting data from authoritative sources into a data warehouse. Because the warfighter only needs to access one database, the time consuming task of collecting various pieces of data form various sources will be reduced and ultimately eliminated. This improves data quality, because it reduces the possibility of two systems providing identical data elements, but slightly different data. Data availability is improved through continuous near real-time feeds from the data sources, giving the warfighter the most current information to base decisions. In addition, this also accomplishes a reduction in legacy systems mandated by OPNAV.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA-5	0605013N - Navy IT Dev/Mod	9406 - MAINT DATA WAREHOUSE	

(U) B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost			2.225	
RDT&E Articles Quantity				

Absorb legacy functionality into DECKPLATE, which will lead to retirement of legacy systems.
Loading of Flight/Maintenance History into DECKPLATE.

		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. 136

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N - Navy IT Dev/Mod	9406 - MAINT DATA WAREHOUSE

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 04 Pres Controls)	0.000	0.000	0.000
Current BES/President's Budget (FY 05 Pres Controls)	0.000	2.225	0.000
Total Adjustments	0.000	2.225	0.000
Summary of Adjustments			
Congressional program reductions			
Congressional undistributed reductions		-0.025	
Congressional rescissions			
SBIR/STTR Transfer			
Economic Assumptions			
Reprogrammings			
Other Navy/OSD Adjustments			
Congressional increases		2.250	
Subtotal	0.000	2.225	0.000

(U) Schedule:

(U) Technical:

Not Applicable.

R-1 SHOPPING LIST - Item No. 136

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N - Navy IT Dev/Mod	9406 - MAINT DATA WAREHOUSE

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost

Not Applicable.

(U) E. ACQUISITION STRATEGY:

Congressional Funding in FY04 has been provided as Maintenance Data Warehouse to develop the Decision Knowledge Programming for Logistics Analysis and Technical Evaluation (DECKPLATE) program, which is the next generation data warehouse for aircraft maintenance, flight and usage data.

Software development will take place through a competitively awarded NAVAIR National Cost Pus Award Fee contract.

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0605013N - Navy IT Dev/Mod			PROJECT NUMBER AND NAME 9406 - MAINT DATA WAREHOUSE						
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
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Software Development (Data Warehouse	C/CPAF	Owego, NY				2.033	01/04				2.033	2.033
Award Fee (7%) (Data Warehouse)	C/CPAF	Owego, NY				0.153	01/04				0.153	0.153
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Support			0.000	0.000		2.186		0.000			2.186	
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0605013N - Navy IT Dev/Mod				PROJECT NUMBER AND NAME 9406 - MAINT DATA WAREHOUSE						
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
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Program Mgmt Support (Data Warehouse	WX	NAWC				0.039					0.039	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Management			0.000	0.000		0.039		0.000			0.039	
Remarks:												
Total Cost			0.000	0.000		2.225		0.000		0.000	2.225	
Remarks:												

R-1 SHOPPING LIST - Item No. 136

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2004		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0605013N Navy Information Technology Dev/Mod				PROJECT NUMBER AND NAME 9445 Secure Interactive Distributive Learning (SIDL)			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**0.000**	**1.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty								

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

To keep pace with fast moving changes in the Navy's techology, eduation and training must be available at more than the traditional classroom setting. This effort enhances current distance learning technology by developing a more realistic setting for education and training. Most distance learning is a one-way stream confined by bandwidth and cost. This R&D effort will bring to the Navy a secure, cost-effective technology for the more realistic "give and take" experiences in the classroom.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N Navy Information Technology Dev/Mod	9445 Secure Interactive Distributive Learning (SIDL)

(U) B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.000	1.000	0.000
RDT&E Articles Quantity				

FY 2004 PLANS:
Develop and design a more robust, secure, cost-effective technology for distance learning.

R-1 SHOPPING LIST - Item No. 136

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N Navy Information Technology Dev/Mod	9445 Secure Interactive Distributive Learning (SIDL)

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 04 Pres Controls)	0.000	0.000	0.000
Current BES/President's Budget (FY 05 Pres Controls)	0.000	1.000	0.000
Total Adjustments	0.000	1.000	0.000
Summary of Adjustments			
Congressional Plus-up SIDL		1.000	
Subtotal	0.000	1.000	0.000

(U) Schedule:

Not Applicable.

(U) Technical:

Not Applicable.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N Navy Information Technology Dev/Mod	9445 Secure Interactive Distributive Learning (SIDL)

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost

(U) E. ACQUISITION STRATEGY:

Not Applicable.

CLASSIFICATION:

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 0605014N Information Technology Development					
COST ($ in Millions)	Prior Years Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		Cost to Complete	Total Program
Total PE Cost	**0.000**	**51.788**	**75.441**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**127.229**
3033 DIMHRS		**51.788**	**75.441**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**127.229**
											0.000
											0.000
											0.000
											0.000
											0.000
Quantity of RDT&E Articles											**0**

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

The Defense Military Human Resources System (DIMHRS)(Pers/Pay) will be a single integrated, all Service, all Component military personnel and pay management and information system, supporting the complete military personnel life cycle through the full spectrum of military operations. The core will consist of common functions and appropriate interfaces to support Component/Service-unique functions. Military personnel functions support Active Duty, Retired, and Reserve Component personnel (and their families) throughout their entire military careers. Additionally, these functions support DoD-sponsored personnel during contingency and wartime operations. Individual Service business policies, practices, and processes will be examined and re-engineered, or combined with "best practice" solutions to satisfy DIMHRS (Pers/Pay) core functional requirements. These core functions address the personnel communities' support to: 1) meet the operator's mission requirements across the full spectrum of force mobilization and employment from peacetime to war, and 2) eliminate business policies and practices that create inequities among the Services and complicate processing. These core functions, while macro in nature, will be continuously validated to ensure the Program remains aligned with DoD and Joint warfighting strategies, objectives, and goals.

(U) JUSTIFICATION FOR BUDGET ACTIVITY:

This program is funded under SYSTEMS DEVELOPMENT AND DEMONSTRATION because it encompasses development and demonstration of new end-items prior to production approval decision.

R-1 SHOPPING LIST - Item No. 137

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0605014N Information Technology Development					PROJECT NUMBER AND NAME 3033 Defense Military Human Resources System (DIMHRS)					
COST ($ in Millions)	Prior Years Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		Cost to Complete	Total Program
Project Cost		**51.788**	**75.441**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**127.229**
RDT&E Articles Qty											**0**

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

The Defense Military Human Resources System (DIMHRS)(Pers/Pay) will be a single integrated, all Service, all Component military personnel and pay management and information system, supporting the complete military personnel life cycle through the full spectrum of military operations. The core will consist of common functions and appropriate interfaces to support Component/Service-unique functions. Military personnel functions support Active Duty, Retired, and Reserve Component personnel (and their families) throughout their entire military careers. Additionally, these functions support DoD-sponsored personnel during contingency and wartime operations. Individual Service business policies, practices, and processes will be examined and re-engineered, or combined with "best practice" solutions to satisfy DIMHRS (Pers/Pay) core functional requirements. These core functions address the personnel communities' support to: 1) meet the operator's mission requirements across the full spectrum of force mobilization and employment from peacetime to war, and 2) eliminate business policies and practices that create inequities among the Services and complicate processing. These core functions, while macro in nature, will be continuously validated to ensure the Program remains aligned with DoD and Joint warfighting strategies, objectives, and goals.

R-1 SHOPPING LIST - Item No. 137

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA: 5	0605014N Information Technology Development	3033 Defense Military Human Resources System (DIMHRS)

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	51.788	75.441	0.000	
RDT&E Articles Quantity				

1. (U) FY 2003 ACCOMPLISHMENTS: (51,788)
Goal 1: Completed the Comprehensive Analysis of the 21 personnel and pay functional business areas, identifying how commercial best practices can assist the Department in transforming personnel and pay processes and those DoD requirements that must be added in order to meet mission requirements.
Goal 2 Developed the Concept of Operations and related doctrinal and training programs to support the testing and acceptance of the initial operating capability.
Goal 3: Completed Milestone B review of DIMHRS (Pers/Pay) , which approved the design, and development of the integrated system.
Goal 4: Supported the selection of a Developer/Implementer for DIMHRS (Pers/Pay).

2. (U) FY 2004PLAN: (75,441)

Goal 1: Design, develop, and begin developmental testing of the initial operating capability (IOC) of the integrated system to be implemented by the Army.
Goal 2: Complete and approve the Concept of Operations and related doctrinal and training programs to support the testing and acceptance.
Goal 3: Validate and approve DITSCAP compliance.

R-1 SHOPPING LIST - Item No. 137

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605014N Information Technology Development	3033 Defense Military Human Resources System (DIMHRS)

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:	50.115	81.291	52.407
Current BES/President's Budget	51.788	75.441	0.000
Total Adjustments	1.673	-5.850	-52.407
Summary of Adjustments			
Congressional program reductions		-5.000	
Section 8100: Business Process Reform	-0.009		
Section 8135: Economic Assumptions	0.013		
Section 8109: IT Cost Growth	-0.004		
Section 8094: Management Improvements		-0.202	
Inflation Savings			
FY2003_SBIR	-1.327		
Section 8126, Efficiencies Revised		-0.648	
Reprogramming repriorization	3.000		
Transfer funds to OSD			-52.407
Congressional increases			
Subtotal	1.673	-5.850	-52.407

(U) Schedule:

Milestone B1 was obtained May, 2003. Awarded Developer/Implementer contract in September, 2003.

(U) Technical:

"Not Applicable."

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605014N Information Technology Development	3033 Defense Military Human Resources System (DIMHRS)

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
2905 OPN	0.01	5.7	0	0	0	0	0	0	5.71
OMN	10.5	13.4	0	0	0	0	0	0	23.9
OM-DW	0	0	24.7	35.6	51.4	43.7	40.3	Continuing	Continuing
1 RDT&E, D-W	0	0	52.4	20	0	0	0	0	72.4

(U) E. ACQUISITION STRATEGY: *

DIMHRS (Pers/Pay) program goal is to deliver, via an evolutionary acquisition methodology, the functionality and capability described in the approved source documents at the best value to the Government, considering performance, life cycle cost, and program risk. The program is employing Government support for those activities that are inherently Governmental in nature, and is contracting with industry for those activities best executed commercially.

The JPMO will use full and open competition for awarding all DIMHRS (Pers/Pay) contracts. The JPMO has aggressively fostered competition via wide distribution of Requests For Information (RFI), Synopsis, Draft RFP, Industry Day meetings and one-on-one meetings with potential offerors.

(U) F. MAJOR PERFORMERS: **

March 2001 - Present: PeopleSoft USA, Inc. COTS HR product - DoD Enterprise License
Sept 2001- Present: Science & Engineering Associates (SEA) through SPAWAR Information Technology Center (SPAWARITC) Performs system engineering and system architecture; cost analysis document preparation and control: metrics.
Sep 2003-Present: Northrop Grumman - Developer/Implementer for the DIMHRS (Pers/Pay) Program.

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

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0605014N Information Technology Development			PROJECT NUMBER AND NAME 3033 Defense Military Human Resources System (DIMHRS)						
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											0.000	
Ancillary Hardware 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			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Development Support	CPIF/AF	Northrop Grumman	6.858	27.214	09/03	32.092	01/04				66.164	
Software Development	FFP	PeopleSoft, Inc. Betheseda, MD	14.500	3.600	10/02	28.000	07/04				46.100	44.945
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			21.358	30.814		60.092		0.000		0.000	112.264	
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0605014N Information Technology Development			PROJECT NUMBER AND NAME 3033 Defense Military Human Resources System (DIMHRS)							
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		COMOPTEVFOR Washingto	0.165	2.100	10/02	2.000	10/03			0.000	4.265	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.165	2.100		2.000		0.000		0.000	4.265	
Remarks:												
Contractor Engineering Support	CPFF/BOA	Science & Engineering Assoc	20.205	14.974	10/02	11.769	10/03				35.179	
											11.769	
Program Management Support	CPFF/BOA	Booz-Allen Hamilton, McLean, V	2.600	3.900	10/02	1.580	01/04				8.080	
Travel											0.000	
Transportation											0.000	
											0.000	
Subtotal Management			22.805	18.874		13.349		0.000		0.000	55.028	
Remarks:												
Total Cost			44.328	51.788		75.441		0.000		0.000	171.557	
Remarks:												

R-1 SHOPPING LIST - Item No. 137

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																																DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**									PROGRAM ELEMENT NUMBER AND NAME 0605014N Information Technology Development												PROJECT NUMBER AND NAME 3033 Defense Military Human Resources System (DIMHRS)															
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						MS B ▲						MS B2 △																				
Software 1XXSW Delivery 2XXSW Delivery		SDR ▲							PDR ▲	CDR △																						
Test & Evaluation Milestones Development Test Operational Test																																
Production Milestones LRIP I FY 05 LRIPII FY 06 FRP FY 07																																
Deliveries																																

R-1 SHOPPING LIST - Item No. 137

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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E BA-5**	PROGRAM ELEMENT 0605014N Information Technology Development				PROJECT NUMBER AND NAME 3033 Defense Military Human Resources System (DIMHRS)			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Prototype Phase	1Q-3Q							
System Design Review (SDR)	2Q							
Milestone II (MSII) MS B		3Q						
Contract Preparation		4Q						
Software Specification Review (SSR)			1Q					
Preliminary Design Review (PDR)			1Q					
System Development			1Q-4Q					
Critical Design Review (CDR)			2Q					
Quality Design and Build			3Q-4Q					
Test Readiness Review (TRR)								
Developmental Testing (DT-IA)								
Eng Dev Model (EDM) Radar Delivery - Lab	NA							
Software Delivery 1XXSW								
Preproduction Readiness Review (PRR)								
EDM Radar Delivery - Flt Related	NA							
Milestone C (MS C) Fielding Decision								
Operational Testing (OT-B1)								
Start Low-Rate Initial Production I (LRIP I)	NA							
Software Delivery 2XXSW								
Developmental Testing (DT-B2)								
Start Low-Rate Initial Production II	NA							
Operational Testing (OT-B2)								
Functional Configuration Audit (FCA)								
Low-Rate Initial Production I Delivery	NA							
Physical Configuration Audit								
Low-Rate Initail Production II Delivery	NA							
IOC								
Full Rate Fielding (FRF) Decision								
Full Rate Fielding Start								
Final Operational Capabilty (FOC)								

R-1 SHOPPING LIST - Item No. 137

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 0605500N MULTI-MISSION MARITIME AIRCRAFT			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost		**65.615**	**71.413**	**496.029**	**963.041**	**932.838**	**603.897**	**492.042**
H2696 MULTI-MISSION MARITIME AIRCRAFT		**65.615**	**71.413**	**496.029**	**963.041**	**932.838**	**603.897**	**492.042**

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Multi-mission Maritime Aircraft (MMA) program provides the replacement system(s) for the aging P-3 aircraft. The MMA program is intended to meet the Broad Area Maritime and Littoral Armed Intelligence, Surveillance and Reconaissance Mission Need Statement (MNS) which was validated by the Joint Requirements Oversight Council (JROC) on 29 February 2000. The MMA program received Milestone 0 approval to proceed into Concept Exploration (CE) on 22 March 2000. Concept exploration activities began in June, 2000 under Program Element 0702207N / Project Unit W2737. Approval to enter Component Advanced Development (CAD) was attained from the Overarching Integrated Product Team on 18 January 2002 and the Milestone Decision Authority (USD(AT&L)) approved the program Acquisition Strategy on 8 February 2002.

The primary objectives of CAD are to: refine system requirements, define system architectures for the alternative concepts, identify and mitigate concept risks, reconcile concept life cycle cost estimates and prepare for Milestone B. MMA plans to enter System Development and Demonstration (SDD) in the 3rd quarter of FY04 after completing the Milestone B Defense Acquisition Board. SDD effort will include: design, development and testing of Engineering Development Model aircraft, development and use of test articles (e.g., static, fatigue, Live Fire Test and Evaluation, wind tunnel test articles), the development of the aircraft avionics and mission systems, and development of the Systems Integration Lab.

The MMA Operational Requirements Document (ORD)/ Capabilities Development Document (CDD) was validated and approved by JROC on 08 December 2003.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0605500N MULTI-MISSION MARITIME AIRCRAFT				PROJECT NUMBER AND NAME H2696 MULTI-MISSION MARITIME AIRCRAFT			
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**65.615**	**71.413**	**496.029**	**963.041**	**932.838**	**603.897**	**492.042**
RDT&E Articles Qty					**1**	**1**	**1**	

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Multi-mission Maritime Aircraft (MMA) program provides the replacement system(s) for the aging P-3 aircraft. The MMA program is intended to meet the Broad Area Maritime and Littoral Armed Intelligence, Surveillance and Reconaissance Mission Need Statement (MNS) which was validated by the Joint Requirements Oversight Council (JROC) on 29 February 2000. The MMA program received Milestone 0 approval to proceed into Concept Exploration (CE) on 22 March 2000. New start notification was provided to Congress and concept exploration activities began in June, 2000 under Program Element 0702207N / Project Unit W2737. Approval to enter Component Advanced Development (CAD) was attained from the Overarching Integrated Product Team on 18 January 2002 and the Milestone Decision Authority (USD(AT&L)) approved the program Acquisition Strategy on 8 February 2002.

The primary objectives of CAD are to: refine system requirements, define system architectures for the alternative concepts, identify and mitigate concept risks, reconcile concept life cycle cost estimates and prepare for Milestone B. MMA plans to enter System Development and Demonstration (SDD) in the 3rd quarter of FY04 after completing the Milestone B Defense Acquisition Board. SDD effort will include: design, development and testing of Engineering Development Model aircraft, development and use of test articles (e.g., static, fatigue, Live Fire Test and Evaluation, wind tunnel test articles), the development of the aircraft avionics and mission systems, and development of the Systems Integration Lab.

The MMA Operational Requirements Document (ORD)/ Capabilities Development Document (CDD) was validated and approved by JROC on 08 December 2003. The RDT&E Articles listed are Engineering Development Model (EDM) aircraft.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605500N MULTI-MISSION MARITIME AIRCRAFT	H2696 MULTI-MISSION MARITIME AIRCRAFT

(U) B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		43.067	6.000	0.000
RDT&E Articles Quantity				

Component Advanced Development (CAD) contracts initiated in FY02 to evaluate MMA system alternative concepts. Scope of effort includes: Designed MMA alternative concept's weapon system architectures. Technical, logistic, cost, and risk analysis of each proposed MMA alternative concept. Applied Modeling & Simulation tools to validate proposed risk mitigations for each MMA alternative concept. Evaluated system requirements through cost/performance trade-offs analysis. Evaluate an unmanned aerial vehicle (UAV) in the maritime role (technical and cost analysis) and refine UAV system integration requirements and evaluate concept of operations. Provided engineering, management, and technical support for the MS B acquisition documentation, the AoA and the industry Component Advanced Development (CAD) studies. CAD contracts continue through FY03 with a planned completion in FY04.

Accomplishments/Effort/Subtotal Cost		0.000	43.913	475.334
RDT&E Articles Quantity				

Initiate System Development and Demonstration (SDD) phase starts in FY04 at the completion of the CAD contracts. Scope of effort includes: Design, develop, build, and test MMA aircraft, avionics, mission systems, Systems Integration Lab(s) , wind tunnel test models, and other test articles, and integration of UAV Tactical Control System (TCS) into the Tactical Support Center (TSC) . Conduct System Functional Review and prepare for Preliminary Design Review (PDR). Modeling & Simulation tools will be developed to assess proposed risk mitigations and to support Development Test and Evaluation. Provide engineering and technical development to the SDD efforts. The SDD phase work effort will continue through FY05 and beyond.

Accomplishments/Effort/Subtotal Cost		22.548	21.500	20.695
RDT&E Articles Quantity				

Engineering and Technical Development for the CAD and SDD contracts. Effort will include the analysis of contracted deliverables, assessment of contractors readiness to proceed in design/development; evaluate contract cost, schedule, test preparations and conduct of testing; risk assessment/mitigation; program control; performance status; develop modifications to the TSC; and plan and prepare for next Milestone/Decision Review and associated acquisition phase. Work effort initiated in FY02 and will continue until the end of the SDD contract.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605500N MULTI-MISSION MARITIME AIRCRAFT	H2696 MULTI-MISSION MARITIME AIRCRAFT

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:	68.123	76.243	343.800
Current BES/President's Budget	65.615	71.413	496.029
Total Adjustments	-2.508	-4.830	152.229
Summary of Adjustments			
Congressional program reductions			
Congressional undistributed reductions		-0.830	
Congressional rescissions			
SBIR/STTR Transfer	-1.780		
Economic Assumptions			-1.758
Reprogrammings	-0.728		
Reprioritization of requirements		-4.000	153.987
Other adjustments			
Congressional increases			
Subtotal	-2.508	-4.830	152.229

(U) Schedule:

CNO directed MMA to delay the release of the SDD RFP by two months to ensure alignment of MMA requirements with the CNO ASW Task Force. As a result of this delay, MS B has changed from 2Q/04 to the 3Q/04.
The following schedule refinements are based on results from CAD and adjustments made to budget profile. Changes include: Preliminary Design Review changed from 1Q/05 to 2Q/06; Critical Design Review changed from 4Q/05 to 3Q/07; Milestone C from 2Q/08 to 4Q/08; and Low Rate Initial Production from 2Q/08 to 1Q/09. Proposal concept selected at SDD could result in additional changes to the schedule.
System Development and Demonstration (SDD) is comprised of two work efforts: Systems Integration and Systems Demonstration. Design Readiness Review (DRR) is a new DOD 5000 requirement for granting approval to enter System Demonstration.

(U) Technical:

Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605500N MULTI-MISSION MARITIME AIRCRAFT	H2696 MULTI-MISSION MARITIME AIRCRAFT

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
APN BLI 019300 Inventory Sustainment						38.882	1,416.852	21,799.546	23,255.280
APN BLI 060510 Initial Spares - MMA							61.413	1,139.221	1,200.634

(U) E. ACQUISITION STRATEGY:

The Multi-Mission Maritime Aircraft (MMA) Milestone 0 was approved 22 March 2000 and the resulting Acquisition Decision Memorandum directed MMA to begin the CE phase consisting of an AoA and industry concept studies. These activities began 3Q/01 and were funded under Program Element 0702207N / Project Unit W2737. Approval to enter Component Advanced Development (CAD) was attained from the Overarching Integrated Product Team on 18 Jan 2002 and the Milestone Decision Authority (USD(AT&L)) approved the program Aqusisition Strategry on 8 Feb 2002. The CAD was a competitive award to multiple contractors to define alternative MMA concept system architectures and evaluate associated risks and proposed mitigations. Selection of MMA concept and approval to enter System Development and Demonstration (SDD) phase will occur at a MS B decision review in FY2004. The schedule after Milestone B is dependent upon alternative concept selected at the end of CAD. The MMA program was initiated in response to the JROC validated MNS, "Broad Area Maritime and Littoral Armed Intelligence, Surveillance and Reconnaissance". MMA IOC is targeted for FY 2012.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)

DATE: **February 2004**

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

PROGRAM ELEMENT: 0605500N MULTI-MISSION MARITIME AIRCRAFT

PROJECT NUMBER AND NAME: H2696 MULTI-MISSION MARITIME AIRCRAFT

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	C/CPAF	TBD				43.913	06/04	475.334	01/05	3,621.549	4,140.796	4,140.796
Primary Hardware Development	C/CPAF	SPAWAR - TSC	0.000					2.400	2/05	26.800	29.200	29.200
Systems Engineering	C/FFP	Various	21.471	-		0.000					21.471	21.471
	C/FFP	Boeing		21.508	02/03	3.000	02/04				24.508	24.508
	C/FFP	Lockheed Martin		21.559	02/03	3.000	02/04				24.559	24.559
											0.000	
											0.000	
Subtotal Product Development			21.471	43.067		49.913		477.734		3,648.349	4,240.534	
Technical Development	WX	NAWCAD / NAWCWD		14.724	01/03	16.498	01/04	12.000	01/05	85.478	128.700	
Studies & Analysis	SS/FFP	CNA, VA	0.325								0.325	0.325
Studies & Analysis	C/FFP	Johns Hopkins Univ/Lincoln L	2.240	2.300	01/03	0.303	01/04				4.843	4.843
Studies & Analysis	C/FFP	TBD						2.224	01/05		2.224	2.224
Integrated Logistics Support	WX	NAWCAD, Pax River, MD	0.600	0.600	11/02	0.600	12/03	0.600	11/04	4.200	6.600	
Configuration Management	TBD	TBD								5.000	5.000	
Technical Data	TBD	TBD								8.000	8.000	
Subtotal Support			3.165	17.624		17.401		14.824		102.678	155.692	

R-1 SHOPPING LIST - Item No. 138

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0605500N MULTI-MISSION MARITIME AIRCRAFT			PROJECT NUMBER AND NAME H2696 MULTI-MISSION MARITIME AIRCRAFT						
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	TBD	TBD								125.700	125.700	
Operational Test & Evaluation	TBD	TBD								94.900	94.900	
Live Fire Test & Evaluation	TBD	TBD								40.800	40.800	
Test Assets	TBD	TBD								169.700	169.700	
											0.000	
											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		431.100	431.100	
Remarks:												
Contractor Engineering Support	C/FFP	RBC Inc., VA	1.910	1.671	01/03	2.300	01/04	2.300	01/05	16.100	24.281	24.281
Government Engineering Support	WX	NAWCAD, Pax River, MD	8.880								8.880	
Program Management Support	WX	NAWCAD, Pax River, MD	1.400	3.093	01/03	1.629	01/04	0.991	01/05	13.040	20.153	
Travel	WX	NAWCAD, Pax River, MD	0.150	0.160	11/02	0.170	11/03	0.180	11/04	1.290	1.950	
											0.000	
											0.000	
Subtotal Management			12.340	4.924		4.099		3.471		30.430	55.264	
Total Cost			36.976	65.615		71.413		496.029		4,212.557	4,882.590	

R-1 SHOPPING LIST - Item No. 138

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	0605500N MULTI-MISSION MARITIME AIRCRAFT	H2696 MULTI-MISSION MARITIME AIRCRAFT

Fiscal Year	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											MS B △									DRR △				MS C △				
Acquisition Phases					Component Advanced Development								System Development and Demonstration															
MMA System Dates are tentative; dependent upon concept selected															PDR △					CDR △					LRIP			
Contract Awards SDD											△																	
Test & Evaluation Milestones Development Test Dates are tentative																					Combined DT/OT							
Production Milestones																												
Deliveries																												

R-1 SHOPPING LIST - Item No. 138

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT 0605500N MULTI-MISSION MARITIME AIRCRAFT				PROJECT NUMBER AND NAME H2696 MULTI-MISSION MARITIME AIRCRAFT			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Component Advanced Development		1Q-4Q	1Q-3Q					
Milestone B DAB (MS B)			3Q					
System Development and Demonstration Phase			3Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q
System Development and Demonstration Contract Award			3Q					
Preliminary Design Review (PDR)					2Q			
Critical Design Review (CDR)						3Q		
Design Readiness Review (DRR)						3Q		
Developmental Testing/Operational Testing						4Q	1Q-4Q	1Q-4Q
Milestone C							4Q	
Low Rate Initial Production								1Q-TBD

R-1 SHOPPING LIST - Item No. 138

CLASSIFICATION:

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 **NSIPS Dev/Mod 0508713N**					
COST ($ in Millions)	Prior Years Cost	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Total Program
Total PE Cost	**0.000**	**0.000**	**8.553**	**4.600**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**Continuing**	**Continuing**
2908 COMNAVRESFOR		**0.000**	**8.553**	**4.600**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**Continuing**	**Continuing**
											0.000
											0.000
											0.000
											0.000
											0.000
Quantity of RDT&E Articles											**0**

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

The Navy Standard Integrated Personnel System (NSIPS) is an Automated information System (AIS) designed to collect the personnel and pay data for all navy members. NSIPS will be Defense Information Infrastructure Common Operating Environment (DII COE) and year 2000 compliant. It will incorporate the functionalilty of many Navy Systems into an integrated Navy personnel and pay system for active duty, reserve, and retired personnel. NSIPS will interface with Defense Joint Military Pay System (DJMS) for pay functionality.

NSIPS will be focusing on Web enablement and the emergence as the single authoritative personnel database for the Navy. This will support migration to DIHMRS.

(U) JUSTIFICATION FOR BUDGET ACTIVITY:

This program is funded under SYSTEMS DEVELOPMENT AND DEMONSTRATION because it encompasses development and demonstration of new end-items prior to production approval decision.

R-1 SHOPPING LIST - Item No. 139

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA5**	PROGRAM ELEMENT NUMBER AND NAME **NSIPS Dev/Mod 0508713N**					PROJECT NUMBER AND NAME **2908 COMNAVRESFOR**					
COST ($ in Millions)	Prior Years Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		Cost to Complete	Total Program
Project Cost		**8.553**	**4.600**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**Continuing**	**Continuing**
RDT&E Articles Qty											**0**

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

Navy Standard Integrated Personnel System (NSIPS) is an automated information system designed to collect the personnel and pay data for all Navy members. It incorporates the personnel and pay functionality of many Navy systems into an integrated Navy personnel and pay system for active duty, reserve, and retired personnel. NSIPS will interface with DJMS for pay functionality.

Prior to NSIPS, the Navy had several personnel and pay systems supporting various groups, located in assorted geographic areas, and based on different technologies. Among these systems are the following legacy systems that have been replaced by NSIPS: Source Data System (SDS); Diary Message Reporting System (DMRS); Reserve Standard Training, Administration, and Readiness Support (RSTARS); and; Uniform Microcomputer Disbursing System (UMIDS).

The transition from reserve to active status was not efficient or effective because the field pay and personnel systems for the active and reserve members interact only through cumbersome interfaces at the corporate level. The process is prone to mistakes and is time consuming. NSIPS improves this transaction processing, providing a faster, more accurate and easier to use system. In doing so, the system will replace the four legacy systems and reduce the costs associated with system maintenance and hardware upgrades. The NSIPS data elements are being continually submitted to Office of the Secretary of Defense for standardization, allowing for more precise and accurate reporting of personnel and pay data. NSIPS will eliminate problems encountered during the mobilization or change in status of members. NSIPS will also provide the flexibility found in modern systems allowing the addition of functions as the need arises. It will permit interoperability with other Services' personnel and pay systems as well as allowing the user to create ad hoc reports for specific requirements. In summary, NSIPS will provide the Navy with a comprehensive and reliable personnel and pay management system that meets the present and future needs of the Navy.

No new technology has been developed specifically for NSIPS. NSIPS will use Commercial-off-the-Shelf (COTS), Human Resources software as the foundation for the software development effort. NSIPS will use COTS hardware and existing Navy and DoD data processing and communications infrastructure to the maximum extent possible. In particular, NSIPS integrate its design requirements with the IT-21 and Navy Marine Corps Intranet initiatives to fully exploit these initiatives and their infrastructures. Sites without the required infrastructure will have resources provided by either the NSIPS Program, the host activity, or another DoD/DON agency.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	**NSIPS Dev/Mod 0508713N**	**2908 COMNAVRESFOR**

(U) B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		8.553	4.600	0.000
RDT&E Articles Quantity				

The Navy Standard Integrated Personnel System (NSIPS) is an Automated information System (AIS) designed to collect the personnel and pay data for all navy members. NSIPS will be Defense Information Infrastructure Common Operating Environment (DII COE) and year 2000 compliant. It will incorporate the functionalilty of many Navy Systems into an integrated Navy personnel and pay system for active duty, reserve, and retired personnel. NSIPS will inteface with Defense Joint Military Pay System (DJMS) for pay functionality.
FY 2003 ACCOMPLISHMENT: ($8.553) NSIPS developed additional capabilities and enhancements and completed ESR development and implemention and web enablement.
FY 2004 PLAN: ($4.600) Enhancement development will continue along with development of the NSIPS data base as single source personnel authority.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	**NSIPS Dev/Mod 0508713N**	**2908 COMNAVRESFOR**

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:	12.798	4.653	0.000
Current BES/President's Budget	8.553	4.600	0.000
Total Adjustments	-4.245	-0.053	0.000
Summary of Adjustments			
Section 8100: Business Process Reform	-0.051		
Section 8135: Economic Assumptions	-0.072	-0.040	
Section 8109: IT Cost Growth	-0.024		
Section 8029, PL 107-248 FFRDC Reduction	-0.008	-0.001	
Section 8094: Management Improvements		-0.012	
Repriorization	-3.500		
Inflation Savings	-0.136		
FY2003_SBIR	-0.454		
Subtotal	-4.245	-0.053	0.000

(U) Schedule:

Not Applicable.

(U) Technical:

Not Applicable.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA-5	**NSIPS Dev/Mod 0508713N**	**2908 COMNAVRESFOR**	

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
BLI 3306 NSIPS	5.296	0.36	0.289	0	0	0	0	0	5.945

(U) E. ACQUISITION STRATEGY: *

The NSIPS acquisition strategy is to utilize existing ID/IQ contracts that provide products that comply with the Defense Information Infrastructure Common Operating Environment (DII COE) and Global Command Support System (GCSS) initiatives and offer best value to the government. Multiple vehicles may be used to access required support and COTS hardware/software. Other NSIPS contracts include development, test, and management support services. The scope of work is described in general terms and obligates the contractor to devote a specified level of effort for a stated time period. Task renewal for further periods of performance may involve new cost and fee arrangements. To reduce administration of tasks in acquisition Phase II, the PMO executing Basic Purchasing Agreements to the General Services Administration (GSA) Federal Supply Schedules (FSS) for contractors used to support other efforts and requirements for training, testing, and PMO support not performed by the prime software development contractor. The NSIPS program office, using a primary software development contractor (Lockheed Martin) is executing software development through a cost plus fixed fee type contract. Program Office support is obtained using existing GSA contracts and contracts awarded through SPAWARSYSCOM. Hardware is obtained using existing SPAWARSYSCOM Indefinite Delivery/Indefinite Quantity (ID/IQ) contracts.

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

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT **NSIPS Dev/Mod 0508713N**			PROJECT NUMBER AND NAME **2908 COMNAVRESFOR**						
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											0.000	
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	CPFF	Contractor, ITC New Orleans	5.917	1.495	10/02						7.412	
Training Development	CPFF	Contractor, ITC New Orleans		0.250	10/02						0.250	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			5.917	1.745		0.000		0.000		0.000	7.662	
Remarks:												
Development Support											0.000	
Software Development	CPFF	Contractor, ITC New Orleans	11.360	6.808	10/02	4.600	10/.03	0.000	01/00	Continuing	Continuing	
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			11.360	6.808		4.600		0.000		0.000	22.768	
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT **NSIPS Dev/Mod 0508713N**				PROJECT NUMBER AND NAME **NSIPS Dev/Mod 0508713N**						
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											0.000	
Program Management Support											0.000	
Travel											0.000	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			17.277	8.553		4.600		0.000		0.000	30.430	
Remarks:												

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																																DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**									PROGRAM ELEMENT NUMBER AND NAME **NSIPS Dev/Mod 0508713N**														PROJECT NUMBER AND NAME **2908 COMNAVRESFOR**											
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 Release 1.0						MS III IOC △				FOC △																						
Test & Evaluation Milestones																																
Development Test		□ TECHEVAL																														
Operational Test			□ OPEVAL																													
Deliveries																																

R-1 SHOPPING LIST - Item No. 139

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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT **NSIPS Dev/Mod 0508713N**				PROJECT NUMBER AND NAME **2908 COMNAVRESFOR**			
Schedule Profile	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Prototype Phase								
System Design Review (SDR)								
Milestone II (MSII)								
Contract Preparation								
Software Specification Review (SSR)								
Preliminary Design Review (PDR)								
System Development								
Critical Design Review (CDR)								
Quality Design and Build								
Test Readiness Review (TRR)								
Developmental Testing (DT-IIA)								
Eng Dev Model (EDM) Radar Delivery - Lab								
Software Delivery 1XXSW								
Preproduction Readiness Review (PRR)								
EDM Radar Delivery - Flt Related								
Milestone C (MS C)	2Q							
Operational Testing (OT-IIA)								
Start Low-Rate Initial Production I (LRIP I)								
Software Delivery 2XXSW								
Developmental Testing (DT-IIB1)								
Developmental Testing (DT-IIB2)								
Start Low-Rate Initial Production II								
Operational Testing (OT-IIB)								
Developmental Testing (DT-IIC)								
Functional Configuration Audit (FCA)								
Low-Rate Initial Production I Delivery								
Technical Evaluation (TECHEVAL)								
Physical Configuration Audit								
Operational Evaluation (OT-IIC) (OPEVAL)								
Low-Rate Initail Production II Delivery								
IOC	2Q							
Full Rate Production (FRP) Decision								
Full Rate Production Start								
First Deployment								
Milestone IIIA (Full Operational Capability)		2Q						

R-1 SHOPPPING LIST - Item No. 139